

# BRIDGES KINDERGARTEN SUPPLEMENT

## CCSS Supplement Sets

---

### Activities & Worksheets

Introduction	1–6
Unit Planners	7–26
Materials List	27–28
Set A1—Number & Operations: Counting on the Number Line	A1.1–A1.56
Set A4—Number & Operations: Addition & Subtraction	A4.1–A4.78
Set A6—Number & Operations: One Dot, Many Dots Calendar Pattern	A6.1–A6.16
Set C1—Geometry: 3-D Shapes	C1.1–C1.14
Set C2—Geometry: Locations	C2.1–C2.12
Set C3—Geometry: Flying Butterflies Calendar Pattern	C3.1–C3.10
Set C4—Geometry: Bear and Box Calendar Pattern	C4.1–C4.10
Set C5—Geometry: Growing Shapes Calendar Pattern	C5.1–C5.8
Set C6—Geometry: 3-D Shapes in the World Calendar Pattern	C6.1–C6.8
Set D1—Measurement: Length	D1.1–D1.8
Set D2—Measurement: Weight	D2.1–D2.12
Set D8—Measurement: Measurement Tools Calendar Pattern	D8.1–D8.12

---

### Bridges Correlations to Common Core State Standards, Kindergarten

i–viii

## **Bridges in Mathematics Kindergarten Supplement**

Common Core State Standards Sets

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2010 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

QP1174 BKSUPCCSS-B P1211

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).

# Bridges in Mathematics Kindergarten Supplement

## Common Core State Standards Sets

### Introduction

The *Bridges Kindergarten Supplement* is a collection of activities written to help teachers address the Common Core State Standards published in 2010. These materials are available for free as downloadable files on The Math Learning Center Web site at [www.gotomlc.org/ccss](http://www.gotomlc.org/ccss). This supplement will continue to be refined and subsequent versions will also be available online at no charge.

The activities included here are designed to be used in addition to the sessions in *Bridges Kindergarten* starting early in the fall, but can be implemented at teachers' discretion any time during the school year. All of the activities are listed on pages 2–4 in the order in which they appear in the Supplement. They are listed in recommended teaching order on pages 5 & 6. On pages 7–26, you'll also find a set of Planners that show how the Supplement activities can be inserted into the flow of *Bridges* instruction over the course of the school year. These are revised versions of the Planning Guides found on pages 18–21 in *Bridges*, Volume 1 and pages 239–243 in *Bridges*, Volume 2. We suggest that you insert these sheets into your *Bridges* guides so you can see at a glance when you need to teach the Supplement activities throughout the school year.

Most of the activities in this supplement come in sets of three or more, providing several in-depth experiences around a particular grade level expectation or cluster of expectations. Each activity will take 20–30 minutes of instructional time. Some work best with small groups, but most can be conducted with your whole class. Suggestions for optional literacy links and/or extensions to provide additional challenges have been included throughout the Supplement.

Most of the activities are hands-on and require various math manipulatives and/or common classroom supplies. The blacklines needed to make any charts, game materials, and/or student sheets are included after each activity. See pages 27 & 28 for a complete list of materials required to teach the activities in each Supplement set.

**Note** Kindergarten Common Core standards not listed on pages 2–4 are adequately addressed in *Bridges* and/or *Number Corner* sessions. For a full correlation of *Bridges Kindergarten* to the Common Core State Standards, see pages i–viii.

## Activities & Common Core State Standards

(Listed in Order of Appearance in the Supplement)

SET A1 NUMBER & OPERATIONS: COUNTING ON THE NUMBER LINE		
Page	Name	Common Core State Standards
A1.1	Activity 1: The Rainbow Number Line	K.CC 1. Count to 100 by ones and by tens.
A1.7	Activity 2: Kid Count Number Line	K.CC 2. Count forward beginning from a given number within the known sequence.
A1.9	Activity 3: Capture the Number	K.CC 5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. K.CC 7. Compare two numbers between 1 and 10 presented as written numerals. K.NBT 1c. understand that the numbers 11 to 19 are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

SET A4 NUMBER & OPERATIONS: ADDITION & SUBTRACTION		
Page	Name	Common Core State Standards
A4.1	Activity 1: Numbers & Combinations to Ten through the School Year	K.CC 2. Count forward beginning from a given number within the known sequence.
A4.23	Activity 2: Butterfly Race	K.CC 3. Represent a number of objects with a written numeral 0–20.
A4.35	Activity 3: Fives Up	K.CC 4a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
A4.45	Activity 4: Frogs & Lilly pads	K.CC 5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
A4.53	Activity 5: Pond Game	K.CC 6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.
A4.59	Activity 6: Spin, Add & Compare	K.CC 7. Compare two numbers between 1 and 10 presented as written numerals.
A4.67	Activity 7: Bug Catchers	K.OA 1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.
A4.73	Activity 8: Piggybanks	K.OA 2. Solve addition and subtraction word problems and add and subtract within 10, e.g., by using objects or drawings to represent the problem. K.OA 3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation. K.OA 5. Fluently add and subtract within 5.

SET A6 NUMBER & OPERATIONS: ONE DOT, MANY DOTS CALENDAR PATTERN		
Page	Name	Common Core State Standards
A6.1	October Calendar Markers	K.CC 1. Count to 100 by ones and by tens. K.CC 4a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. K.CC 4b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. K.CC 4c. Understand that each successive number name refers to a quantity that is one larger. K.CC 5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. K.CC 6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group

## Activities &amp; Common Core State Standards (cont.)

<b>SET C1 GEOMETRY: 3-D SHAPES</b>		
Page	Name	Common Core State Standards
C1.1	Activity 1: Mystery Bag Sorting	K.G 1a. Describe objects in the environment using names of shapes. K.G 2. Correctly name shapes regardless of their orientations or overall size. K.G 4b. Analyze and compare three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts, and other attributes. K.G 5. 5a. Model shapes in the world by building shapes from components and drawing shapes.
C1.5	Activity 2: Shape Detectives	
C1.11	Activity 3: Three-D Shape Walk	

<b>SET C2 GEOMETRY: LOCATIONS</b>		
Page	Name	Common Core State Standards
C2.1	Activity 1: The Bear in the Box	K.G 1. Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
C2.5	Activity 2: Left & Right	
C2.7	Activity 3: Little Frog's Playground	

<b>SET C3 GEOMETRY: FLYING BUTTERFLIES CALENDAR PATTERN</b>		
Page	Name	Common Core State Standards
C3.1	November Calendar Markers	K.G 1. Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

<b>SET C4 GEOMETRY: TEDDY BEAR &amp; BOX CALENDAR PATTERN</b>		
Page	Name	Common Core State Standards
C4.1	December Calendar Markers	K.G 1. Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

<b>SET C5 GEOMETRY: GROWING SHAPES CALENDAR PATTERN</b>		
Page	Name	Common Core State Standards
C5.1	January Calendar Markers	K.G 2. Correctly name shapes regardless of their orientations or overall size. K.G 4a. Analyze and compare two-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts, and other attributes. K.G 6. Compose simple shapes to form larger shapes.

<b>SET C6 GEOMETRY: 3-D SHAPES AROUND US CALENDAR PATTERN</b>		
Page	Name	Common Core State Standards
C6.1	February Calendar Markers	K.G 2. Correctly name shapes regardless of their orientations or overall size. K.G 4b. Analyze and compare three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts, and other attributes. K.G 5. 5a. Model shapes in the world by building shapes from components and drawing shapes.

## Activities &amp; Common Core State Standards (cont.)

**SET D1 MEASUREMENT: LENGTH**

Page	Name	Common Core State Standards
D1.1	Activity 1: Longer, Shorter, or the Same?	K.MD 1. Describe measurable attributes of objects, such as length or weight. K.MD 2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.
D1.3	Activity 2: How Long is the Teacher’s Necklace or Necktie?	
D1.5	Activity 3: Compare, Spin & Win	

**SET D2 MEASUREMENT: WEIGHT**

Page	Name	Common Core State Standards
D2.1	Activity 1: Comparing Weights	K.MD 1. Describe measurable attributes of objects, such as length or weight. K.MD 2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.
D2.5	Activity 2: A Pound of Potatoes	
D2.9	Activity 3: Spin & Compare Weights	

**SET D8 MEASUREMENT: MEASUREMENT TOOLS CALENDAR PATTERN**

Page	Name	Common Core State Standards
D8.1	April Calendar Markers	K.MD 1. Describe measurable attributes of objects, such as length or weight.

## Activities & Recommended Timings

(Listed in Recommended Teaching Order)

FALL			
Page	Set, Strand & Topic	Name	Recommended Timing
A1.1	Set A1 Number & Operations: Counting on the Number Line	Activity 1: The Rainbow Number Line	First day of school through the end of the school year during Number Corner
A4.1	Set A4 Number & Operations: Addition & Subtraction	Activity 1: Numbers & Combinations to Ten through the School Year	First day of school through the end of the school year during Number Corner
A4.23	Set A4 Number & Operations: Addition & Subtraction	Activity 2: Butterfly Race	In the Fall
A6.1	Set A6 Number & Operations: One Dot, Many Dots Calendar Pattern	October Calendar Markers	Start during Number Corner on October 1 and continue through the entire month
C3.1	Set C3 Geometry: Flying Butterflies Calendar Pattern	November Calendar Markers	Start during Number Corner on November 1 and continue through the entire month
C2.1	Set C2 Geometry: Locations	Activity 1: The Bear in the Box	In the fall

FALL OR EARLY WINTER			
Page	Set, Strand & Topic	Name	Recommended Timing
D1.1	Set D1 Measurement: Length	Activity 1: Longer, Shorter, or the Same?	In the fall or early winter
D1.3	Set D1 Measurement: Length	Activity 2: How Long is the Teacher's Necklace or Necktie?	After Set D1, Activity 1
D1.5	Set D1 Measurement: Length	Activity 3: Compare, Spin & Win	After Set D1, Activity 2
C4.1	Set C4 Geometry: Teddy Bear & Box Calendar Pattern	December Calendar Markers	Start during Number Corner on December 1 and continue through the entire month
D2.1	Set D2 Measurement: Weight	Activity 1: Comparing Weights	In the fall or early winter
D2.5	Set D2 Measurement: Weight	Activity 2: A Pound of Potatoes	After Set D2, Activity 1
D2.9	Set D2 Measurement: Weight	Activity 3: Spin & Compare Weights	After Set D2, Activity 1

WINTER			
Page	Set, Strand & Topic	Name	Recommended Timing
C5.1	Set C5 Geometry: Growing Shapes Calendar Pattern	January Calendar Markers	Start during Number Corner right after Winter Break and continue through the entire month
A1.7	Set A1 Number & Operations: Counting on the Number Line	Activity 2: Kid Count Number Line	After December Number Corner
A1.9	Set A1 Number & Operations: Counting on the Number Line	Activity 3: Capture the Number	After December Number Corner
C6.1	Set C6 Geometry: 3-D Shapes Around Us Calendar Pattern	February Calendar Markers	Start during Number Corner on February 1 and continue through the entire month

SPRING			
Page	Set, Strand & Topic	Name	Recommended Timing
A4.35	Set A4 Number & Operations: Addition & Subtraction	Activity 3: Fives Up	In the spring
A4.45	Set A4 Number & Operations: Addition & Subtraction	Activity 4: Frogs & Lily Pads	In the spring
D8.1	Set D8 Measurement: Measuring Tools Calendar Markers	April Calendar Markers	Start during Number Corner on April 1 and continue through the entire month

## Activities &amp; Recommended Timings (cont.)

SPRING			
Page	Set, Strand & Topic	Name	Recommended Timing
A4.53	Set A4 Number & Operations: Addition & Subtraction	Activity 5: Pond Game	In the spring
A4.59	Set A4 Number & Operations: Addition & Subtraction	Activity 6: Spin, Add & Compare	In the spring
C2.5	Set C2 Geometry: Locations	Activity 2: Left & Right	In the spring
C2.7	Set C2 Geometry: Locations	Activity 3: Little Frog's Playground	In the spring
A4.67	Set A4 Number & Operations: Addition & Subtraction	Activity 7: Bug Catchers	In the spring
A4.73	Set A4 Number & Operations: Addition & Subtraction	Activity 8: Piggybanks	In the spring
C1.1	Set C1 Geometry: 3-D Shapes	Activity 1: Mysery Bag Sorting	In the spring
C1.5	Set C1 Geometry: 3-D Shapes	Activity 2: Shape Detectives	After Set C1, Activity 1
C1.11	Set C1 Geometry: 3-D Shapes	Activity 3: Three-D Shape Walk	After Set C1, Activity 2



## August/September Planner (Bridges & CCSS Kindergarten Supp. Sets A1 & A4)

**Reminder** Remember to start The Rainbow Number Line (Supplement Set A1, pages A1.1–A1.6) the first day of school. Also, use Dots & Fingers (Supplement Set A4, pages A4.1–A4.2) in conjunction with Our Month in School throughout the September Number Corner.

DAY 1	DAY 2	DAY 3	DAY 4	SESSION 1
Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	<b>Daily Routines</b> Shape Sorting, p. 27
SESSION 2	SESSION 3	SESSION 4	SESSION 5	SESSION 6
<b>Daily Routines</b> Introduce <b>Work Places</b> 1A–1C, p. 30  <b>Work Places</b> <ul style="list-style-type: none"> <li>• Unifix Cubes</li> <li>• Pattern Blocks</li> <li>• Polydrons</li> </ul>	<b>Daily Routines</b> Geoboards & Geobands, p. 35  <b>Work Places</b> Add Geoboards & Geobands	<b>Daily Routines</b> A Bucket of Bugs: Count- ing to 100, p. 40  <b>Work Places</b> Add Bucket of Bugs	<b>Daily Routines</b> Sorting & Graphing Shapes by Size, p. 44  <b>Technology Connection</b>	<b>Daily Routines</b> Introduce the Work Place Menu Cards, p.47  <b>Work Places</b>
SESSION 7	SESSION 8	SESSION 9	SESSION 10	SESSION 11
<b>Daily Routines</b> Sorting & Graphing Shapes by Name, p. 50	<b>Daily Routines</b> Making Name Cards, p. 52	<b>Daily Routines</b> Moving Along With Shapes & Work Places, p. 55	<b>Daily Routines</b> Sorting Shapes: Sides & Corners, p. 57  <b>Home Connection 1</b>	<b>Daily Routines</b> Goodbye Shapes! p. 60  <b>Work Places</b>
SESSION 12	SESSION 13	SESSION 14	SESSION 15	SESSION 16
<b>Daily Routines</b> Goodbye Shapes! p. 64  <b>Work Places</b>	<b>Daily Routines</b> More Cruising With Shapes & Work Places, p. 65	<b>Daily Routines</b> Triangles & Squares: Making Blocks for a Class Quilt, p. 66  <b>Technology Connection</b>	<b>Daily Routines</b> Assembling the Shoo Fly Quilt, p. 70  <b>Home Connection 2</b>	<b>Daily Routines</b> Which Bug Will Win? p. 74  <b>Work Places</b>
SESSION 17	SESSION 18	SESSION 19		
<b>Daily Routines</b> Which Bug Will Win? p. 80  <b>Work Places</b> Add Which Bug Will Win?	<b>Daily Routines</b> Bug Sorting, p. 84	<b>Daily Routines</b> Moving Along With Bugs & Work Places, p. 101  <b>Work Places</b>		



## October Planner (Bridges & CCSS Kindergarten Supp. Sets A4 & A6)

**Reminder** Use Frames & Bunny Ears (Supplement Set A4, pages A4.2–A4.4) in conjunction with Our Month in School throughout the October Number Corner.

SUPPLEMENT	DAY 2	DAY 3	SESSION 20	SESSION 21
Introduce Number Corner <b>Daily Routines</b>  <b>Supplement Set A6</b> <b>Number &amp; Operations:</b> One Dot, Many Dots Calendar Pattern (Start today and use throughout the month during Number Corner.)	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	<b>Daily Routines</b>  Bug Sorting & Graphing, p. 105	<b>Daily Routines</b>  Unifix Cube Patterns, Part 1, p. 108  <b>Work Places</b>
SESSION 22	SESSION 23	SESSION 24	SESSION 25	SESSION 26
<b>Daily Routines</b>  Unifix Cube Patterns, Part 2, p. 110  <b>Work Places</b> Add Unifix Cube Patterns Remove Unifix Cubes	<b>Daily Routines</b>  Bugs to Ten, p. 115  <b>Home Connection 4</b>	<b>Daily Routines</b>  Introduce <b>Work Place 1H</b> , p. 119  <b>Work Places</b> Add Geoboard Shapes Remove Geoboards & Geobands	<b>Daily Routines</b>  Popsicle Stick Tallying, p. 123	<b>Daily Routines</b>  Bugs, Tallies & Number Bingo, p. 126
SESSION 27	SESSION 28	SESSION 29	SESSION 30	SESSION 31
<b>Daily Routines</b>  Munch, Crunch, What a Lunch! p. 129  <b>Work Places</b> Add Bucket of Frogs Remove Bucket of Bugs	<b>Daily Routines</b>  Beat You to Ten, p. 132  <b>Work Places</b>	<b>Daily Routines</b>  Beat You to Ten, p. 136  <b>Work Places</b> Add Beat You to Ten Remove Pattern Blocks  <b>Home Connection 5</b>	<b>Daily Routines</b>  Bugs, Tallies & Numbers Bingo, p. 139	<b>Daily Routines</b>  Butterfly Countdown, p. 141
SESSION 32	SUPPLEMENT	SUPPLEMENT	SESSION 33	
<b>Daily Routines</b>  Moving Along with Butterflies & Work Places, p. 143  <b>Work Places</b>  <b>Home Connection 6</b>	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations: Addition &amp; Subtraction</b> Activity 2: Butterfly Race	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations: Addition &amp; Subtraction</b> Play Butterfly Race again with the class, and then introduce it as Work Place S1.  <b>Work Places</b> Add Butterfly Race Remove Polydrons	<b>Daily Routines</b> Introduce <b>Work Place 1K</b> , p. 145  <b>Work Places</b> Add Pattern Block Designs Remove Which Bug Will Win?  <b>Technology Connection</b>  <b>Note</b> Session 34 has been omitted.	



## November Planner (Bridges & CCSS Kindergarten Supp. Sets A4, C2, C3, D1 & D2)

**Reminder** Use More Frames & Bunny Ears (Supplement Set A4, page A4.4) in conjunction with Our Month in School throughout the November Number Corner.

SUPPLEMENT	DAY 2	DAY 3	SUPPLEMENT	SESSION 35
Introduce Number Corner <b>Daily Routines</b>  <b>Supplement Set C3 Geometry:</b> Flying Butterflies Calendar Pattern (Start today and use throughout the month during Number Corner.)	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	<b>Daily Routines</b>  <b>Supplement Set C2 Geometry: Locations</b> Activity 1: The Bear in the Box	<b>Daily Routines</b>  Hungry Caterpillars, p. 151  <b>Work Places</b>
SESSION 36	SESSION 37	SESSION 38	SESSION 39	SESSION 40
<b>Daily Routines</b> Hungry Caterpillars, p. 154  <b>Work Places</b> Add Hungry Caterpillars Remove Unifix Patterns	<b>Daily Routines</b>  Moving Along With Caterpillars & Work Places, p. 157  <b>Work Places</b>  <b>Home Connection 7</b>	<b>Daily Routines</b>  The Butterfly Quilt, Part 1: Making the Quilt Blocks, p. 159	<b>Daily Routines</b>  The Butterfly Quilt, Part 2: Assembling the Quilt, p. 163	<b>Daily Routines</b>  Count & Compare Butterflies, p. 166
SESSION 41	SUPPLEMENT	SUPPLEMENT	SUPPLEMENT	SUPPLEMENT
<b>Daily Routines</b>  Introduce <b>Work Place 1M</b> , p. 170  <b>Work Places</b> Add Count & Compare Butterflies Remove Geoboard Shapes  <b>Note</b> Session 42 has been omitted	<b>Daily Routines</b>  <b>Supplement Set D1 Measurement: Length</b> Activity 1: Longer, Shorter, or the Same?  <b>Work Places</b>	<b>Daily Routines</b>  <b>Supplement Set D1 Measurement: Length</b> Activity 2: How Long is the Teacher's Necklace or Necktie?  <b>Work Places</b>	<b>Daily Routines</b>  <b>Supplement Set D1 Measurement: Length</b> Activity 3: Compare, Spin & Win  <b>Work Places</b>	<b>Daily Routines</b>  <b>Supplement Set D1 Measurement: Length</b> Activity 3: Compare, Spin & Win (Repeat)  <b>Note</b> This activity can be used during Work Places after you've introduced it to the class.
SESSION 43	SESSION 44	SESSION 45	SESSION 46	SUPPLEMENT
<b>Daily Routines</b> Bugs to Ten & Numeral Cards: A Match Game, p. 174  <b>Home Connection 8</b>	<b>Daily Routines</b> Pattern Block Puzzles, p. 178  <b>Technology Connection</b>	<b>Daily Routines</b> Introduce <b>Work Place 1N</b> , p. 182  <b>Work Places</b> Add Pattern Block Puzzles Remove Bucket of Frogs	<b>Daily Routines</b> Introduce <b>Work Place 1O</b> , p. 186  <b>Work Places</b> Add Which Numeral Will Win? Remove Beat You to Ten  <b>Note</b> Session 47 has been omitted	<b>Daily Routines</b>  <b>Supplement Set D2 Measurement: Weight</b> Activity 1: Comparing Weights  <b>Work Places</b>



## December Planner (Bridges & CCSS Kindergarten Supp. Sets A4, C4 & D2)

**Reminder** Use Quick Fives (Supplement Set A4, pages A4.5–A4.6) in conjunction with Our Month in School throughout the December Number Corner.

SUPPLEMENT	DAY 2	DAY 3	SUPPLEMENT	SUPPLEMENT
Introduce Number Corner <b>Daily Routines</b>  <b>Supplement Set C4</b> <b>Geometry:</b> Teddy Bear & Box Calendar Pattern (Start today and use throughout the month during Number Corner.)  <b>Home Connection 9</b>	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	<b>Daily Routines</b>  <b>Supplement Set D2</b> <b>Measurement: Weight</b> Activity 1: Comparing Weights (Repeat)  <b>Note</b> This activity can be used during Work Places after you've introduced it to the class.	<b>Daily Routines</b>  <b>Supplement Set D2</b> <b>Measurement: Weight</b> Activity 2: A Pound of Potatoes  <b>Note</b> This activity can be used during Work Places after you've introduced it to the class
SUPPLEMENT	SESSION 48	SESSION 49	SESSION 50	SESSION 51
<b>Daily Routines</b>  <b>Supplement Set D2</b> <b>Measurement: Weight</b> Activity 3: Spin & Compare Weights  <b>Note</b> This activity can be used during Work Places after you've introduced it to the class	<b>Daily Routines</b>  Growing Patterns: These Ladybugs Have Two Spots, p. 193  <b>Home Connection 10</b>	<b>Daily Routines</b>  A Growing Pattern of Ladybugs, p. 197	<b>Daily Routines</b>  Count & Compare Pennies, p. 201	<b>Daily Routines</b>  Introduce <b>Work Place 1P</b> , p. 205  <b>Work Places</b> Add Count & Compare Pennies Remove Butterfly Race
SESSION 52	SESSION 53	SESSION 54		
<b>Daily Routines</b>  Ladybug Chart: Counting by 1's & 2's, p. 208	<b>Daily Routines</b>  There's a Shape in My Pocket, p. 212  <b>Work Places</b>	<b>Daily Routines</b>  There's a Shape in My Pocket, p. 215  <b>Work Places</b>		





## January Planner (Bridges & CCSS Kindergarten Supp. Sets A1, A4 & C5)

**Reminder** Use Combinations to 10 on Frames & Fingers (Supplement Set A4, pages A4.6–A4.7) in conjunction with Our Month in School throughout the January Number Corner. Also, do the Kid Count Number Line (Supplement Set A1, pages A1.7–A1.8) several times or more during Number Corner this month.

SUPPLEMENT	DAY 2	DAY 3	SESSION 55	SESSION 56
Introduce Number Corner <b>Daily Routines</b>  <b>Supplement Set C5</b> <b>Geometry:</b> Growing Shapes Calendar Pattern (Start today and use throughout the month during Number Corner.)  <b>Home Connection 11</b>	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	<b>Daily Routines</b>  Bugs to Ten, Numeral & Tally Cards: A Match Game, p. 217	<b>Daily Routines</b>  Which One is Covered Up? A Memory Game, p. 220
SESSION 57	SESSION 58	SESSION 59	SESSION 60	SESSION 61
<b>Daily Routines</b>  Beat You to 20, p. 249  <b>Home Connection 12</b>	<b>Daily Routines</b>  Introduce <b>Work Place 2A</b> , p. 254  <b>Work Places</b> Add Beat You to 20 Remove Pattern Block Designs	<b>Daily Routines</b>  What's in the Bag? A Bucket of Sea Creatures, p. 257  Introduce Work Place 2B, p. 273	<b>Daily Routines</b>  Introduce <b>Work Place 2B</b> , p. 273  <b>Work Places</b> Add Bucket of Sea Creatures Remove Hungry Caterpillars	<b>Daily Routines</b>  Ten & More Sea Creatures, Part 1, p. 275
SESSION 62	SESSION 63	SESSION 64	SESSION 65	SESSION 66
<b>Daily Routines</b>  Ten & More Sea Creatures, Part 2, p. 279  <b>Work Places</b> Add Ten & More Remove Count & Compare Butterflies	<b>Daily Routines</b>  A Day of Work Places, p. 283  <b>Home Connection 13</b>	<b>Daily Routines</b>  Sock Boxes & Coins: Beat You to 20¢, p. 285  <b>Work Places</b> Add Sock Boxes & Coins: Beat You to 20¢ Remove Pattern Block Puzzles	<b>Daily Routines</b>  Race You to 15¢, p. 289  <b>Work Places</b> Add Race You to 15¢ Remove Which Numera Will Win?	<b>Daily Routines</b>  Moving Along With Coins & Work Places, p. 296  <b>Work Places</b>
SESSION 67	SESSION 68	SESSION 69	SESSION 70	SESSION 71
<b>Daily Routines</b>  Moving Along With Coins & Work Places, p. 296  <b>Work Places</b>  <b>Home Connection 14</b>	<b>Daily Routines</b>  Mystery Numbers, p. 299	<b>Daily Routines</b>  Introduce Work Place 2F, p. 303  <b>Work Places</b> Add Spin & Write Remove Count & Compare Pennies	<b>Daily Routines</b>  Assessment by Observation: Watching Children at Work Places, p. 309  <b>Work Places</b>	<b>Daily Routines</b>  Assessment by Observation: Watching Children at Work Places, p. 309  <b>Work Places</b>



## February Planner (Bridges & CCSS Kindergarten Supp. Sets A1, A4 & C6)

**Reminder** Use How Many Empty Squares (Supplement Set A4, pages A4.7–A4.8) in conjunction with Our Month in School throughout the February Number Corner. Also, do the Kid Count Number Line (Activity 2, Supplement Set A1) several times or more during Number Corner this month.

SUPPLEMENT	DAY 2	DAY 3	DAY 100 ACTIVITIES	DAY 100 ACTIVITIES
Introduce Number Corner <b>Daily Routines</b>  <b>Supplement Set C6</b> <b>Geometry:</b> 3-D Shapes Around Us Calendar Pattern (Start today and use throughout the month during Number Corner.)  <b>Home Connection 15</b>	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	<b>Day 100 Activities</b> (See February Number Corner, pages 195–206)	<b>Day 100 Activities</b> (See February Number Corner, pages 195–206)
DAY 100 ACTIVITIES	DAY 100 ACTIVITIES	SESSION 72	SESSION 73	SESSION 74
<b>Day 100 Activities</b> (See February Number Corner, pages 195–206)	<b>Day 100 Activities</b> (See February Number Corner, pages 195–206)	<b>Daily Routines</b>  Shark, Seal & Whale Dra- mas, Part 1, p. 311  <b>Work Places</b>	<b>Daily Routines</b>  Shark, Seal & Whale Dra- mas, Part 2, p. 315	<b>Daily Routines</b>  Shark, Seal & Whale Pic- ture Problems, p. 319
SESSION 75	SESSION 76	SESSION 77	SESSION 78	SESSION 79
<b>Daily Routines</b>  Shark, Seal & Whale Pic- ture Problems, p. 322  <b>Home Connection 16</b>	<b>Daily Routines</b>  Making Sea Creature Pic- ture Problems, p. 327  <b>Work Places</b>	<b>Daily Routines</b>  Making Sea Creature Pic- ture Problems, p. 332  <b>Work Places</b>	<b>Daily Routines</b>  Making Sea Creature Pic- ture Problems, p. 333  <b>Work Places</b>	<b>Daily Routines</b>  Solving Students' Sea Crea- ture Picture Problems, p. 335  <b>Work Places</b> Add Ten & More: Memory Remove Ten & More
SESSION 80	SESSION 81	SESSION 82	SESSION 83	
<b>Daily Routines</b> Solving More Sea Creature Problems, p. 340  <b>Work Places</b> Add Sock Boxes & Coins: Beat You to Zero Remove Beat You to 20¢  <b>Home Connection 17</b>	<b>Daily Routines</b> A Day of Work Places, p. 346	<b>Daily Routines</b>  Sea Creature Problems: Finishing Up, p. 347	<b>Daily Routines</b>  Sea Creature Problems: Finishing Up, p. 348  <b>Work Places</b>  <b>Home Connection 18</b>	



## March Planner (Bridges & CCSS Kindergarten Supp. Sets A1 & A4)

**Reminder** Do Capture the Number (Supplement Set A1, pages A1.9–A1.12 ) several times or more during Number Corner in March. This activity can be used during Work Places after you've introduced it to the class.

DAY 1	DAY 2	DAY 3	DAY 4	SESSION 84
Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner ◦	<b>Daily Routines</b>  Bucket of Sea Creatures: Handfuls, p. 353
SESSION 85	SUPPLEMENT	SESSION 87	SUPPLEMENT	SESSION 88
<b>Daily Routines</b>  Introduce <b>Work Place 2I</b> , p. 359  <b>Work Places</b> Add Sea Creature Handfuls Remove Bucket of Sea Creatures  <b>Home Connection 19</b>  <b>Note</b> Session 86 has been omitted.	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations:</b> <b>Addition &amp; Subtraction</b> Activity 3: Fives Up	<b>Daily Routines</b>  Introduce <b>Work Place S2</b> , Fives Up (from Supple- ment Set A4)  <b>Work Places</b> Add Fives Up Remove Beat You to 20	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations:</b> <b>Addition &amp; Subtraction</b> Activity 4: Frogs & Lilly pads	<b>Daily Routines</b>  Which One Does Not Belong, p. 366  Introduce <b>Work Place S3</b> , Frogs & Lilly pads (from Supplement Set A4)  <b>Work Places</b> Add Frogs & Lilly pads Remove Ten & More: Memory
SESSION 89	SESSION 90	SESSION 91	SESSION 92	SESSION 93
<b>Daily Routines</b>  Sorting Sea Creatures, p. 369  <b>Work Places</b>	<b>Daily Routines</b>  Sorting Sea Creatures: A Worksheet, p. 371	<b>Daily Routines</b>  Sorting Frogs, p. 373  <b>Work Places</b>  <b>Home Connection 20</b>	<b>Daily Routines</b>  Frog Handfuls, p. 377	<b>Daily Routines</b>  Introduce <b>Work Place 2J</b> , p. 382  <b>Work Places</b> Add Frog Handfuls Remove Sea Creature Handfuls



## April Planner (Bridges & CCSS Kindergarten Supp. Sets A1, A4 & D8)

**Reminder** Do Capture the Number (Supplement Set A1, pages A1.9–A.12) several times or more during Number Corner in April. This activity can be used during Work Places after you've introduced it to the class.

SUPPLEMENT	DAY 2	DAY 3	SESSION 94	SESSION 95
Introduce Number Corner <b>Daily Routines</b>  <b>Supplement Set D8</b> <b>Measurement:</b> Measuring Tools Calendar Pattern (Start today and use throughout the month during Number Corner.)	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	<b>Daily Routines</b>  Unifix Cube Measuring, p. 401  <b>Work Places</b>	<b>Daily Routines</b>  Introduce <b>Work Place 2K</b> , p. 405  <b>Work Places</b> Add Unifix Cube Measuring Remove Spin & Write
SESSION 96	SESSION 97	SESSION 99	SESSION 100	SUPPLEMENT
<b>Daily Routines</b>  A Day of <b>Work Places</b> , p. 409  <b>Home Connection 21</b>	<b>Daily Routines</b>  Count & Compare Unifix Cubes, p. 411  <b>Work Places</b> Add Count & Compare Unifix Cubes Remove Race You to 15¢  <b>Note</b> Session 98 has been omitted.	<b>Daily Routines</b>  Race You to 30¢, p. 418  <b>Work Places</b> Add Race You to 30¢ Remove Sock Boxes & Coins: Beat You to Zero	<b>Daily Routines</b>  A Day of <b>Work Places</b> , p. 423  <b>Home Connection 22</b>	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations: Addition &amp; Subtraction</b> Activity 5: Pond Game
SUPPLEMENT	SESSION 101	SESSION 102	SUPPLEMENT	SESSION 103
<b>Daily Routines</b>  Introduce <b>Work Place S4</b> , Pond Game (from <b>Supplement Set A4</b> )  <b>Work Places</b> Add Pond Game Remove Frog Handfuls	<b>Daily Routines</b>  Patterns & Numbers, Part 1, p. 426  <b>Work Places</b> Add Patterns & Numbers Remove Unifix Cube Measuring	<b>Daily Routines</b>  A Day of <b>Work Places</b> , p. 433	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations: Addition &amp; Subtraction</b> Activity 6: Spin, Count & Compare	<b>Daily Routines</b>  Patterns & Numbers, Part 2, p. 434  <b>Work Places</b>  <b>Note</b> Session 104 has been omitted.
SUPPLEMENT	SUPPLEMENT	SESSION 105	SESSION 106	SESSION 107
<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations: Addition &amp; Subtraction</b> Activity 6: Spin, Count & Compare (Repeat)	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations: Addition &amp; Subtraction</b> Introduce Work Place S5, Spin, Count & Compare (from Supplement Set A4)  <b>Work Places</b> Add Spin, Count & Compare Remove Fives Up	<b>Daily Routines</b>  Frog Picture Problems, p. 439  <b>Home Connection 23</b>	<b>Daily Routines</b>  More Frog Picture Problems, p. 445	<b>Daily Routines</b>  Making Frog Problems, Day 1, p. 450





## May Planner (Bridges & CCSS Kindergarten Supp. Sets A4, C1 & C2)

**Reminder** Use Dot Card Subtraction (Supplement Set A4, page A4.9) in conjunction with Our Month in School throughout the May Number Corner.

DAY 1	DAY 2	DAY 3	SESSION 108	SUPPLEMENT
Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	Introduce Number Corner <b>Daily Routines</b>	<b>Daily Routines</b>  Making Frog Problems, Day 2, p. 454  <b>Home Connection 24</b>	<b>Daily Routines</b>  <b>Supplement Set C2</b> <b>Geometry: Locations</b> Activity 2: Left & Right
SESSION 109	SESSION 110	SESSION 111	SESSION 112	SUPPLEMENT
<b>Daily Routines</b>  Solving Students' Frog Problems, p. 458  <b>Work Places</b>	<b>Daily Routines</b>  Solving More Students' Frog Problems, p. 465	<b>Daily Routines</b>  Introduce <b>Work Place</b> <b>20</b> , p. 468  <b>Work Places</b> Add Frog Problems Remove Frogs & Lily pads	<b>Daily Routines</b>  A Day of <b>Work Places</b> , p. 472  <b>Home Connection 25</b>	<b>Daily Routines</b>  <b>Supplement Set C2</b> <b>Geometry: Locations</b> Activity 3: Little Frog's Playground
SESSION 113	SESSION 114	SUPPLEMENT	SUPPLEMENT	SESSION 115
<b>Daily Routines</b> Frog Jump Measuring, p. 474	<b>Daily Routines</b> Introduce <b>Work Place 2P</b> , p. 476  <b>Work Places</b> Add Frog Jump Measuring Remove Count & Compare Unifix Cubes	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations:</b> <b>Addition &amp; Subtraction</b> Activity 7: Bug Catchers	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations:</b> <b>Addition &amp; Subtraction</b> Introduce <b>Work Place S6</b> , Bug Catchers (from <b>Supplement Set A4</b> )  <b>Work Places</b> Add Bug Catchers Remove Race You to 30¢	<b>Daily Routines</b>  Where Do You See It? p. 483  <b>Work Places</b>
SESSION 116	SUPPLEMENT	SUPPLEMENT	SESSION 117	SUPPLEMENT
<b>Daily Routines</b>  Which One Does Not Belong? p. 489  <b>Work Places</b>	<b>Daily Routines</b>  <b>Supplement Set A4</b> <b>Number &amp; Operations:</b> <b>Addition &amp; Subtraction</b> Activity 8: Piggy Banks	<b>Daily Routines</b>  Introduce <b>Work Place S7</b> , Piggy Banks (from <b>Supplement Set A4</b> )  <b>Work Places</b> Add Piggy Banks Remove Pond Game	<b>Daily Routines</b>  Introduce <b>Work Place</b> <b>2Q</b> , p. 493  <b>Work Places</b> Add Polydrons: Can You Build It? Remove Patterns & Numbers  <b>Home Connection 26</b>	<b>Daily Routines</b>  <b>Supplement Set C1</b> <b>Geometry: 3-D Shapes</b> Activity 1: Mystery Bag Sorting



## June Planner (Bridges & CCSS Kindergarten Supp. Set C1)

SUPPLEMENT	SUPPLEMENT	SESSION 118	SESSION 119	SESSION 120
<p>Daily Routines</p> <p><b>Supplement Set C1 Geometry: 3-D Shapes</b> Activity 2: Shape Detectives</p>	<p>Daily Routines</p> <p><b>Supplement Set C1 Geometry: 3-D Shapes</b> Activity 3: Three-D Shape Walk</p>	<p>Daily Routines</p> <p>Introduce <b>Work Place 2R</b>, p. 498</p> <p><b>Work Places</b> Add Fill It First! Remove Frog Problems</p>	<p>Daily Routines</p> <p>Geoboards: Squares &amp; Triangles, p. 502</p>	<p>Daily Routines</p> <p>Geoboards: Squares &amp; Triangles, p. 506</p> <p><b>Work Places</b> Add Geoboards: Squares &amp; Triangles Remove Frog Jump Measuring</p>
SESSION 121	SESSION 122	SESSION 123		
<p>Daily Routines</p> <p>Continuing with <b>Work Places</b>, p. 511</p>	<p>Daily Routines</p> <p>A Day of <b>Work Places</b></p>	<p>Daily Routines</p> <p>A Day of <b>Work Places</b></p>		



## Kindergarten CCSS Supplement Materials Lists

MANIPULATIVES & PRINT MATERIALS	ITEM #	A1	A4	A6	C1	C2	C3	C4	C5	C6	D1	D2	D8
Frogs (100)*	FROG		√			√							
Bugs (100)*	BUG		√										
Unifix cubes (1,000)	U1		√			√							
Pattern Blocks (3 sets)	PPBT								√				
Balance scale (1)	BPP											√	
Polydrons, Squares (40)*	PDS				√					√			
Polydrons, Triangles (100)*	PDT				√					√			
Game Markers (100)	M100		√										
Individual Chalkboards, chalk, erasers* (class set; whiteboards and pens may be substituted)	MB10S		√										
Calendar Grid Pocket Chart*	LCGPC			√			√	√	√	√			√
Month & Year Calendar Grid Cards*				√			√	√	√	√			√
Bridges Supplement Card Set* • Kid Count Cards • Ten Frame Bug Cards • Ten & More Ten-Frame Cards • Count & Compare Butterflies cards • Count & Compare U Cubes cards	QZ452	√	√										

All manipulatives and print materials available from Math Learning Center. Those items marked with an asterisk are included in the Kindergarten Bridges Grade Level Package.

GENERAL MATERIALS (PROVIDED BY THE TEACHER)	A1	A4	A6	C1	C2	C3	C4	C5	C6	D1	D2	D8
Overhead projector or document camera		√										
Blank transparencies if you are using an overhead projector		4										
"Helper Jar" (A popsicle stick for each student with his/her name written on it, placed in a container)	√	√	√		√	√	√	√	√	√	√	√
8.5" x 11" copy paper, sheets per student	2	4		1								
8.5" x 11" white cardstock, individual sheets	1	30	20	3		16	16	16	18	1	2	16
8.5" x 11" pastel cardstock, individual sheets		17										
1 ½" x 2" sticky notes	√											
3" x 5" index cards	√									√		
Construction paper in a variety of colors			√	√						√	√	
Butcher paper											√	
18" x 24" chart paper (lined and unlined)								√	√			√
Overhead pens (black, blue, red, green)	√											
Dry wipe pens (black, blue & red)	√											
Marking pens, including a highlighter pen		√								√		√
Glue sticks												√
Crayons		√										
Scissors, class set										√		
Regular masking tape										√		
Blue masking tape	√											
String										√		
Yardstick or pointer	√	√										
Rug yarn or ribbon in 4-6 different colors										√		

## Kindergarten CCSS Supplement Materials Lists (cont.)

<b>GENERAL MATERIALS (PROVIDED BY THE TEACHER)</b>	<b>A1</b>	<b>A4</b>	<b>A6</b>	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>	<b>D1</b>	<b>D2</b>	<b>D8</b>
Rainbow sentence strips in 5 different colors	√											
Xylophone, keyboard, piano, or internet access		√										
Teddy bear or other stuffed animal			√		√							
Copy paper box with lid			√		√							
Lunch sack or small gift bag										√		
Grocery sack or large gift bag				√						√		
Collection of 3-D objects from around the classroom				√								
3/4" adhesive dots, red and blue		√			√							
A necklace or necktie belonging to the teacher										√		
1 pound of potatoes, onions, or carrots in a small sack with handles											√	
8–12 common household or classroom items of varying weights (between 8 ounces & 2 pounds)											√	
Cafeteria tray		√										
60 pennies		√										
6 small paper cups (3 oz), 1 large paper cup (8 oz)		√										
Measuring tools (e.g., a digital clock, a small analog clock, a medical or scientific thermometer, a round outdoor thermometer, a digital thermometer, a kitchen scale, a bathroom scale, a cloth measuring tape, a carpenter's tape measure, etc.)												Opt
Clipboards (Class Set)				Opt.								

<b>CHILDREN'S BOOKS (PROVIDED BY THE TEACHER)</b>	<b>A4</b>	<b>A6</b>	<b>C2</b>	<b>D2</b>	<b>D8</b>
<i>Splash!</i> by Ann Jonas	Opt.				
<i>All about Where</i> by Tana Hoban		Opt.	Opt.		
<i>Left Hand, Right Hand</i> by Janet Allison Brown			Opt.		
<i>Cubes, Cones, Cylinders &amp; Spheres</i> by Tana Hoban			Opt.		
<i>Stone Soup</i> (any version)				Opt.	
<i>Length</i> by Henry Pluckrose					Opt.
<i>Weight</i> by Henry Pluckrose					Opt.
<i>How Long Is It?</i> by Donna Loughran					Opt.
<i>Millions to Measure</i> by David Schwartz					Opt.
<i>How Big Is a Foot?</i> by Rolf Myller					Opt.



# KINDERGARTEN SUPPLEMENT

---

## Set A1 Number & Operations: Counting on the Number Line

### Includes

Activity 1: The Rainbow Number Line	A1.1
Activity 2: Kid Count Number Line	A1.7
Activity 3: Capture the Number	A1.9

### Skills & Concepts

- ★ locate numbers from 1 to at least 31 on a number line
- ★ count by ones forward from 1 to 100
- ★ count backward from 10
- ★ read aloud numerals from 0 to at least 31
- ★ identify ordinal positions through the 31st
- ★ locate numbers on a number line
- ★ count by ones and read numerals
- ★ order numerals from 1 to at least 10
- ★ rote count backward from any number in the range of 1 to at least 10
- ★ identify ordinal positions
- ★ locate numbers from 0 to at least 20 on a number line
- ★ read numerals from 0 to at least 20
- ★ rote count by ones forward from 0 to 39
- ★ count objects in a set of up to at least 20 objects
- ★ describe numbers from 1 to 9 using 5 as a benchmark number

**Bridges in Mathematics Kindergarten Supplement**

**Set A1** Numbers & Operations: Counting on the Number Line

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2009 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0709

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).



# Set A1 ★ Activity 1



## ACTIVITY

### The Rainbow Number Line

#### Overview

The teacher works with input from students to record one number each school day on a colored sentence strip posted on the classroom wall. New sentence strips are added as needed, and the number line that results can be used for many different counting and numeral recognition activities through the year.

#### Skills & Concepts

- ★ locate numbers from 1 to at least 31 on a number line
- ★ count by ones forward from 1 to 100
- ★ count backward from 10
- ★ read aloud numerals from 0 to at least 31
- ★ identify ordinal positions through the 31st

#### You'll need

- ★ 11 rainbow sentence strips in 5 different colors (see Advance Preparation)
- ★ a yardstick
- ★ wide-tipped black felt marker
- ★ red and blue dry wipe or overhead markers
- ★ Coin and Bill cards (optional, pages A1.4–A1.6, run one copy of each on cardstock)

**Advance Preparation** You'll need 3 of one color strip, and 2 each of the other four colors. Write a 0 at the far left side of one of the 3 identically colored strips, but leave the rest of the strip unmarked otherwise. Laminate all 11 strips so you can reuse them in future years and also mark on them with an overhead or dry wipe marker this year. Post just the first strip before school starts. Place it near your Number Corner display board where all the students can see it easily.



#### Instructions for The Rainbow Number Line

1. On the first day of school, call children's attention to the single sentence strip you've posted. Explain that this is a number line, and you'll be writing a number on it for each school day that passes. Read the numeral 0 with the class, and explain that you wrote this number on the line yesterday, before school even started. Ask them what number you'll need to write for today, and then use a black wide-tipped marker to record the numeral 1 on the line. Gauge the amount of space you leave between the 0 and the 1 knowing that you'll only be writing the numerals up through 9 before you switch to another strip.
2. The following day during Number Corner, record the numeral 2 on the line for the second day of school. Continue each day in this fashion through the ninth day of school. Then attach a second strip to the first, and add a new number to the strip each day until you've reached the 19th. Attach a third strip for the numerals 20–29, a fourth for the numerals 30–39, and so on. Use a different color strip each time, so each decade appears on a new color. When you've used all 5 colors, start over. Repeat the same sequence of colors so children can anticipate what you'll post next.



**Activity 1** The Rainbow Number Line (cont.)

Starting on about the 10th day of school, you can use the line for a variety of counting exercises and activities, including the ones listed below.

- Point to each numeral as students count forward with you. When you get to the last recorded numeral, ask students to predict what number you'll be writing on the line the following day.
- Start at any number 10 or less and point to each numeral as students count backward with you to 0. Have them practice counting from different numbers below 10 backwards to 0 on a regular basis.
- Have students take turns pointing on the line to specific numerals you name. You might also have them point to numerals that correspond to events in your classroom (e.g., someone's age, birth date, the number of cans the class collected for the annual food drive, the number of muffins someone brought to school for a special treat today, and so on).
- Have students practice counting by 2's to 10. Point to the numbers, or underline them in red or blue, as the students count along with you.
- Cover up the zero with a post-it note, and have students name the ordinal position of each numeral on the line, first, second, third, fourth, and so on. (If you cover the zero, the ordinal numbers will correspond to the cardinal numbers. That is, the 1 will be the first number on the line. The 2 will be the second number, 3 will be the third number, and so on.)
- Cover up the zero with a post-it note and give different students a turn to point with the yardstick to the first numeral on the line, the second, the third, the fifth, the tenth, and so on.

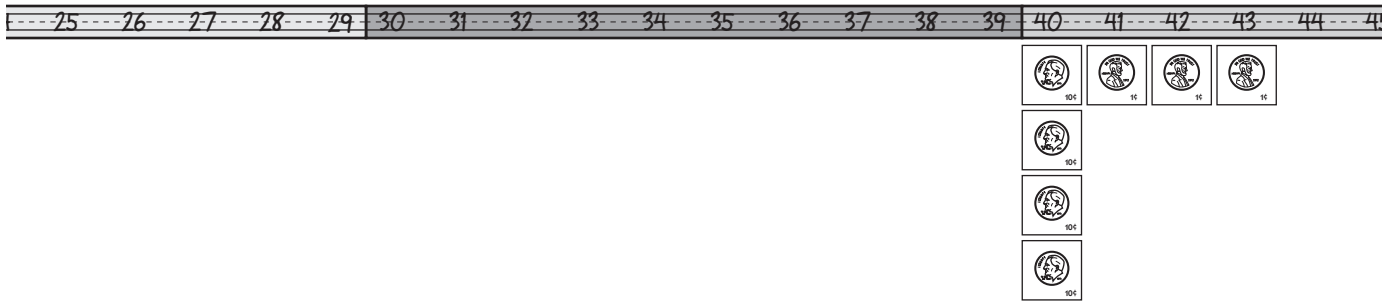
3. Have students practice counting by 1's through 100 during the spring months. You can also continue to have students practice counting backwards from 10 or other numbers less than 10. Once you reach 50 or 60, you might have students practice counting by 5's or 10's along the line. Point to the numbers or circle them in red or blue as students count with you.

**Extensions**

- Prepare a collection of coin cards by running 1 copy each of the Coin and Bill Cards on cardstock. Color the coins and the dollar bill, cut the cards apart, and laminate if desired. Post a penny card below the number line for each day of school through the tenth. After that, post a dime card below each multiple of 10 through 100, and a quarter card when under the numerals 25, 50, 75, and 100. When you reach Day 100, post the dollar bill below the numeral 100. Reinforce the name and value of the coins on a regular basis, and point to the dimes as students count by tens on the line.
- Use the fact that the sentence strips change color with every new decade to introduce and reinforce the tens place, and the special role it plays in our number system. Several months into school, as you're starting into the 40's or 50's, you might introduce the idea that the 4 in 42 means 4 tens, while the 2 means 2 ones, that is, 42 means 4 tens and 2 ones. If you're keeping the Link a Day paper chain, you can use the loops that have been grouped into tens and ones to demonstrate what you mean. You might also have students build collections of Unifix cubes grouped into tens and ones to match the number of days you've been in school.
- Use the penny and dime cards to help students analyze the magnitude of digits through 99 on the basis of their place values and represent the place value of each digit in a two-digit whole number. If you reuse the penny cards for each decade and move the dimes ahead on the line as you go, you can help students understand, for instance, that 43 is the same as 4 dimes and 3 pennies, and count the amount with them by tens and ones, "ten, twenty, thirty, forty, forty-one, forty-two, forty-three". Plan

**Activity 1** The Rainbow Number Line (cont.)

to do this several times a week, if not daily, for some months running if your kindergarteners are expected to develop place value understandings.












- Extend the number line through the last day of school to give students exposure to counting past 100 and reading 3-digit numerals.

# Coin & Bill Cards page 1 of 3



# Coin & Bill Cards page 2 of 3

 <p>IN GOD WE TRUST LIBERTY 1972</p>	 <p>LIBERTY IN GOD WE TRUST 1971</p>	 <p>LIBERTY IN GOD WE TRUST 1971</p>
 <p>LIBERTY IN GOD WE TRUST 1971</p>	 <p>LIBERTY IN GOD WE TRUST 1971</p>	 <p>LIBERTY IN GOD WE TRUST 1971</p>
 <p>LIBERTY IN GOD WE TRUST 1971</p>	 <p>LIBERTY IN GOD WE TRUST 1971</p>	 <p>LIBERTY IN GOD WE TRUST 1971</p>

# Coin & Bill Cards page 3 of 3



10¢



10¢



25¢



25¢



25¢



25¢



\$1.00

# Set A1 ★ Activity 2



## ACTIVITY

### Kid Count Number Line

#### Overview

The teacher gives half the students Kid Count cards and the other half numbered index cards. Holding their cards, students are seated in two parallel number lines, and then practice counting forwards and backwards as they stand up and sit down in turn.

#### Skills & Concepts

- ★ locate numbers on a number line
- ★ count by ones and reading numerals
- ★ order numerals from 1 to at least 10
- ★ rote count backward from any number in the range of 1 to at least 10
- ★ identify ordinal positions

#### You'll need

- ★ the Kid Count Cards (pages A1.18–A1.32, run one copy of each on cardstock and cut apart.)
- ★ blue masking tape (see Advance Preparation)
- ★ half class set of index cards (see Advance Preparation)
- ★ a ruler or pointer of some type
- ★ a bell, chime bar, or your key ring
- ★ Ten Frame Bug Cards and Ten & More Ten Frame Cards (optional, pages A1.33–A1.38 and A1.39–A1.47, run one copy of each on cardstock and cut apart.)

.....

**Advance Preparation** Use blue masking tape to create a line in your classroom long enough to accommodate half of your students standing side-by-side. An alternative is to reserve the gym for 15–20 minutes the day(s) you do this activity with your class. Write one numeral on each of the index cards, starting with 1. You'll need a half-class set of Kid Count cards and half a class set of numbered index cards. If you have 26 students, for instance, you'll need Kid Count cards 1–13, and numbered index cards 1–13.

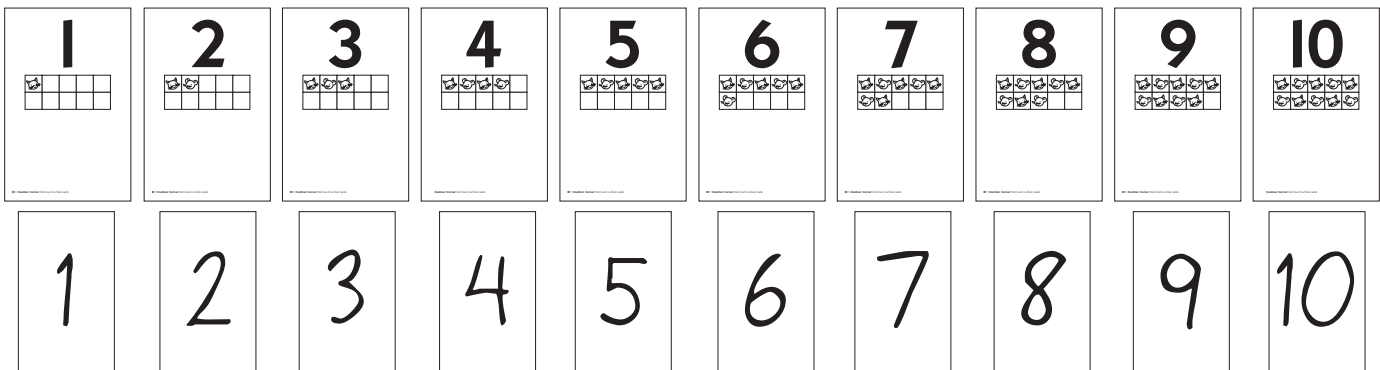
.....

#### Instructions for Kid Count Number Line

1. Gather the children into your discussion circle or in the gym, depending on where you're going to conduct the activity. Show them the line you've taped on the floor in your classroom, or the line you're planning to use in the gym. Explain that today the class is going to work together to make a kid-sized number line, using the Kid Count cards from the Number Corner and some other cards you've made especially for this activity.
2. Give half your students each a Kid Count card, and reassure the others that they'll each get a numbered index card in a minute or two. Call the numbers out one by one, starting with 1, as the students holding Kid Count cards each stand up and arrange themselves along the tape line in order. As you do this, use the language of ordinal numbers as well as the names of the numerals (i.e., "If you're holding the card that shows a 1, you're first in line. The person holding the card that shows 2 will be second in line. The number 3 card comes third in line. Yep, that's you, Jesse!")

**Activity 2** Kid Count Number Line (cont.)

- Once all the children holding cards are standing in order along the line, ask them to hold their cards up in front of them for everyone to see. Walk along slowly behind the line, pointing to each student as the rest of the class reads and counts along with you.
- Repeat Step 3, but this time, name each child's ordinal position in line (i.e., first, second, third, fourth, fifth, etc.) as the class recites them with you. Reinforce the language of ordinal numbers by asking the first child in line to hold up her hand, the third child in line to hop 3 times, the fourth child in line to wave to his or her classmates, and so on. You can also ask your class to name the second child in line, the eighth child in line, the thirteenth child in line, and so forth.
- Give each of the students still seated a numbered index card. Tell them that when you give the signal, they are going to walk, not run, to stand facing the person who is holding the matching Kid Count card. Then they're both going to sit down right where they are. Borrow one of the index cards from a student and demonstrate how you expect the children to walk to their partner, stand in front of him or her, and then both sit down. When everyone has found his or her partner, you will have two parallel lines of children seated facing each other.
- Ring your bell or jingle your keys and have the students holding numbered index cards find their partners. When all the students are seated, have the class count from 1 to the last number as each pair stands up. Then count backwards from the last number as each pair sits back down. Finally, have each pair stand (and turn to face the door if you're going back to the classroom) as the class recites the ordinal numbers, first, second, third, fourth, and so on.

**Extensions**

- Repeat the activity as described above, but use 10-frame cards from your Bridges Kit instead of numbered index cards. (The Ten-Frame Bug 1–10 cards are first introduced in Bridges Session 23. The Ten & More Ten Frames 11–20 cards are first introduced in Bridges Session 61.)
- Give all the students in your class a Kid Count card and have them arrange themselves in order along the taped line. Walk along slowly behind the line, gently tapping each student on the shoulder to call out his or her number and sit down on the line. Then have each student stand as the class counts from 1 to the final number, in unison. Finally, have each child in line take one step forward and wave as the class names his or her ordinal position in line, first, second, third, fourth, fifth, and so on. This version of the activity is especially fun if you have an audience of parents, office staff, or another kindergarten. If possible, have someone take a digital photo of the class to post beside your classroom number line.



# Set A1 ★ Activity 3



## ACTIVITY

### Capture the Number

#### Overview

The teacher divides the class into two teams. Students from each team take turns drawing a ten-frame card from a stack, finding the matching numeral on the class number line, and marking it with a sticky note. After playing the game several times with the class, the teacher can introduce Capture the Number as a partner game for children to play during Work Places.

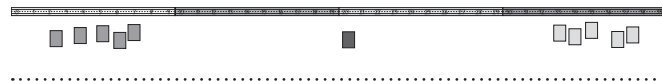
#### Skills & Concepts

- ★ locate numbers from 0 to at least 20 on a number line
- ★ read numerals from 0 to at least 20
- ★ rote count by ones forward from 0 to 39
- ★ count objects in a set of up to at least 20 objects
- ★ describe numbers from 1 to 9 using 5 as a benchmark number

#### You'll need

- ★ class number line from Set A1, Activity 1 (see Advance Preparation)
- ★  $1\frac{1}{2}$ "  $\times$  2" sticky notes in 3 different colors (see Advance Preparation)
- ★ Ten Frame Bug Cards 0–10 (pages A1.33–A1.38, run one copy of each on cardstock and cut apart.)
- ★ Ten & More Ten-Frame Cards 10–20 (optional, pages A1.39–A1.47, run one copy of each on cardstock and cut apart.)
- ★ Count & Compare Unifix Cubes Cards 10–27 (optional, pages A1.48–A1.52, run one copy of each on cardstock and cut apart.)

**Advance Preparation** Post the first four sentence strips from Activity 1 on the whiteboard to form a number line that runs from 0 to 39, at a height where the students can easily reach it. Cut the sticky notes in half to form 1" by  $1\frac{1}{2}$ " rectangles. You'll need 10 rectangles in one color, 10 in a second color, and 2 in a third color. Post 5 of one color to the lower left of the number line, 5 of the other color to the lower right, and 1 of the third color in the middle. Keep the remaining notes in reserve for a second round of the game

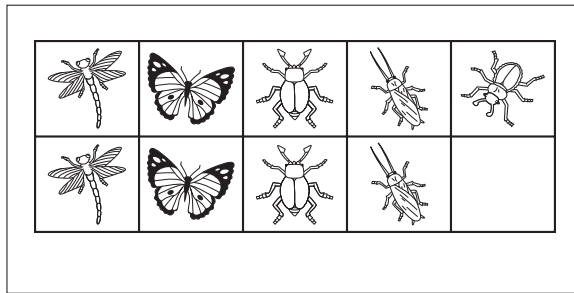


#### Instructions for Capture the Number

1. Gather children to your discussion area and seat them all facing the whiteboard. Point to each number on the line as students count with you from 0 through 39. Then explain that you're going to play a game on the number line today. Divide the children into two teams, and assign each team a color to match the colors of your sticky notes; yellow and blue, for example. Explain that the single sticky note in the middle of the board is for you.
2. Show children the stack of Ten Frame Bug cards. Then mix up the cards and place them face-down in a stack. Explain that members of each team are going to take turns pulling a card from the top of the stack, finding the matching number on the number line, and marking it with a sticky note for their team.

**Activity 3** Capture the Number (cont.)

3. Call on a student from one of the teams to take a card from the top of the stack. Ask him or her to show it to the class, and have students determine how many bugs are on the card.



**Students** *Jaimee got lots of bugs on her card!*

*Two butterflies, my best ones!*

*Nine, there are nine because I counted them.*

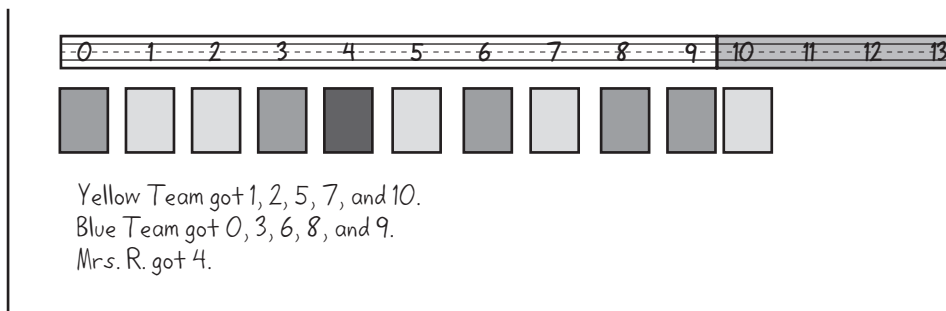
*There's one missing so it must be 9.*

*Five and then 1, 2, 3, 4.*

*1, 2, 3, 4, 5, 6, 6, 7, 8, 9...yep, it's 9!*

4. Then have that student locate and mark the matching numeral on the number line with a sticky note in his or her team's color. Encourage other students to help, and offer assistance as necessary.

5. Have students from each team take turns back and forth until all but one of the cards is gone. Take the last card yourself and mark the corresponding numeral on the line with the odd-colored sticky note. Then ask students to name the numerals each team captured as you record them on the board.



6. Play the game again if time allows, or save the sticky notes for another day.

**Extensions**

- Repeat the game as described above, but have the class capture the numerals from 10 through 20 by using the Ten & More Ten-Frame cards instead of the Ten-Frame Bug cards. You might also have students capture the numerals from 10 through 27 by using the Count & Compare Unifix Cubes cards.
- Set up Capture the Number as a Work Place, you'll need
  - Capture the Number Record Sheet, 0–10 (page A1.13, run 1 half-class set plus a few extra)
  - Zero Cards (page A1.17, one copy on cardstock, see Advance Preparation below)
  - 3 sets of Count & Compare Butterflies Cards ( pages A1.53–A1.56, run three copies of each sheet on different color cardstock and cut apart.)
  - crayons in two different colors

**Activity 3** Capture the Number (cont.)

- Capture the Number Record Sheet, 0–20 (optional, page A1.14, run as needed)
- Capture the Number Record Sheet, 0–10 Challenge (optional, page A1.15, run as needed)
- Capture the Number Record Sheet, 0–20 Challenge (optional, page A1.16, run as needed)
- 3 sets of cards from Work Place 2C (Ten & More Ten-Frame, optional)

**Advance Preparation** To set *Capture the Number* up as a Work Place, run a half-class set of the *Capture the Number Record Sheet, 0–10* blackline on page A1.13. Cut the sheets in half and place them in a Work Place tub. Run 1 copy of the *Zero Cards* (page A1.17) on cardstock. Cut the cards apart and laminate them. Add these to your *Count & Compare Butterflies* cards so that each set has 13 cards: 3 zeros, and 1 card each for 1–10. In addition to the record sheets and the 3 sets of cards, you’ll need to add 6 crayons or colored pencils, each a different color.

- Introduce *Capture the Number* as a partner game. In this game, students take turns drawing ten-frame cards, locating the corresponding numerals on a number line, and coloring in dots above those numerals on the line. The players each use a different color so they can tell who has captured each numeral. Play continues until all the dots above the numbers are colored in. If a player draws a Zero card and the 0 has already been marked, that player loses his or her turn. The player with the most dots colored in at the end of the game wins. Choose a volunteer to play the game with you while the other children watch, and then make it available during Work Places.

© 2015 by the Math Learning Center

*Danny* I won! I got 6 dots, and you only got 5, Mrs. R!

- Some students may enjoy counting out cubes in their color to match the numbers they capture, forming these into trains, and setting them above the numbers on the line. At the end of the game, each student can link his or her trains end-to-end to compare their winnings. The player with the longer train wins the game.

**Activity 3** Capture the Number (cont.)

- There are several different versions of the Capture the Number Record Sheet on pages A1.13–A1.16, each a little more challenging. You can introduce these as needed. You may choose to use some of them with small groups or individuals. Students playing Capture the Number, 0–20 can use a set of the Ten & More Ten-Frame cards from Work Place 2C and just capture and color the numerals from 10–20. If they want to play for all the numerals on the line, they can combine a set of Count and Compare Butterfly cards with a set of Ten & More Ten-Frame cards.
- Capture the Number, 0–10 Challenge and Capture the Number, 0–20 Challenge are played like the first two versions of the game, with a small twist. In the challenge games, students take turns drawing a card, using the landmark numbers along the line to find the location of the matching numeral, writing the numeral in themselves, and then coloring in the dot.

NAMES \_\_\_\_\_ DATE \_\_\_\_\_

**Capture the Number Record Sheet, 0–10 Challenge**

A horizontal number line with arrows at both ends. There are 11 tick marks along the line. The first tick mark on the left is labeled '0'. The sixth tick mark from the left is labeled '5'. The eleventh tick mark on the right is labeled '10'. Above each tick mark is a small empty circle.

Set A1 Number & Operations: Counting on the Number Line 88a

NAMES \_\_\_\_\_ DATE \_\_\_\_\_

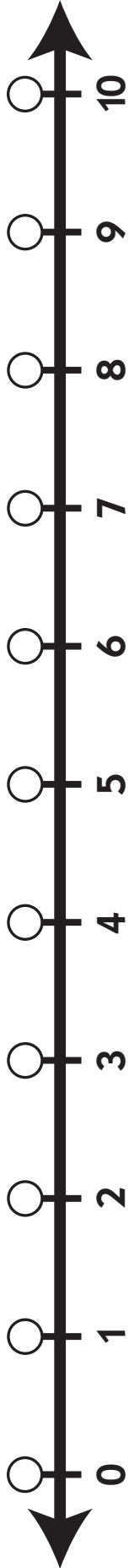
**Capture the Number Record Sheet, 0–20 Challenge**

A horizontal number line with arrows at both ends. There are 21 tick marks along the line. The first tick mark on the left is labeled '0'. The sixth tick mark from the left is labeled '5'. The eleventh tick mark from the left is labeled '10'. The sixteenth tick mark from the left is labeled '15'. The twenty-first tick mark on the right is labeled '20'. Above each tick mark is a small empty circle.

Set A1 Number & Operations: Counting on the Number Line 88a

NAMES \_\_\_\_\_ DATE \_\_\_\_\_

### Capture the Number Record Sheet, 0–10



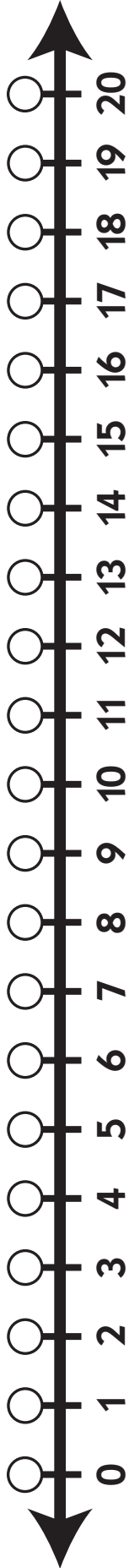
NAMES \_\_\_\_\_ DATE \_\_\_\_\_

### Capture the Number Record Sheet, 0–10



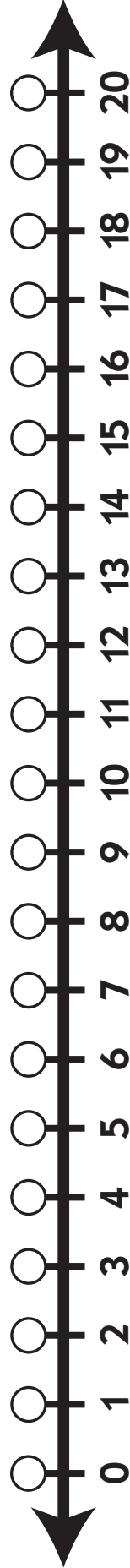
NAMES \_\_\_\_\_ DATE \_\_\_\_\_

### Capture the Number Record Sheet, 0–20



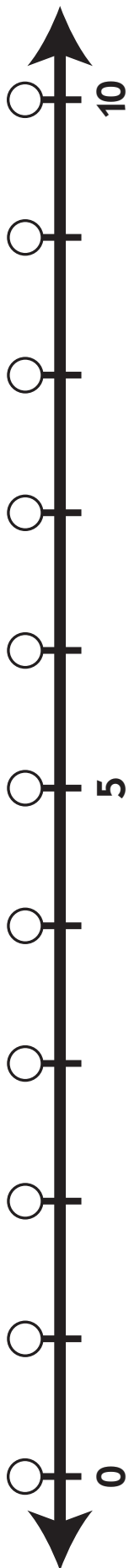
NAMES \_\_\_\_\_ DATE \_\_\_\_\_

### Capture the Number Record Sheet, 0–20



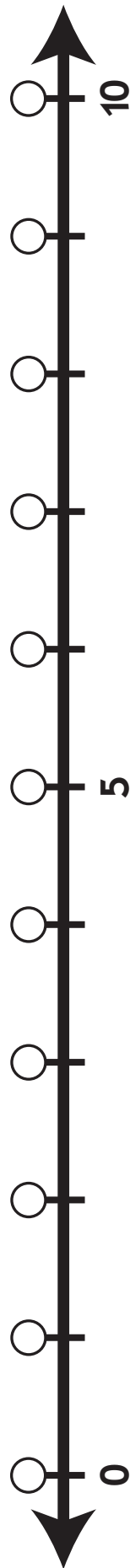
NAMES \_\_\_\_\_ DATE \_\_\_\_\_

### Capture the Number Record Sheet, 0–10 Challenge



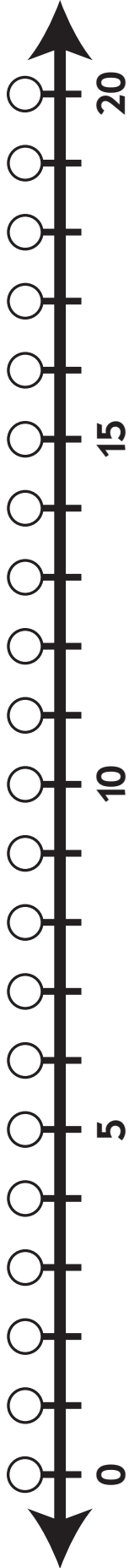
NAMES \_\_\_\_\_ DATE \_\_\_\_\_

### Capture the Number Record Sheet, 0–10 Challenge



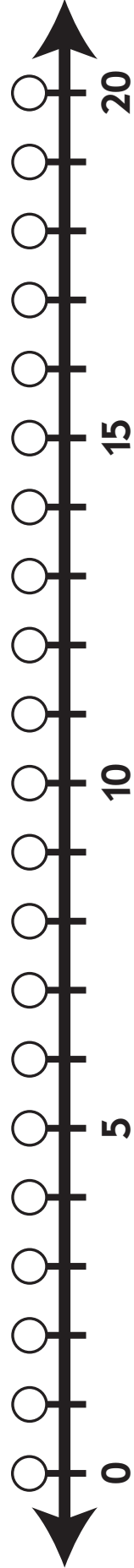
NAMES \_\_\_\_\_ DATE \_\_\_\_\_

### Capture the Number Record Sheet, 0–20 Challenge



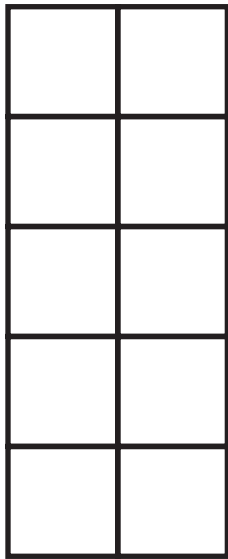
NAMES \_\_\_\_\_ DATE \_\_\_\_\_

### Capture the Number Record Sheet, 0–20 Challenge

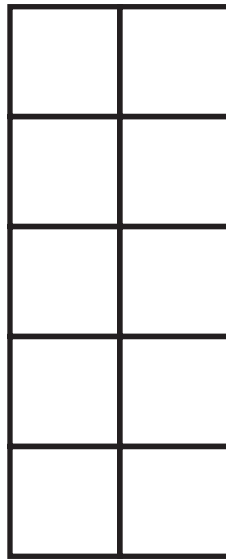




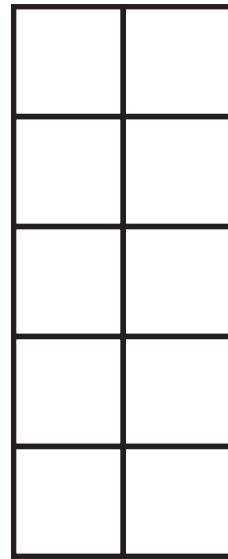
# Zero Cards



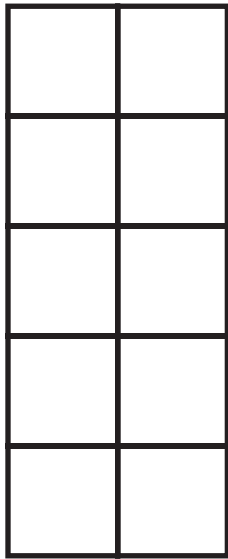
A1.17 Zero Cards



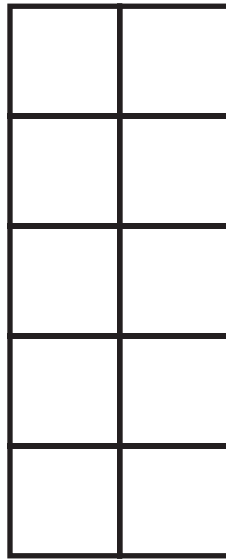
A1.17 Zero Cards



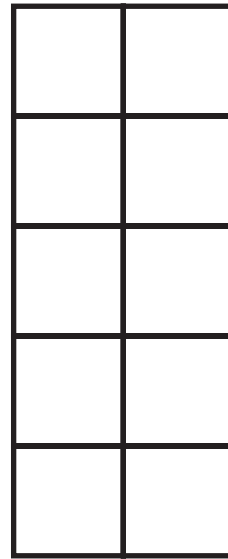
A1.17 Zero Cards



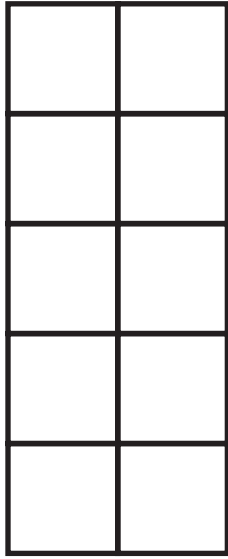
A1.17 Zero Cards



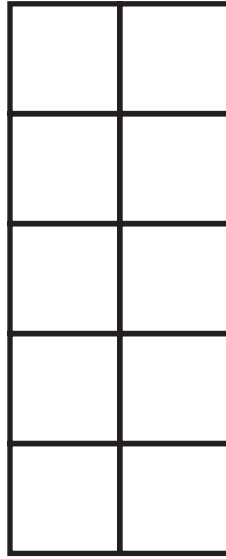
A1.17 Zero Cards



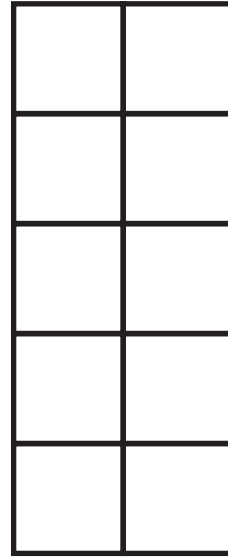
A1.17 Zero Cards



A1.17 Zero Cards





A1.17 Zero Cards



A1.17 Zero Cards


# Kid Count Cards page 1 of 15

2

Number Corner Kid Count number cards





1

Number Corner Kid Count number cards




# Kid Count Cards page 2 of 15

4

Number Corner Kid Count number cards







3

Number Corner Kid Count number cards






# Kid Count Cards page 3 of 15

6

Number Corner Kid Count number cards









5

Number Corner Kid Count number cards








# Kid Count Cards page 4 of 15

8

Number Corner Kid Count number cards

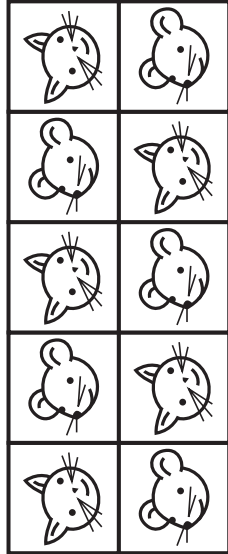
7

Number Corner Kid Count number cards

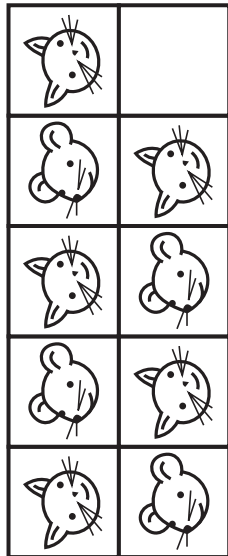
# Kid Count Cards page 5 of 15

# 10



Number Corner Kid Count number cards













# 9



Number Corner Kid Count number cards












# Kid Count Cards page 6 of 15

**12**

■ Number Corner Kid Count number cards















**11**

■ Number Corner Kid Count number cards














# Kid Count Cards page 7 of 15

# 14

Number Corner Kid Count number cards

# 13

















			
			
			
			
			

Number Corner Kid Count number cards


















# Kid Count Cards page 8 of 15

# 16

Number Corner Kid Count number cards

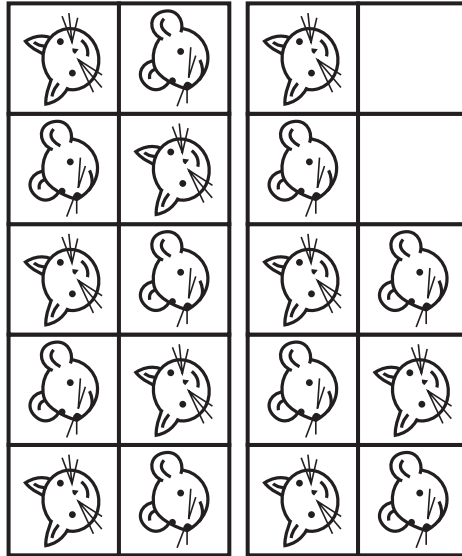
# 15

Number Corner Kid Count number cards

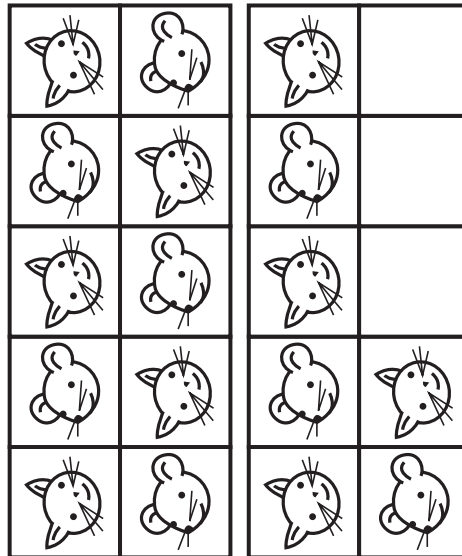
# Kid Count Cards page 9 of 15

# 8



Number Corner Kid Count number cards

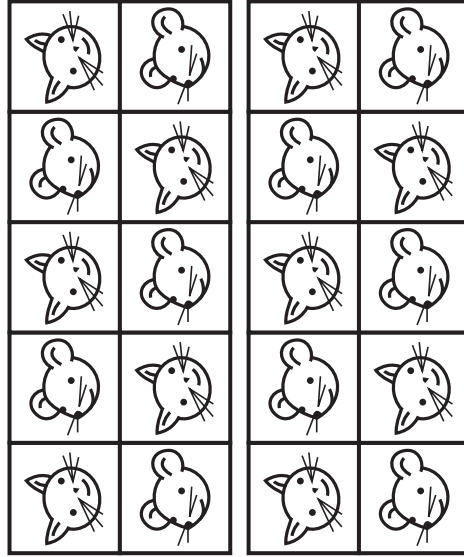
# 7



Number Corner Kid Count number cards

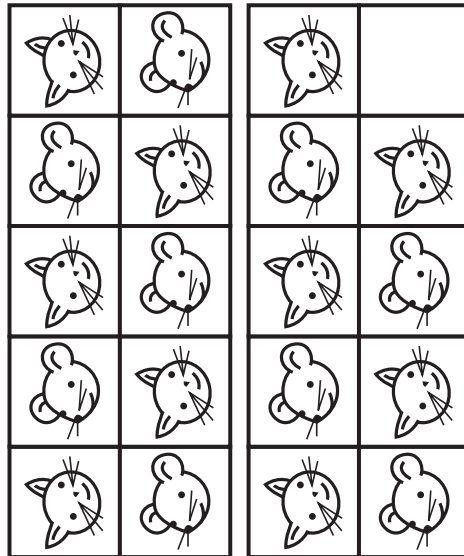
# Kid Count Cards page 10 of 15

# 20



Number Corner Kid Count number cards























# 19



Number Corner Kid Count number cards






















# Kid Count Cards page 11 of 15

# 22

Number Corner Kid Count number cards

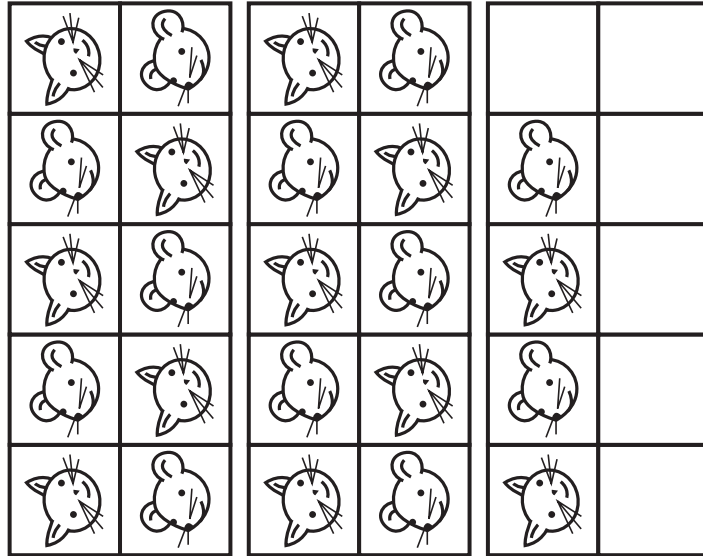
# 21

Number Corner Kid Count number cards

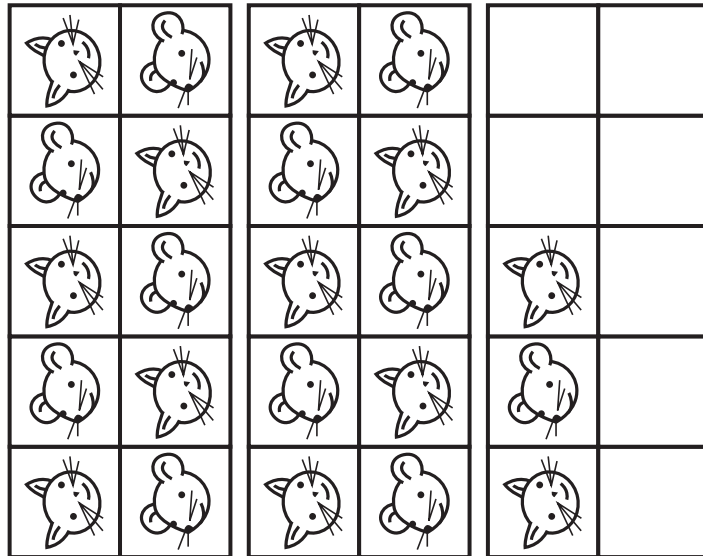
# Kid Count Cards page 12 of 15

# 24



■ □ Number Corner Kid Count number cards



























# 23



■ □ Number Corner Kid Count number cards


























# Kid Count Cards page 13 of 15

# 26

Number Corner Kid Count number cards

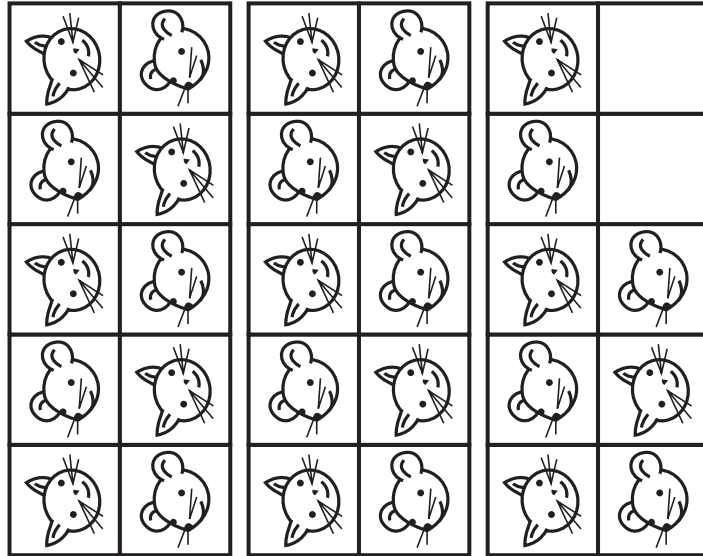
# 25

Number Corner Kid Count number cards

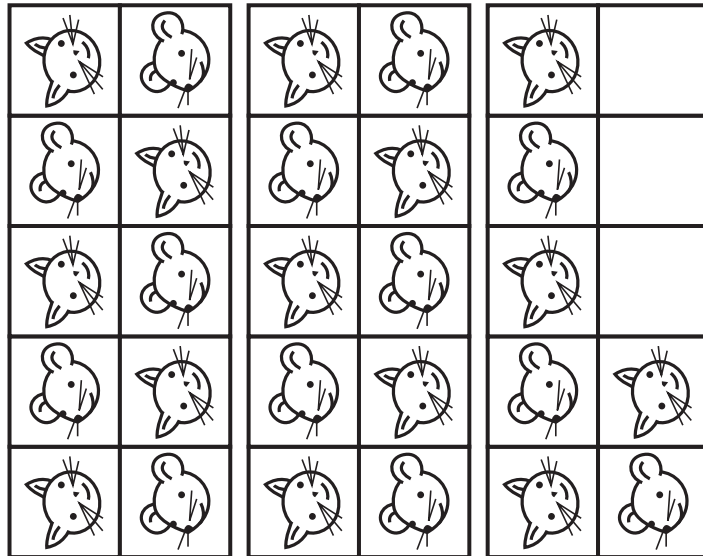
# Kid Count Cards page 14 of 15

# 28



Number Corner Kid Count number cards

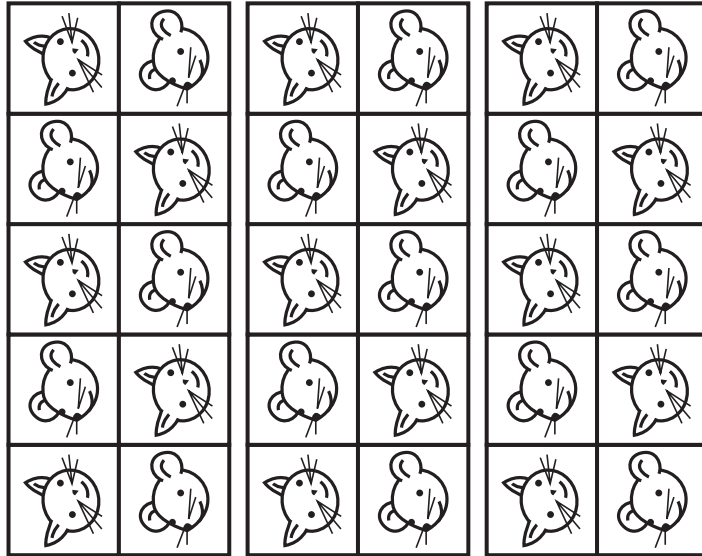
# 27



Number Corner Kid Count number cards

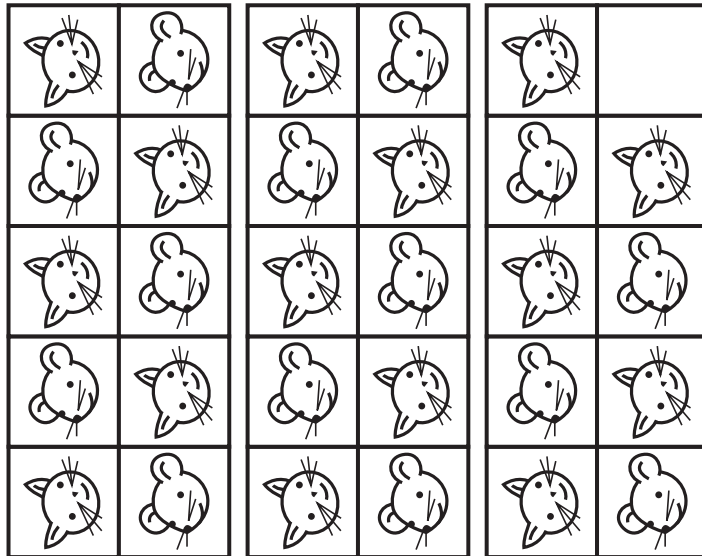
# Kid Count Cards page 15 of 15

# 30



Number Corner Kid Count number cards

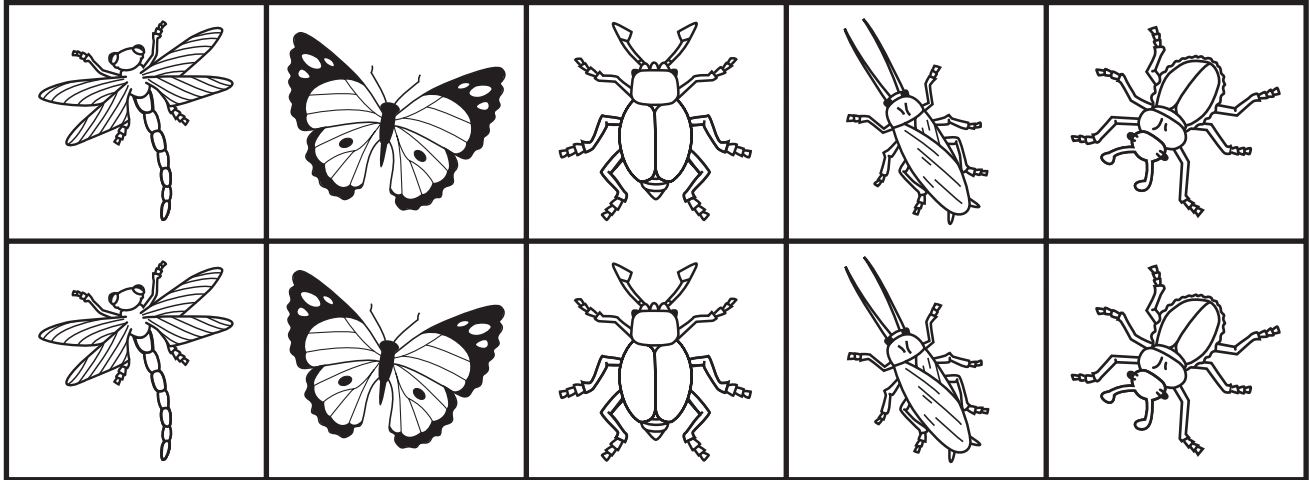
# 29



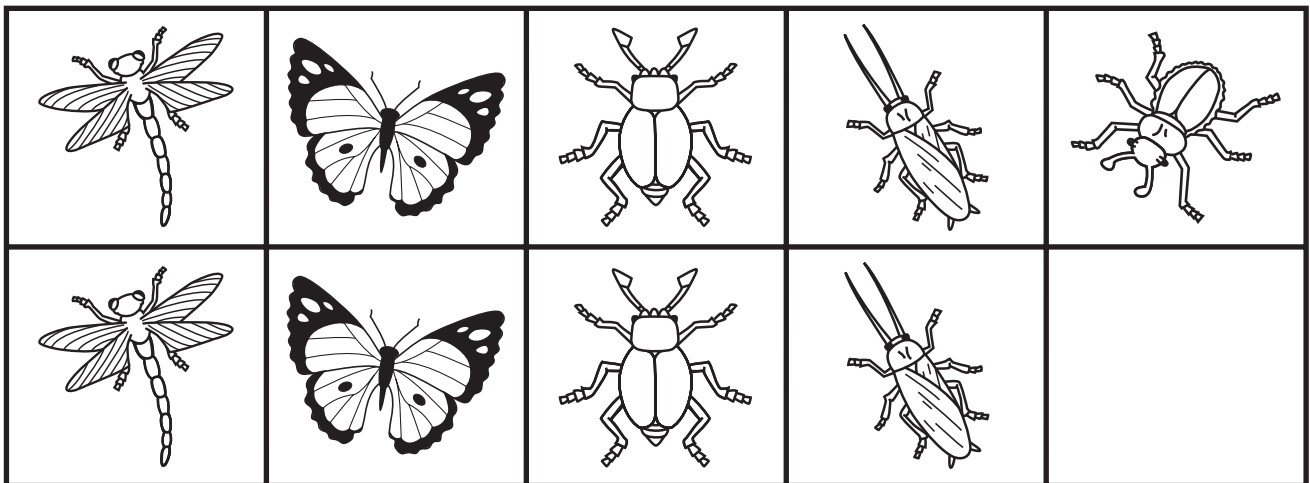
Number Corner Kid Count number cards



# Ten Frame Bug Cards page 1 of 6

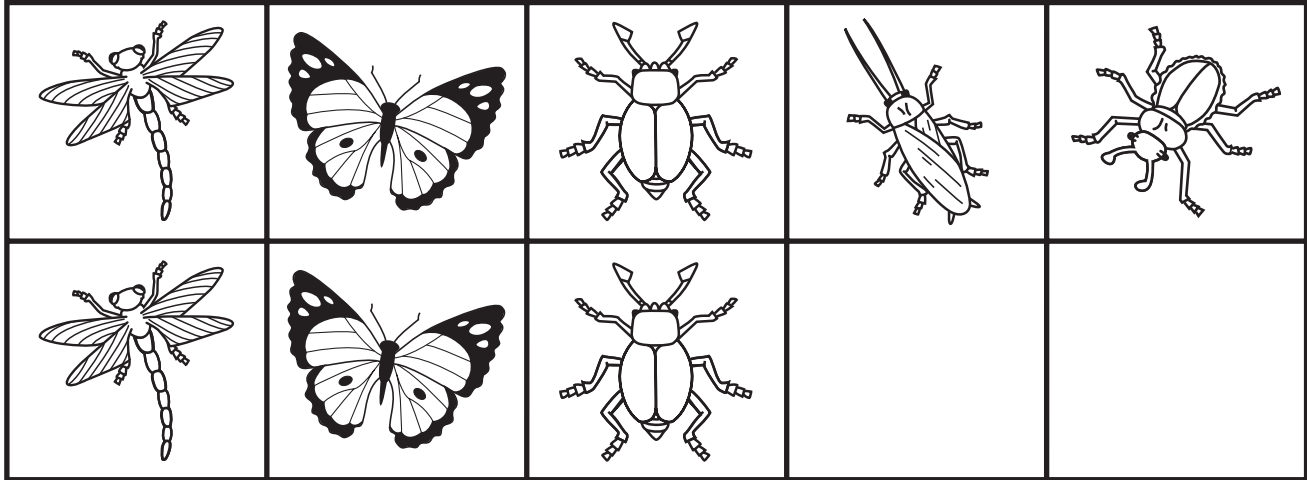


■ Bridges in Mathematics Ten-Frame Bug Cards

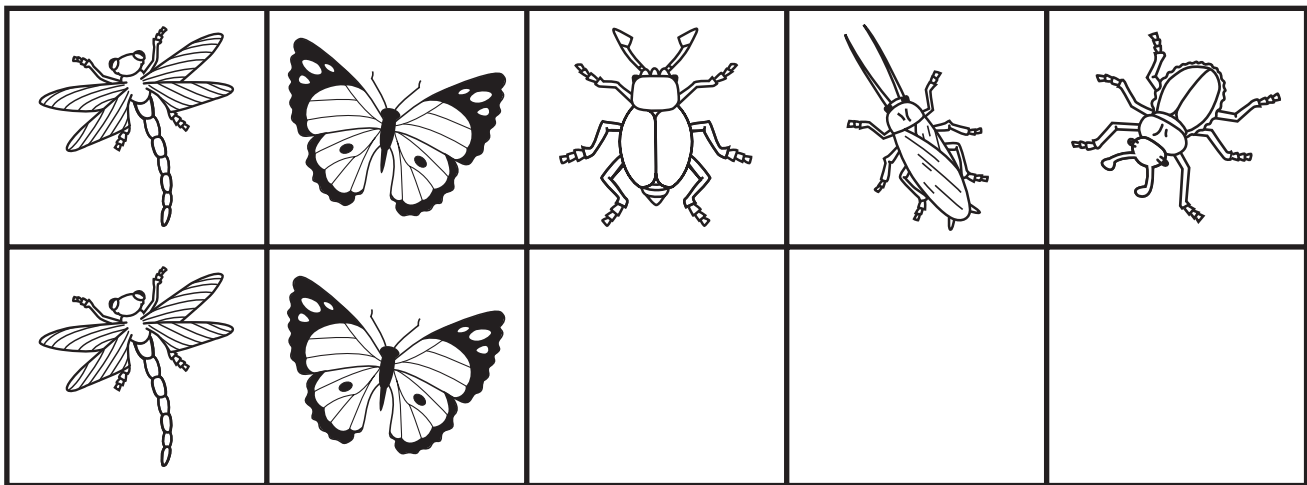


■ Bridges in Mathematics Ten-Frame Bug Cards

# Ten Frame Bug Cards page 2 of 6

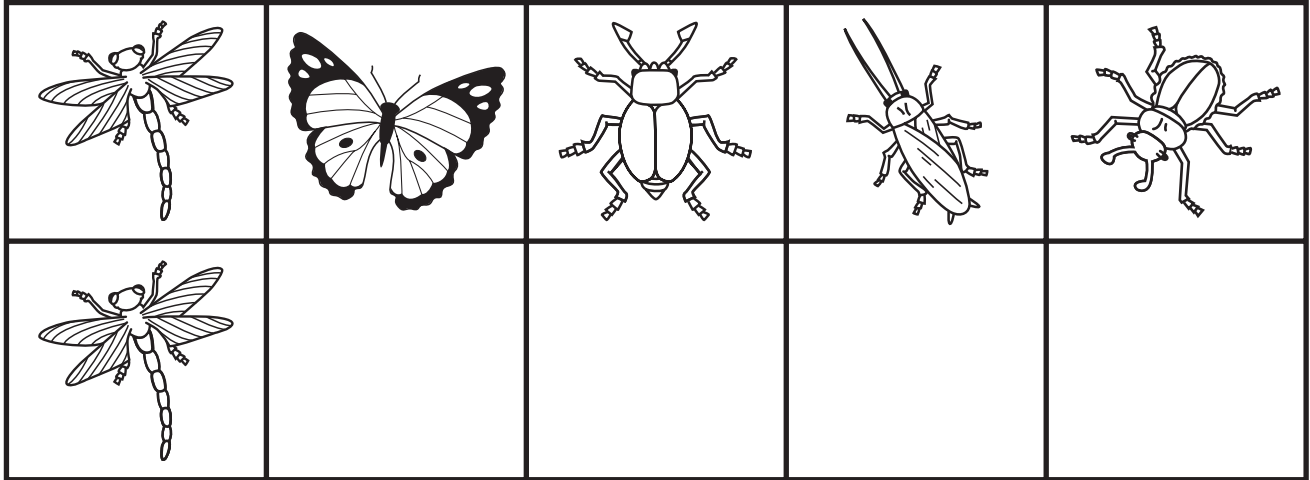


■ Bridges in Mathematics Ten-Frame Bug Cards

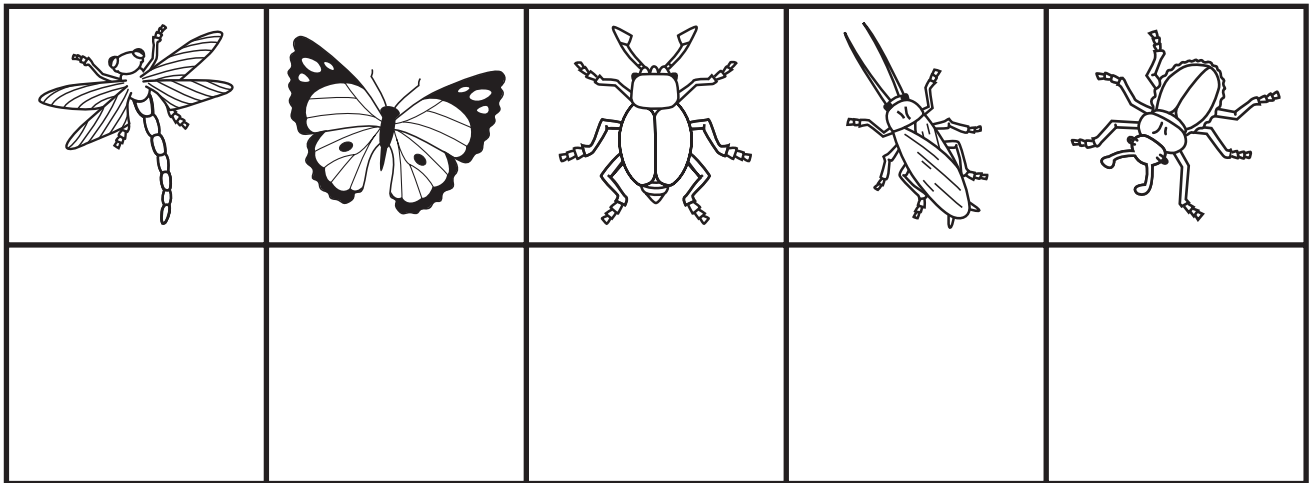


■ Bridges in Mathematics Ten-Frame Bug Cards

# Ten Frame Bug Cards page 3 of 6

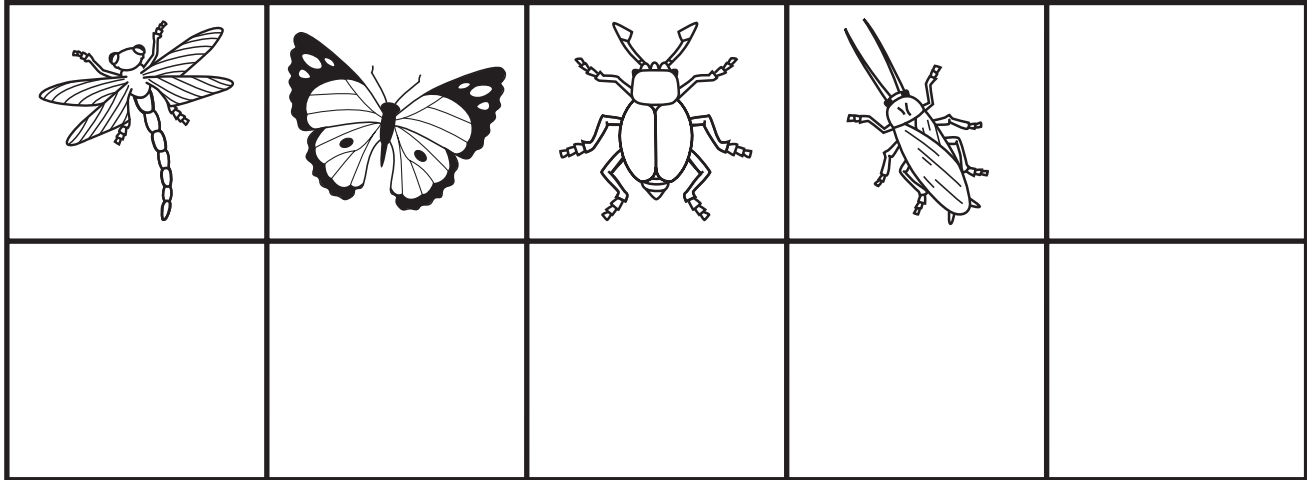


■ Bridges in Mathematics Ten-Frame Bug Cards

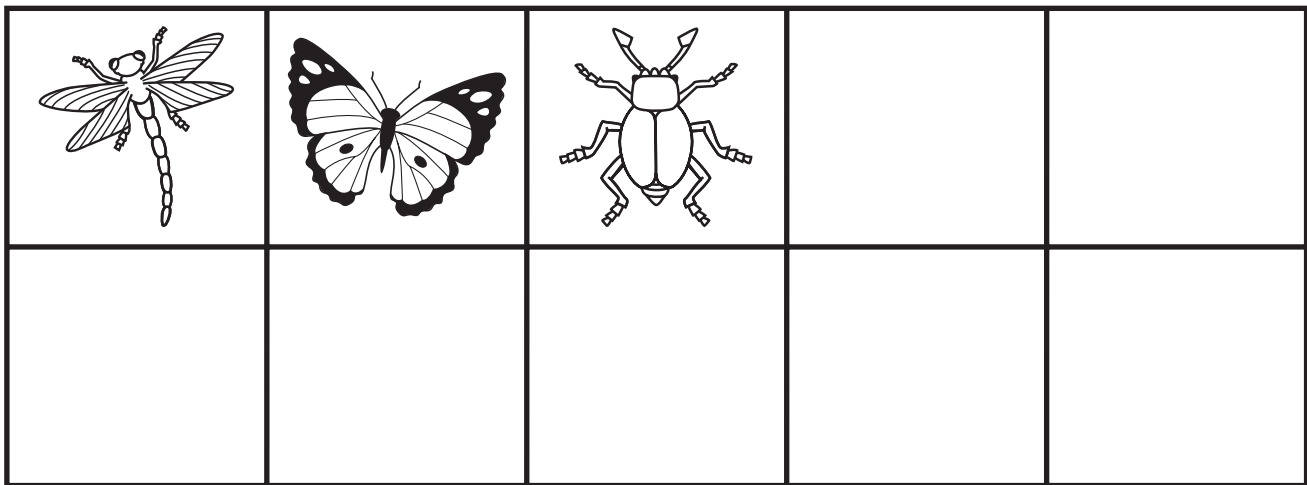


■ Bridges in Mathematics Ten-Frame Bug Cards

# Ten Frame Bug Cards page 4 of 6

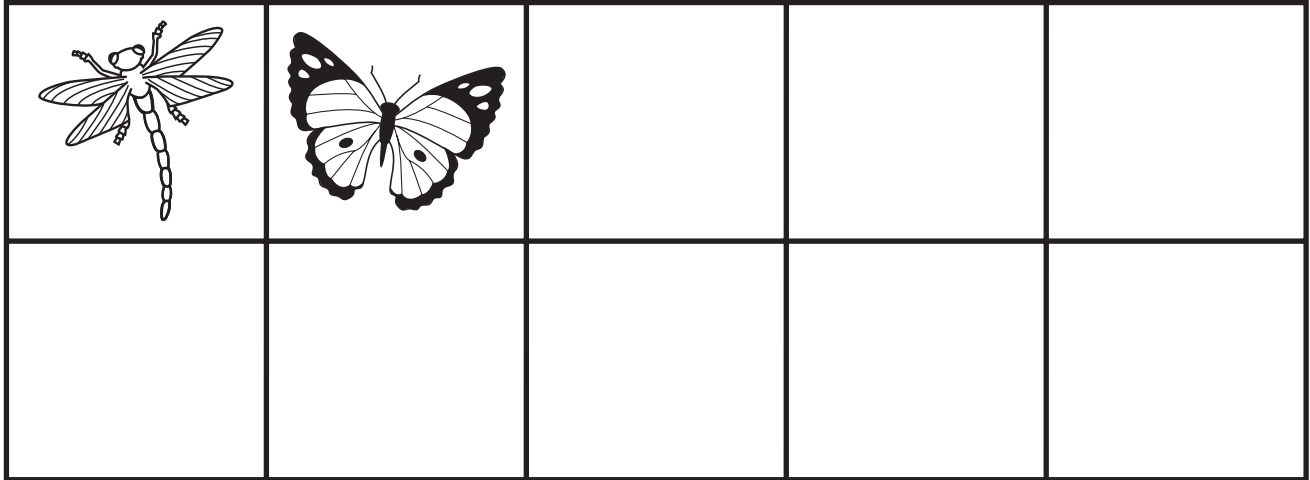


■ Bridges in Mathematics Ten-Frame Bug Cards

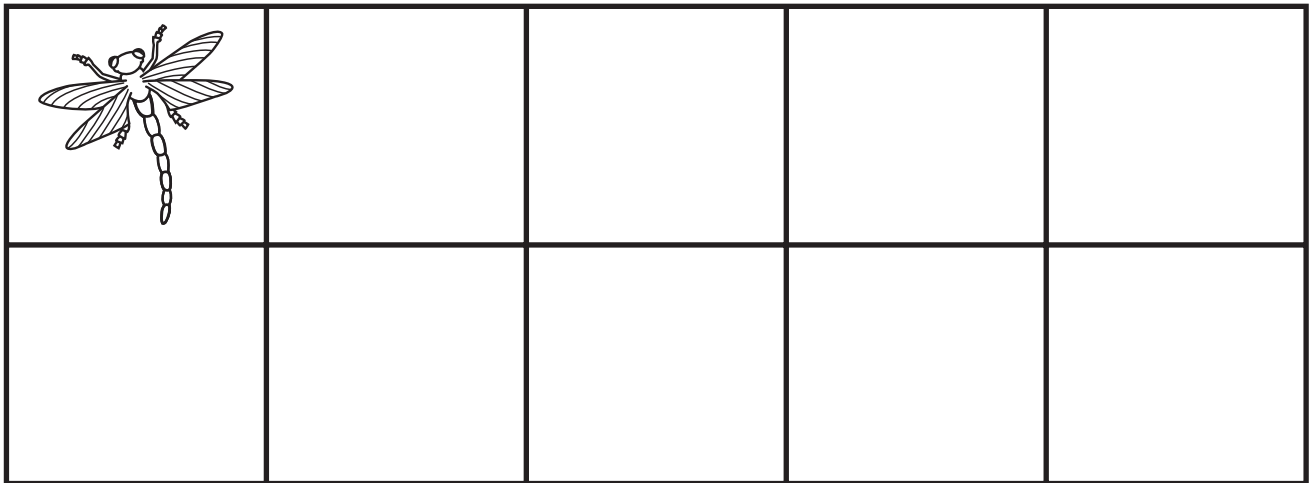


■ Bridges in Mathematics Ten-Frame Bug Cards

# Ten Frame Bug Cards page 5 of 6



■ Bridges in Mathematics Ten-Frame Bug Cards












■ Bridges in Mathematics Ten-Frame Bug Cards

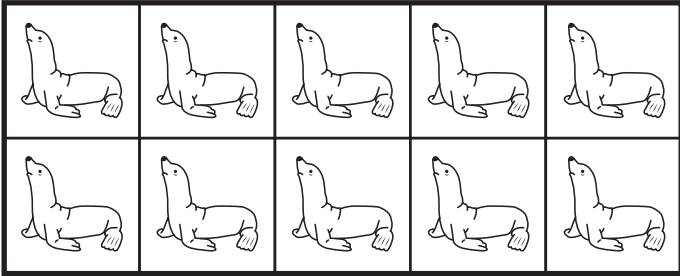
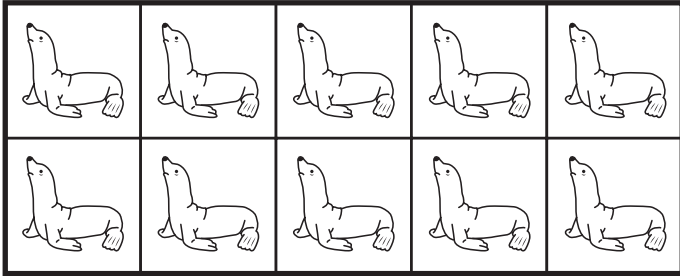
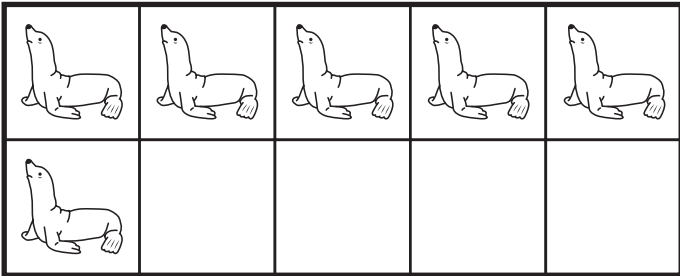
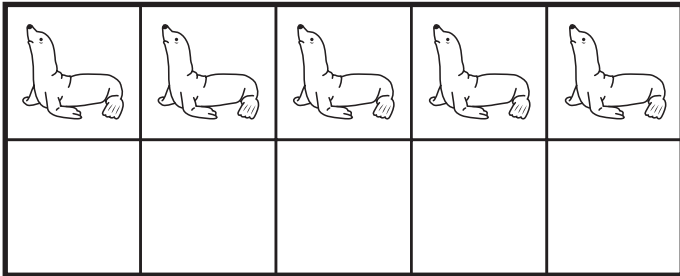
# Ten Frame Bug Cards page 6 of 6


■ Bridges in Mathematics Ten-Frame Bug Cards

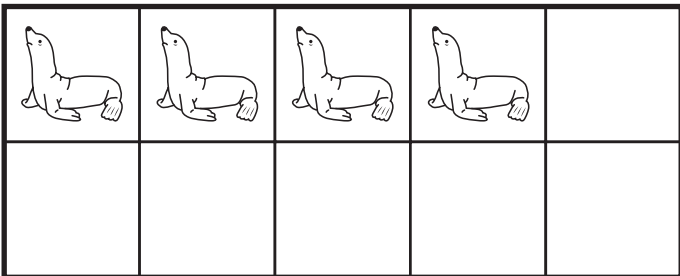
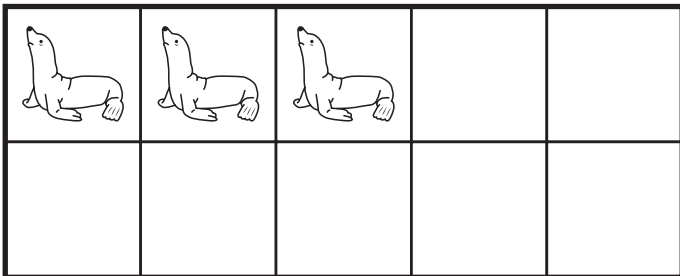
# Ten & More Ten Frame Cards page 1 of 9

<table border="1"><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>											<table border="1"><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>										
																					
																					
																					
																					
<table border="1"><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>											<table border="1"><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>										
																					
																					
																					
																					
■ □ 2C/2G Ten & More Ten-Frame	■ □ 2C/2G Ten & More Ten-Frame																				
<table border="1"><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>											<table border="1"><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>										
																					
																					
																					
																					
<table border="1"><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>											<table border="1"><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>										
																					
																					
																					
																					
■ □ 2C/2G Ten & More Ten-Frame	■ □ 2C/2G Ten & More Ten-Frame																				

# Ten & More Ten Frame Cards page 2 of 9













	
	
■ ■ 2C/2G Ten & More Ten-Frame	■ ■ 2C/2G Ten & More Ten-Frame












	
	
■ ■ 2C/2G Ten & More Ten-Frame	■ ■ 2C/2G Ten & More Ten-Frame













# Ten & More Ten Frame Cards page 3 of 9

■ □ 2C/2G Ten & More Ten-Frame

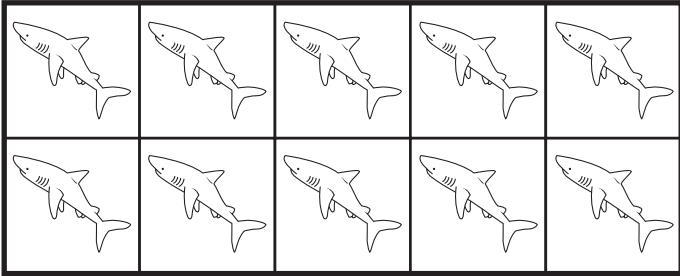
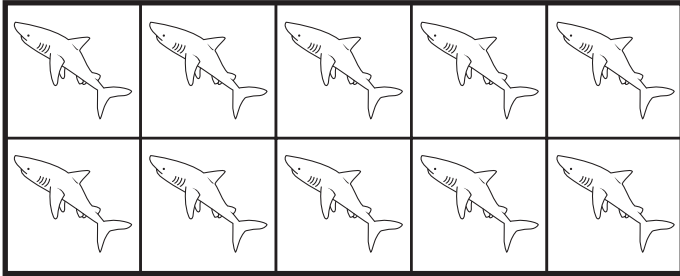
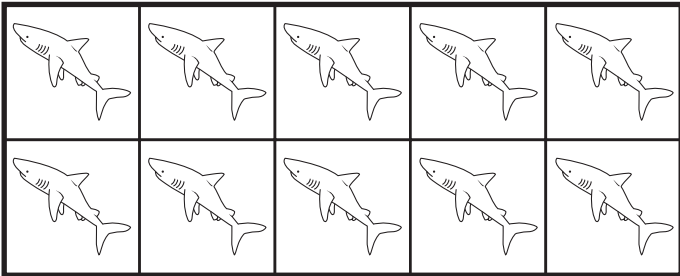
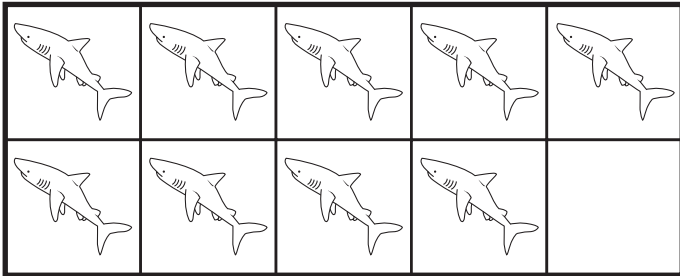
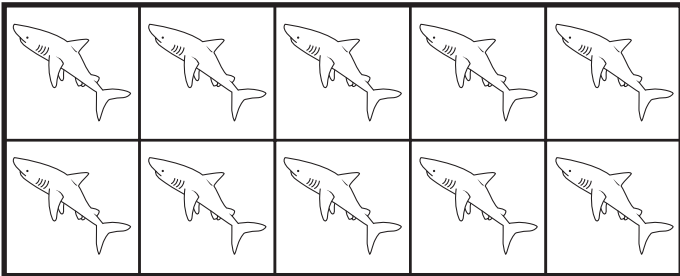
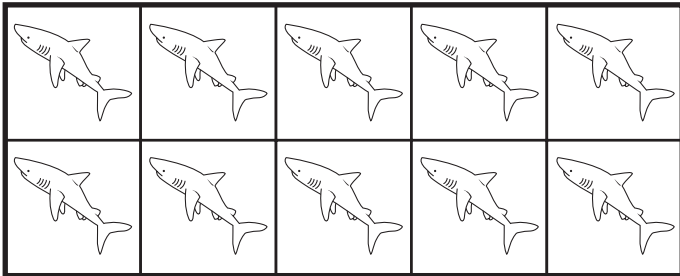
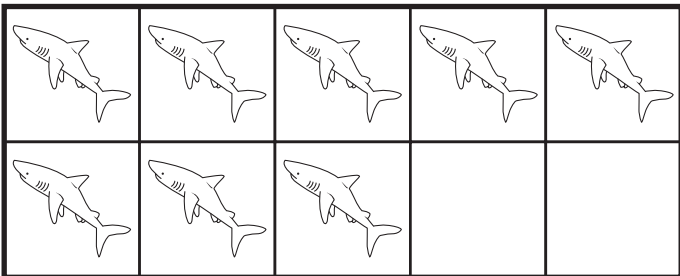
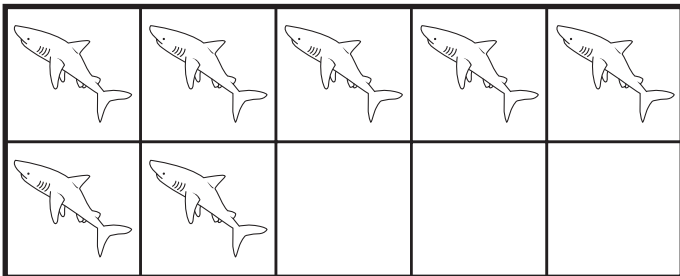
				
				
				

■ □ 2C/2G Ten & More Ten-Frame

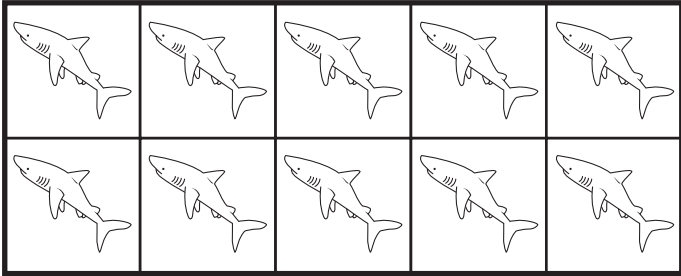
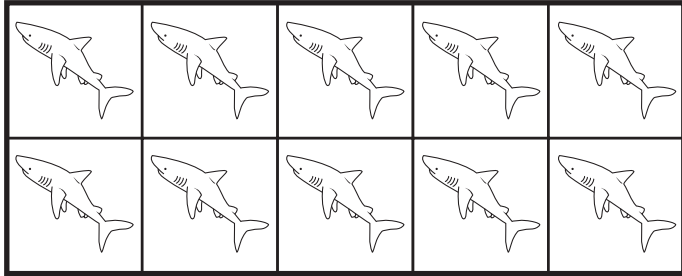
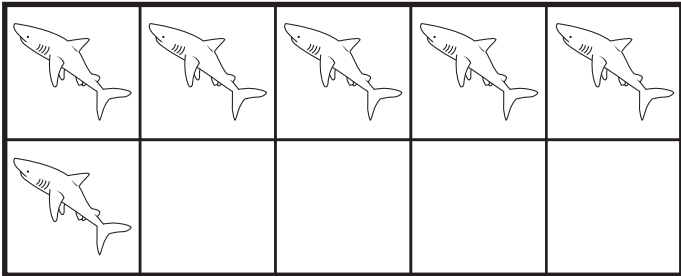
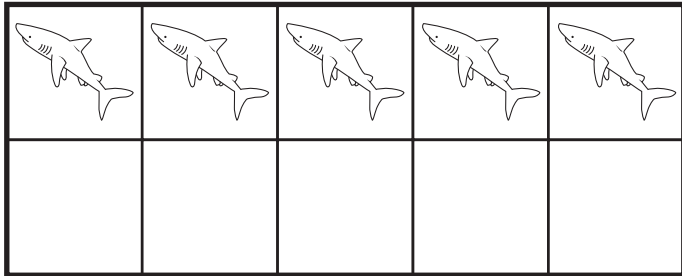
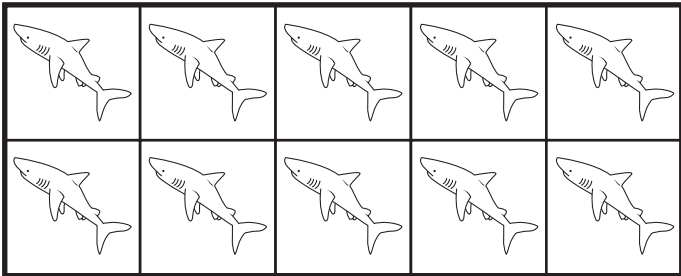
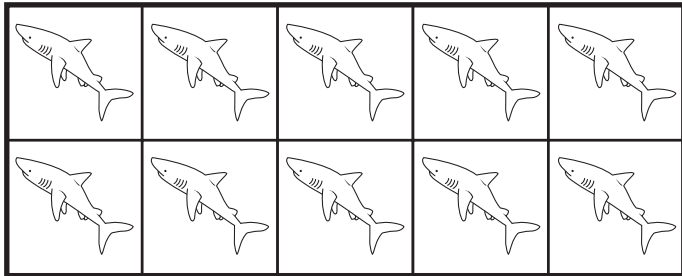
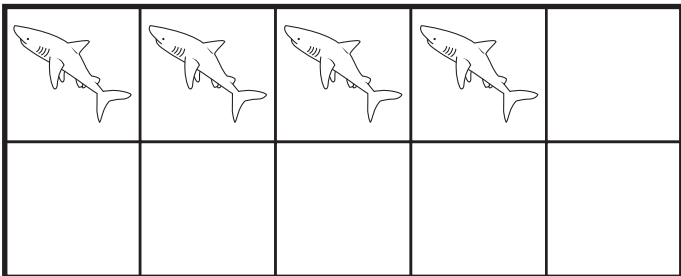
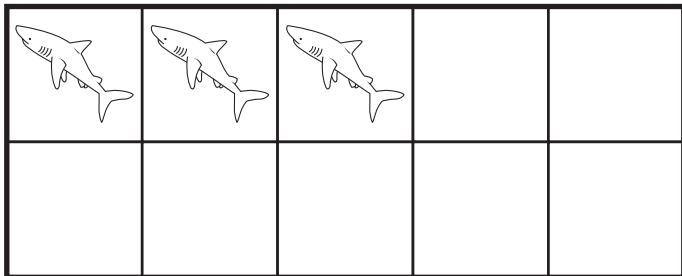
				
				

■ □ 2C/2G Ten & More Ten-Frame

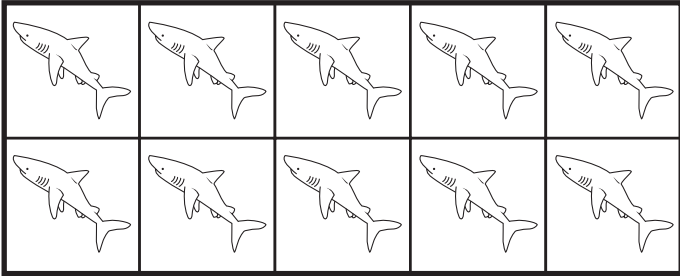
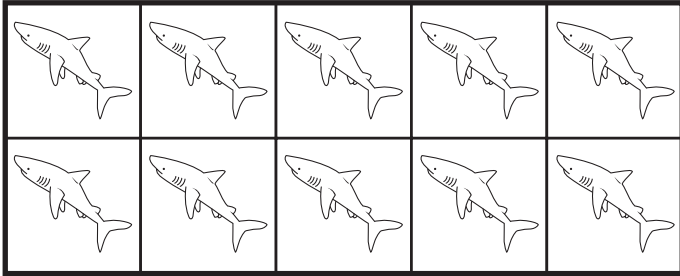
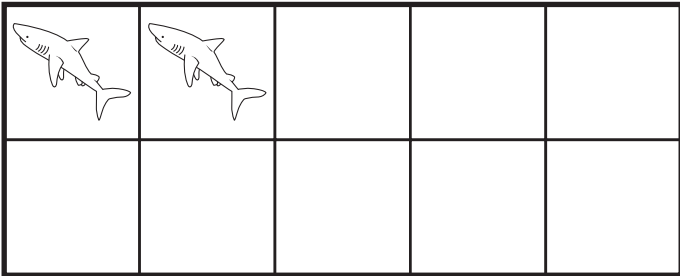

# Ten & More Ten Frame Cards page 4 of 9

 <p>■ ■ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ ■ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>■ ■ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ ■ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>■ ■ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ ■ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>■ ■ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ ■ 2C/2G Ten &amp; More Ten-Frame</p>

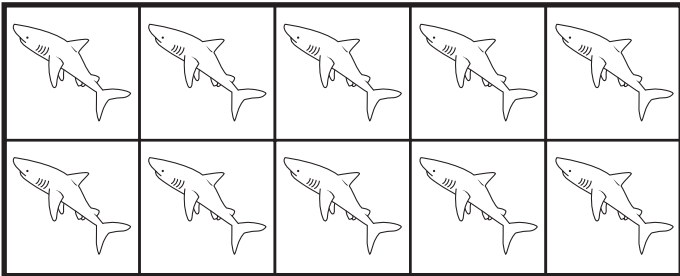
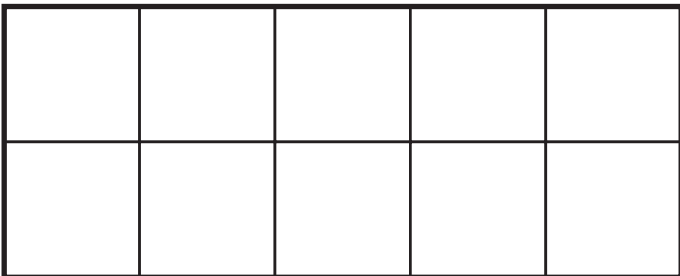
# Ten & More Ten Frame Cards page 5 of 9

 <p>A 2x5 grid where every cell contains a shark illustration.</p>	 <p>A 2x5 grid where every cell contains a shark illustration.</p>
 <p>A 2x5 grid where the top row has 5 sharks and the bottom row has 1 shark in the first cell, with the rest empty.</p>	 <p>A 2x5 grid where the top row has 5 sharks and the bottom row is empty.</p>
<p>■□ 2C/2G Ten &amp; More Ten-Frame</p>	<p>■□ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>A 2x5 grid where every cell contains a shark illustration.</p>	 <p>A 2x5 grid where every cell contains a shark illustration.</p>
 <p>A 2x5 grid where the top row has 4 sharks and the bottom row is empty.</p>	 <p>A 2x5 grid where the top row has 3 sharks and the bottom row is empty.</p>
<p>■□ 2C/2G Ten &amp; More Ten-Frame</p>	<p>■□ 2C/2G Ten &amp; More Ten-Frame</p>

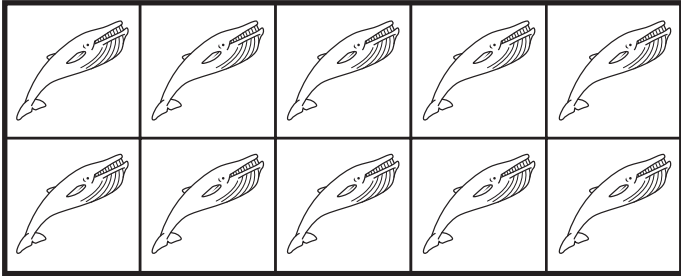
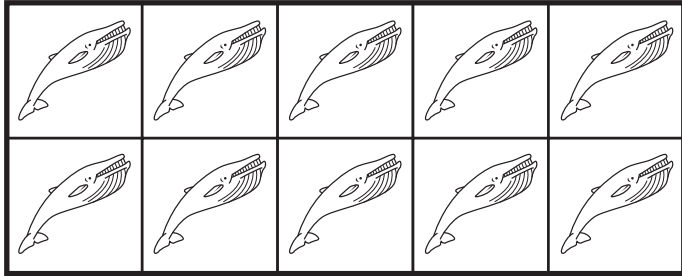
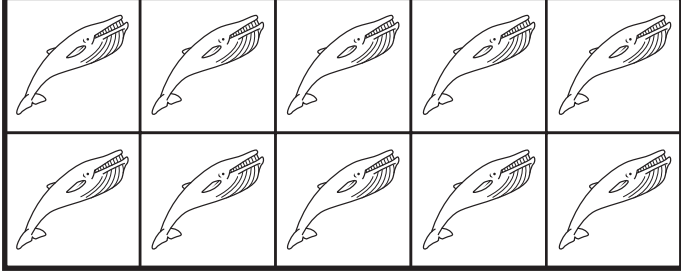
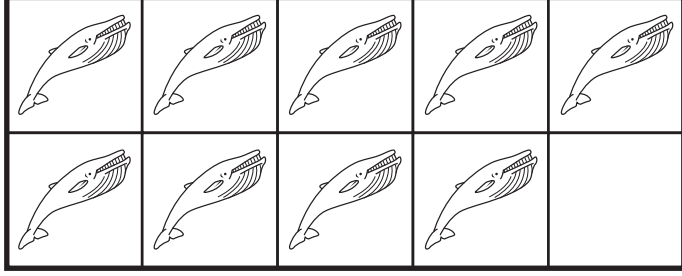
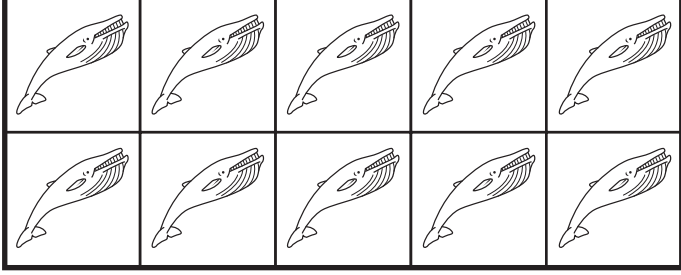
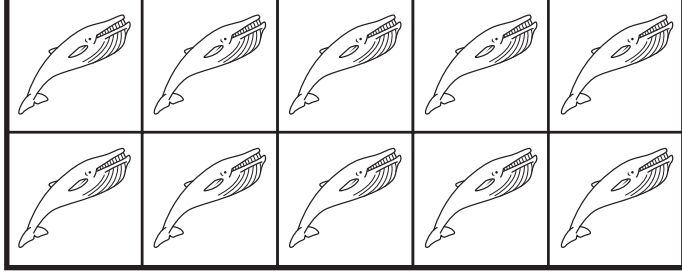
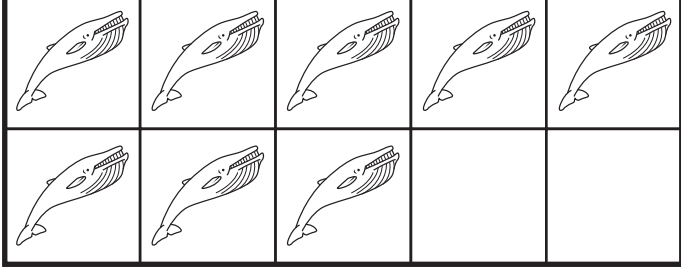
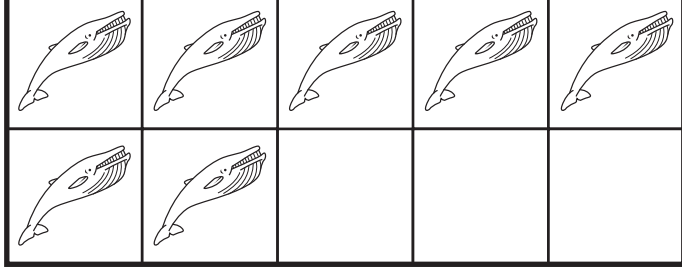
# Ten & More Ten Frame Cards page 6 of 9

	
	
■ ■ 2C/2G Ten & More Ten-Frame	■ ■ 2C/2G Ten & More Ten-Frame

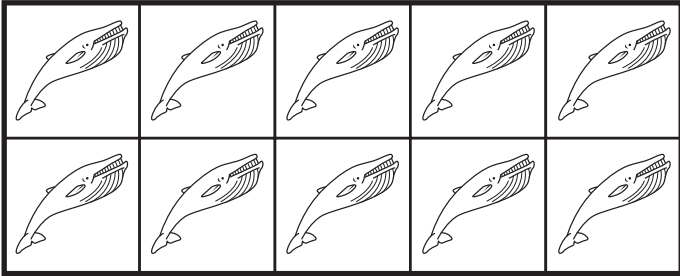
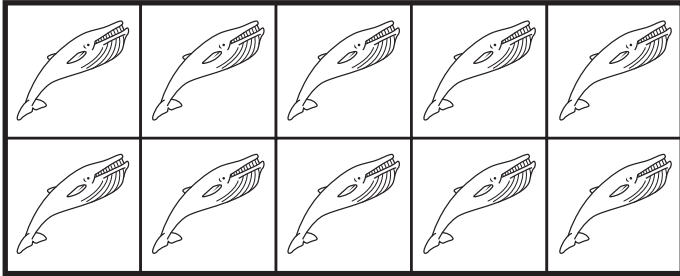
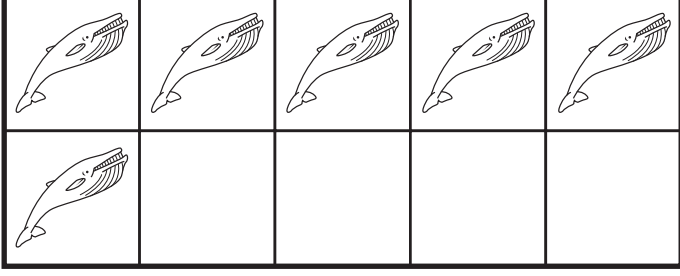
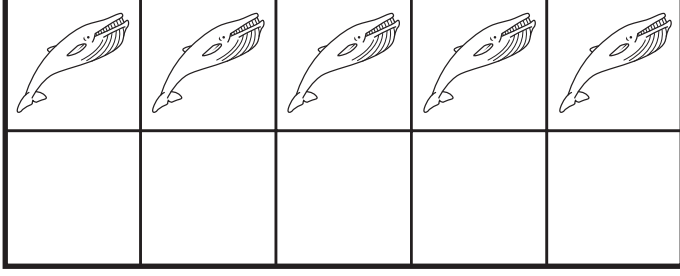
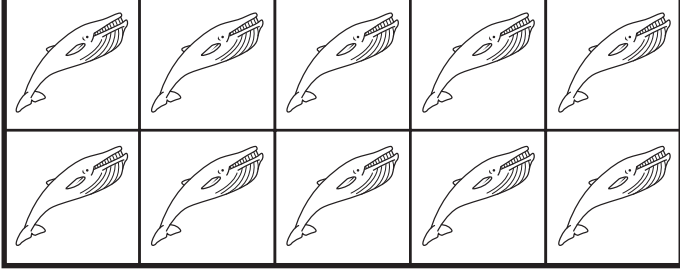
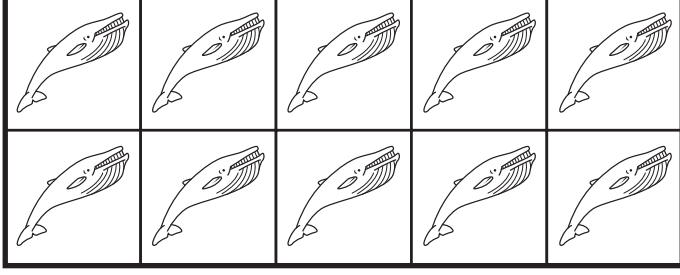
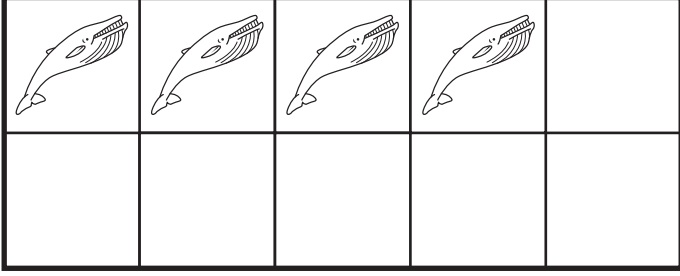
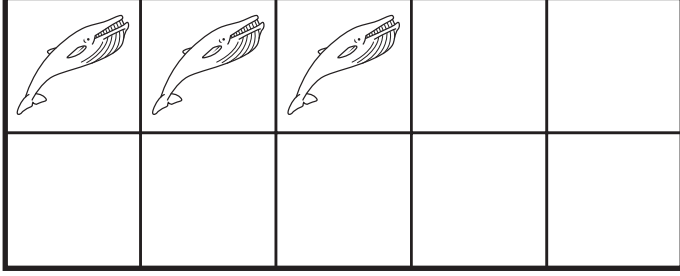
  

	
	
■ ■ 2C/2G Ten & More Ten-Frame	

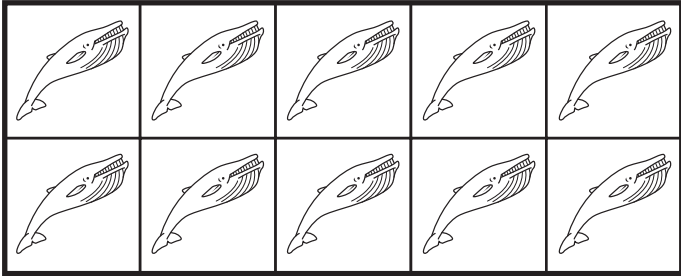
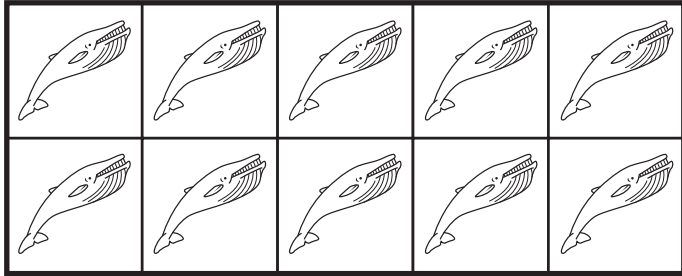
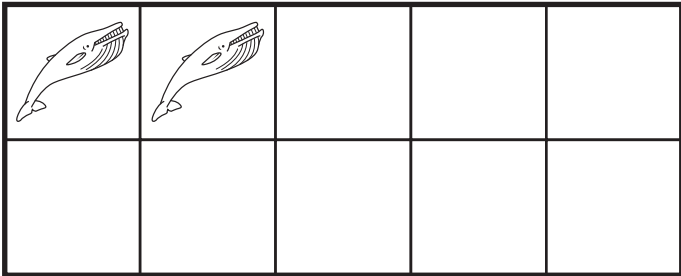
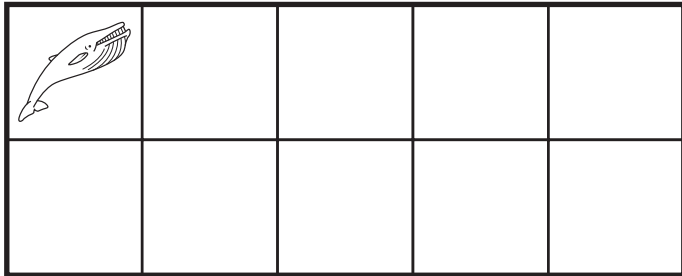
# Ten & More Ten Frame Cards page 7 of 9

 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>

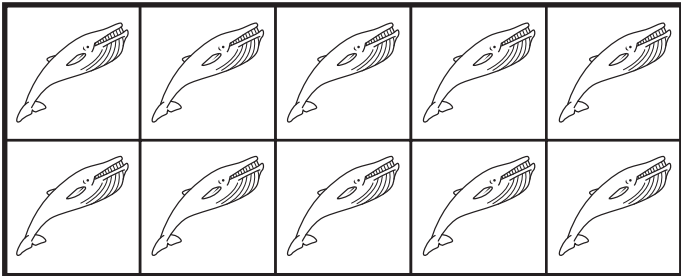
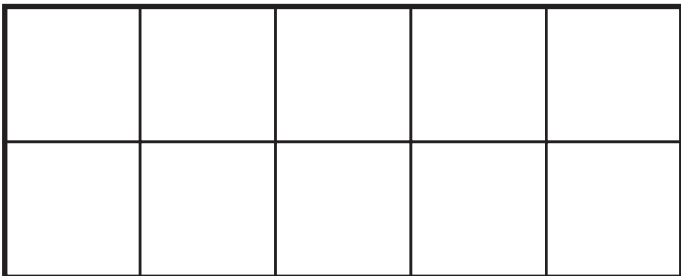
# Ten & More Ten Frame Cards page 8 of 9

 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>
 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>	 <p>■ □ 2C/2G Ten &amp; More Ten-Frame</p>

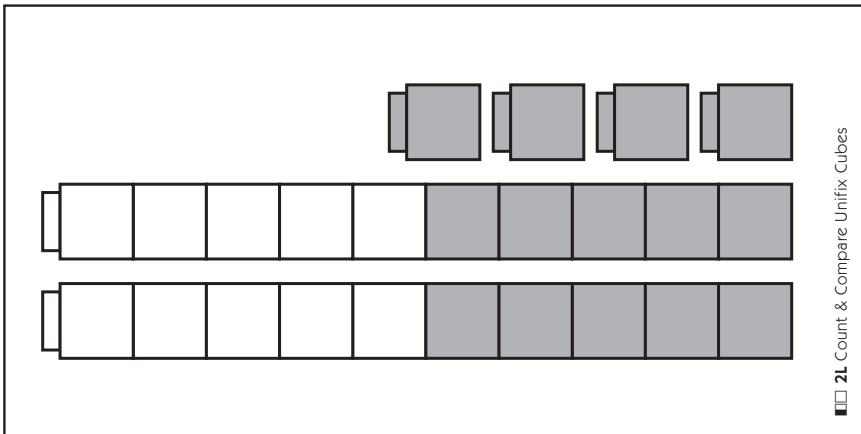
# Ten & More Ten Frame Cards page 9 of 9

 <p>A ten frame with two rows of five fish each, representing the number 10.</p>	 <p>A ten frame with two rows of five fish each, representing the number 10.</p>
 <p>A ten frame with two fish in the top row and the rest of the cells empty.</p>	 <p>A ten frame with one fish in the top-left cell and the rest of the cells empty.</p>
■ □ 2C/2G Ten & More Ten-Frame	■ □ 2C/2G Ten & More Ten-Frame

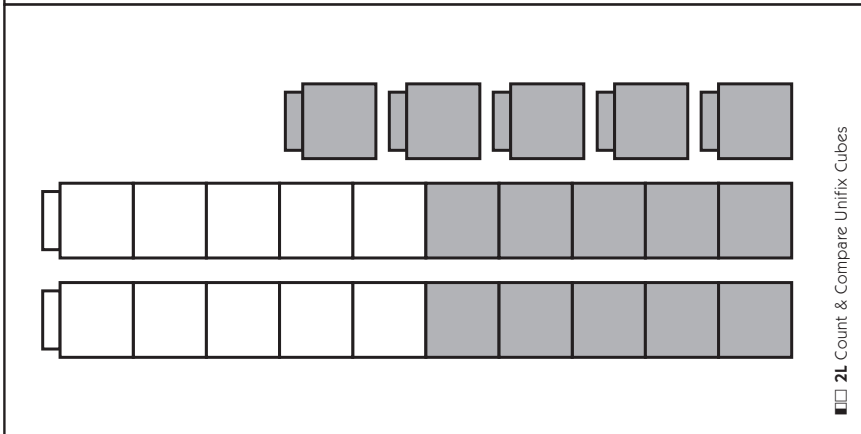
  

 <p>A ten frame with two rows of five fish each, representing the number 10.</p>	
 <p>An empty ten frame with two rows of five cells each.</p>	
■ □ 2C/2G Ten & More Ten-Frame	

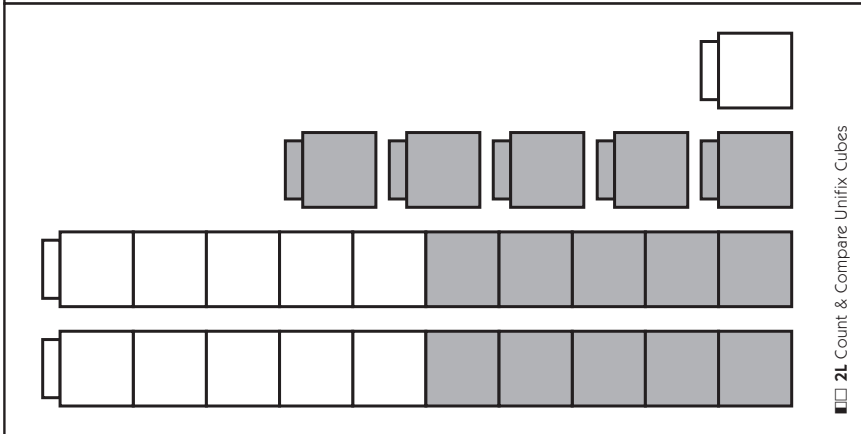
# Count & Compare Unifix Cubes Cards page 1 of 5



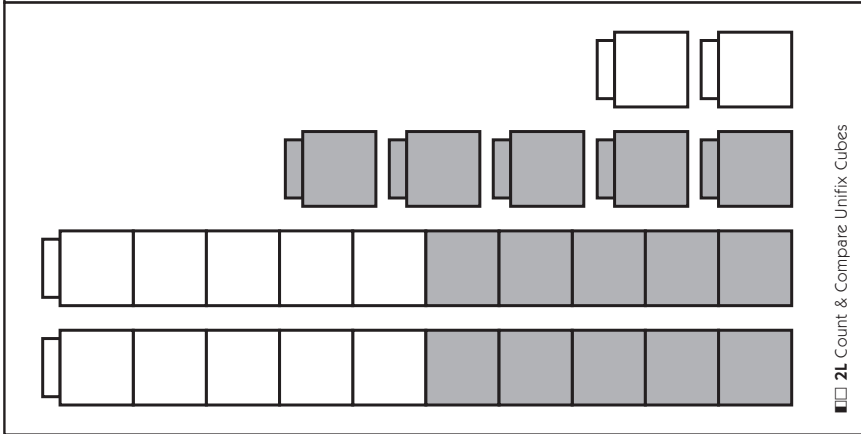
This card shows a number line from 0 to 10. The first 5 cubes are white, and the last 5 cubes are gray. Above the number line, there are four separate gray cubes, each with a small white cube attached to its left side. To the right of the number line, there is a legend: a white square followed by a gray square, and the text "2L Count & Compare Unifix Cubes".



This card shows a number line from 0 to 10. The first 5 cubes are white, and the last 5 cubes are gray. Above the number line, there are five separate gray cubes, each with a small white cube attached to its left side. To the right of the number line, there is a legend: a white square followed by a gray square, and the text "2L Count & Compare Unifix Cubes".



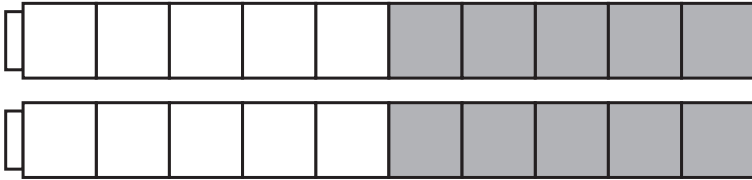
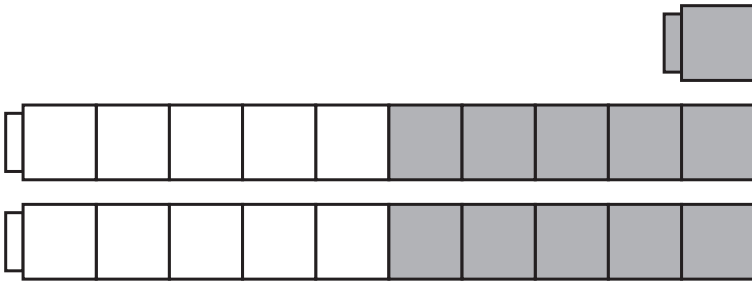
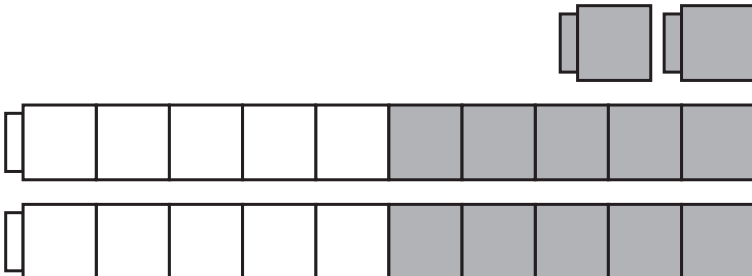
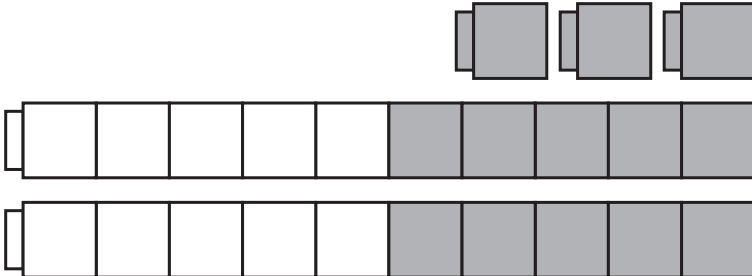
This card shows a number line from 0 to 10. The first 5 cubes are white, and the last 5 cubes are gray. Above the number line, there are five separate gray cubes, each with a small white cube attached to its left side, and one additional white cube to the right. To the right of the number line, there is a legend: a white square followed by a gray square, and the text "2L Count & Compare Unifix Cubes".



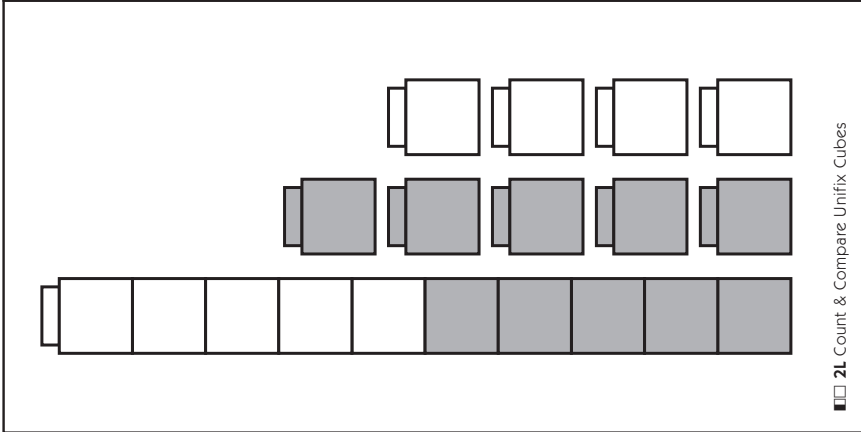
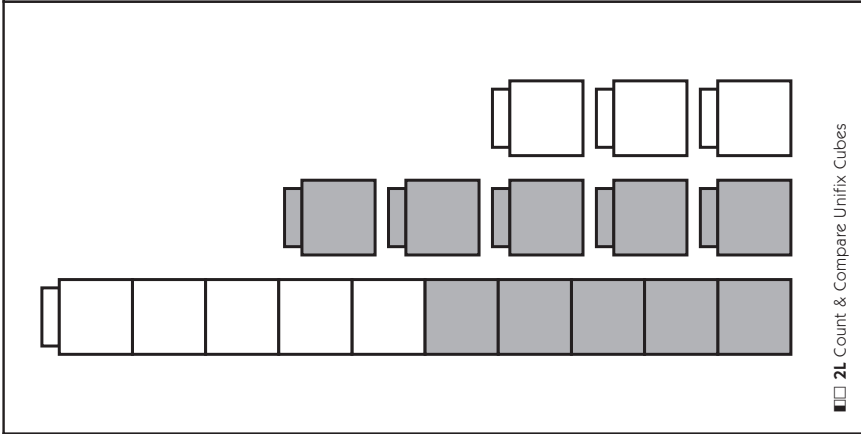
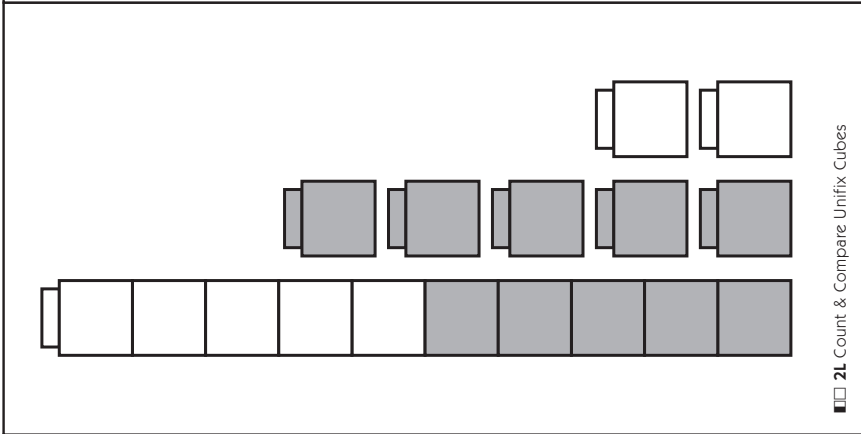
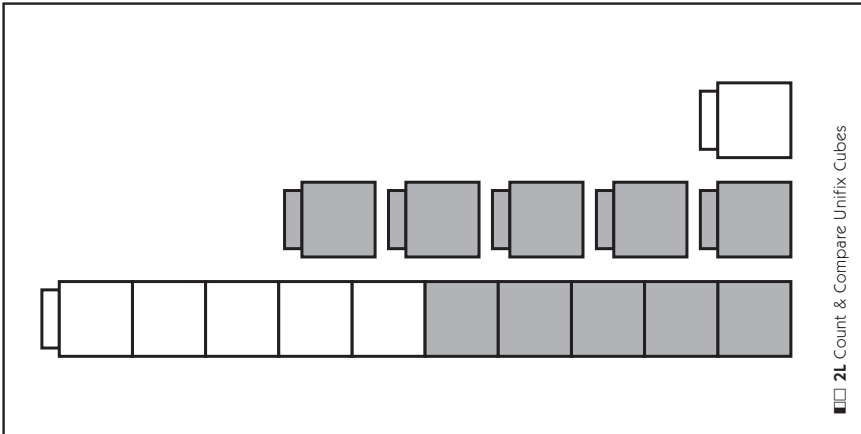
This card shows a number line from 0 to 10. The first 5 cubes are white, and the last 5 cubes are gray. Above the number line, there are five separate gray cubes, each with a small white cube attached to its left side, and two additional white cubes to the right. To the right of the number line, there is a legend: a white square followed by a gray square, and the text "2L Count & Compare Unifix Cubes".




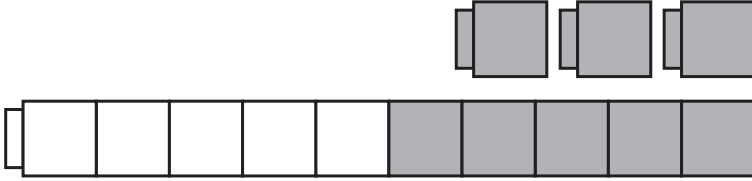
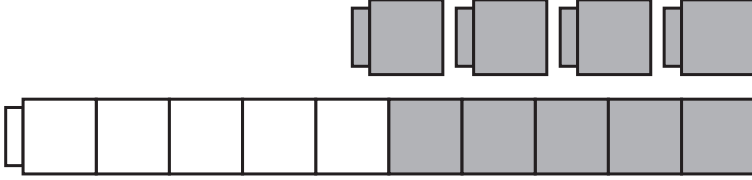
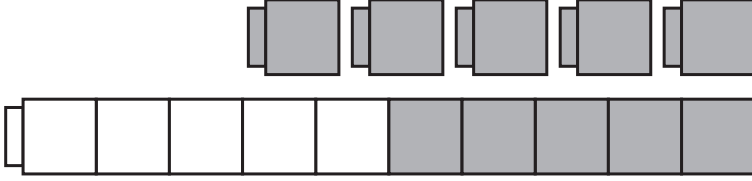
# Count & Compare Unifix Cubes Cards page 2 of 5

	■ ■ 2L Count & Compare Unifix Cubes
	■ ■ 2L Count & Compare Unifix Cubes
	■ ■ 2L Count & Compare Unifix Cubes
	■ ■ 2L Count & Compare Unifix Cubes

# Count & Compare Unifix Cubes Cards page 3 of 5



# Count & Compare Unifix Cubes Cards page 4 of 5








































































































































	■ ■ 21 Count & Compare Unifix Cubes
	■ ■ 21 Count & Compare Unifix Cubes
	■ ■ 21 Count & Compare Unifix Cubes
	■ ■ 21 Count & Compare Unifix Cubes

# Count & Compare Unifix Cubes Cards page 5 of 5








































■ □ 2L Count & Compare Unifix Cubes

■ □ 2L Count & Compare Unifix Cubes

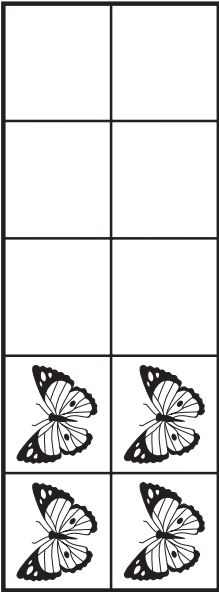
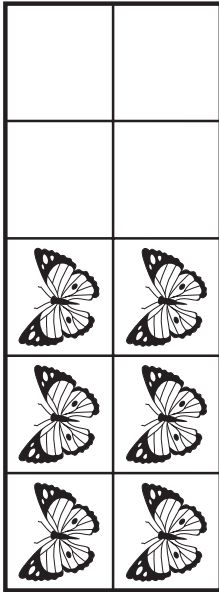
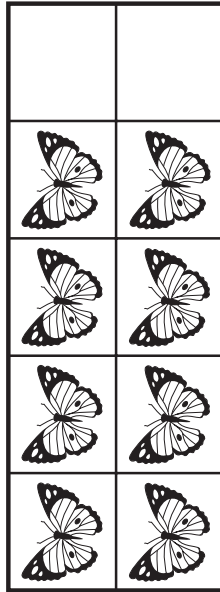
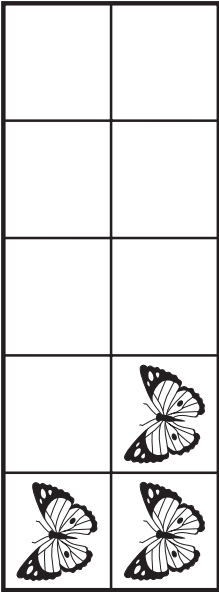
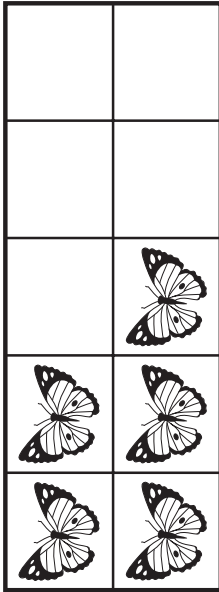
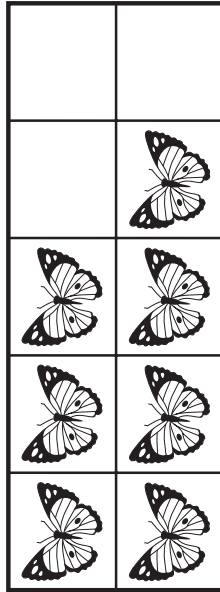
# Count & Compare Butterflies Cards page 1 of 4

<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>										
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>										
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																
																																











# Count & Compare Butterflies Cards page 2 of 4

<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>										
																																
																																
																																
																																
																																
<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <p>IM Count &amp; Compare Butterflies Cards</p>										
																																
																																
																																
																																
																																
																																
																																

# Count & Compare Butterflies Cards page 3 of 4










 <p>■ ■ IM Count &amp; Compare Butterflies Cards</p>	 <p>■ ■ IM Count &amp; Compare Butterflies Cards</p>	 <p>■ ■ IM Count &amp; Compare Butterflies Cards</p>
 <p>■ ■ IM Count &amp; Compare Butterflies Cards</p>	 <p>■ ■ IM Count &amp; Compare Butterflies Cards</p>	 <p>■ ■ IM Count &amp; Compare Butterflies Cards</p>

# Count & Compare Butterflies Cards page 4 of 4

■  IM Count & Compare Butterflies Cards

■  IM Count & Compare Butterflies Cards





# KINDERGARTEN SUPPLEMENT

---

## Set A4 Number & Operations: Addition & Subtraction

### Includes

Activity 1: Numbers & Combinations to Ten through the School Year	A4.1
Activity 2: Butterfly Race	A4.23
Activity 3: Fives Up	A4.35
Activity 4: Frogs & Lillypads	A4.45
Activity 5: Pond Game	A4.53
Activity 6: Spin, Add & Compare	A4.59
Activity 7: Bug Catchers	A4.67
Activity 8: Piggy Banks	A4.73

### Skills & Concepts

- ★ use one-to-one correspondence to count sets of objects to 30, and produce sets of given sizes
- ★ use one-to-one correspondence to compare sets of objects to 30 using phrases such as “same number”, “more than”, or “less than”
- ★ recognize the number of objects in a small set without counting
- ★ identify the ordinal position of objects
- ★ read and write numerals to 30
- ★ model addition by joining sets of objects and model subtraction by removing objects from sets for numbers less than 10.
- ★ verbally describe mathematical relationships involving addition and subtraction situations for numbers less than 10
- ★ compose and decompose numbers from 2 to 10
- ★ record mathematical thinking by writing simple addition and subtraction sentences

## **Bridges in Mathematics Kindergarten Supplement**

### **Set A4** Numbers & Operations: Addition & Subtraction

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2010 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0310

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

Acknowledgements:

- Thanks go to Kindergarten teacher Lori Lawrence for her encouragement and support in developing the activities in this supplement set.
- The work of Robert J. Wright, Garry Stanger, Ann K. Stafford, and James Martland, in their Math Recovery publications (listed below) also inspired and informed some of the activities in this supplement set. In particular, we are indebted to these authors for reinforcing the important role played by visual models, including fingers (“bunny ears”), domino dot formations, five frames, and ten frames, in helping young children learn to combine and partition small numbers.
- Wright, Stanger, Stafford & Martland, *Teaching Number in the Classroom with 4–8 Year-Olds*, 2006
- Wright, Martland, Stafford, and Stanger, *Teaching Number: Advancing Children’s Skills & Strategies*, 2006

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).

# Set A4 ★ Activity 1



## ACTIVITY

### Numbers and Combinations to Ten Through the School Year

#### Overview

Below, you'll find a set of exercises to add to your Number Corner routines each month. These exercises involve the numbers 1 through 10, and are designed to be taught from the start of each month, in conjunction with the Our Month in School workout. They are short and simple, and provide a solid foundation on which to help kindergartners build skills with early addition and subtraction.

#### Skills & Concepts

- ★ count objects in a set using one-to-one correspondence and produce sets of given sizes
- ★ recognize the number of objects in a small set without counting
- ★ read and write numerals to 10
- ★ model addition by joining sets of objects and model subtraction by removing objects from sets for numbers less than 10.
- ★ verbally describe mathematical relationships involving addition and subtraction situations for numbers less than 10
- ★ compose and decompose numbers from 2 to 10
- ★ record mathematical thinking by writing simple addition and subtraction sentences

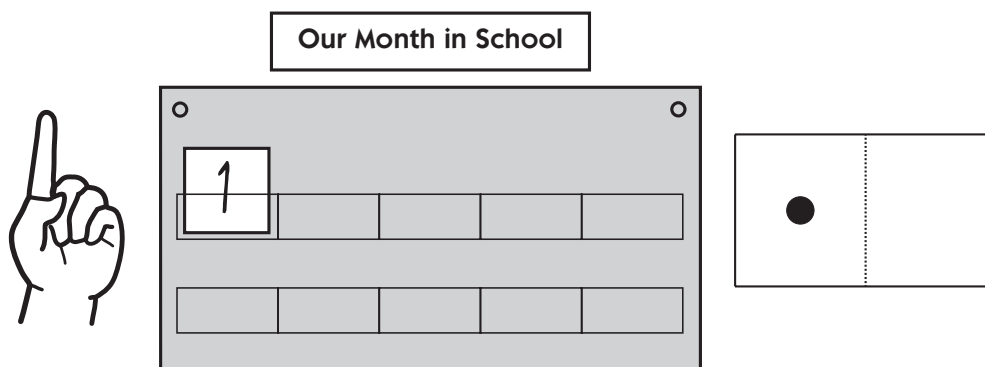
---

### September: Dots & Fingers

#### You'll need

- ★ Five Plus Dot cards (pages A4.10 – A4.14, run 1 copy of each sheet on white cardstock)

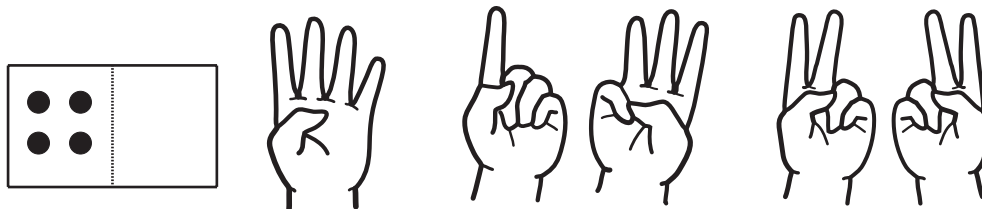
1. In addition to posting the number of days students have been in school on the Our Month in School pocket chart each day, have children hold up the corresponding number of fingers. Also, post the corresponding dot card.



**Activity 1** Numbers & Combinations to Ten Through the School Year (cont.)

2. Continue to post a dot card and have students show the number of days with their fingers through the tenth day of school. After the first 3 to 4 days, vary the routine by doing one or more of the following:

- Point to a numeral card on the Our Month in School Chart and have children show that number of fingers. Encourage students to begin showing the number without counting their fingers one by one.
- Show a number of fingers on your own hand(s) to represent the quantity on one of the dot cards posted so far. Have students name the number of fingers they see.
- Point to one or more of the posted dot cards, and ask students to name the quantity and show that many on their fingers. Encourage the group to find more than one way to show the quantity.



**Students** *It's 4!*

*I can make that on one hand!*

*I do it like this, 1 and then 3.*

*I do 2 and 2.*

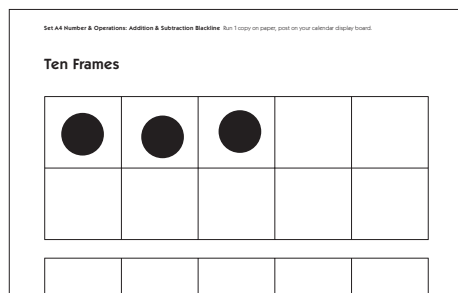
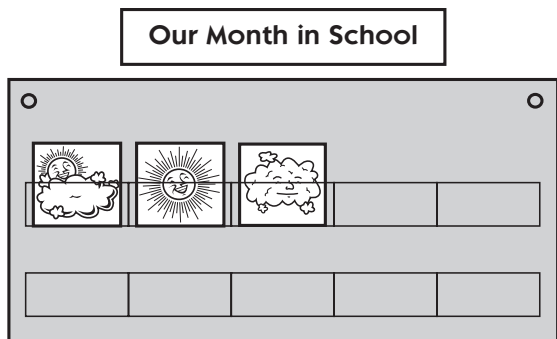
3. After you have been in school for 10 days, you will have posted all of the dot cards, 1-10. Continue throughout the rest of the month with the activities described above. From time to time, take several of the cards down, mix them up, and place them in a stack, face down. Turn the first card up and show it to the students for about half a second before turning it face down again. Ask students to pair-share how many dots they saw, and then have the group hold up their fingers to show the corresponding number of dots. Show the card a second time so they can confirm their responses.

**October: Frames & Bunny Ears****You'll need**

- ★ Ten Frames sheet (page A4.15, run 1 copy on paper, post on your calendar display board)
- ★ 3/4" adhesive dots or marking pens in two different colors
- ★ Five Plus Dot cards (pages A4.10 – A4.14, run 1 copy of each sheet on white cardstock)

1. In addition to posting a weather card each day during the Our Month in School workout, place an adhesive dot, or make a colored circle on the Ten Frame sheet. Start in the upper left-hand corner of the sheet, and work your way across the top row, using the same color dot for the first five school days in October.

**Activity 1** Numbers & Combinations to Ten Through the School Year (cont.)



2. Each day, have children show the number of days you’ve been in school so far this month with their fingers, and name the quantity. Starting from the first day, ask them to place their fists on top of their heads (like bunny ears) and show the number without looking at their fingers, if possible. While some children may need to move their hands down to count or double-check the number of fingers they’re holding up, others will begin to gain confidence at showing the correct number of fingers quickly, sight unseen, as they develop a “feel” for the numbers one through ten.

Encourage them to explain how they can tell how many dots are on the Ten Frame Sheet.

**Teacher** *We all agree that there are 3 dots so far on our Ten Frame Sheet. How do you know it's 3?*

**Students** *I went 1, 2, 3!*

*I can just do 3 on my fingers*

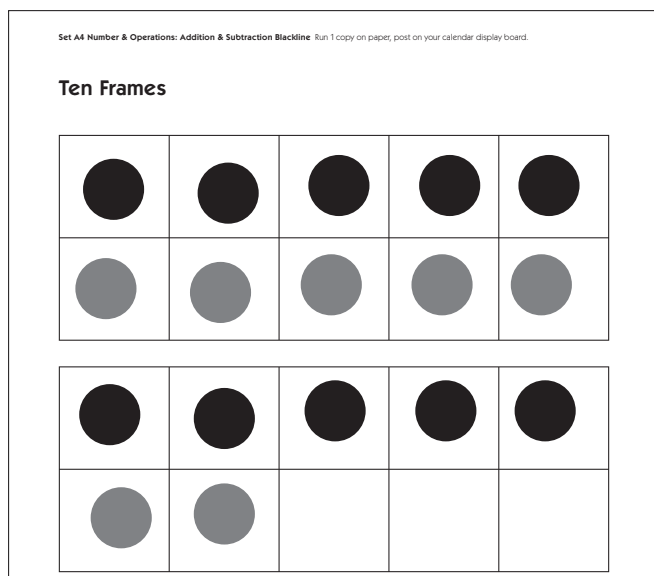
*I can just see it's 3!*

*There are 2 and then 1 more. That's 3.*

*There's 5 in the whole row, but 2 are empty, so that makes 3.*

3. Continue in this fashion through the tenth day. (Switch dot colors on the sixth day, and move across the second row of the first frame from left to right.)

4. From the eleventh day forward, count the dots on the sheet one by one with the children. Alternate colors each time you start a new row so that the groups of 5 show up as clearly as the groups of 10 on the sheet.



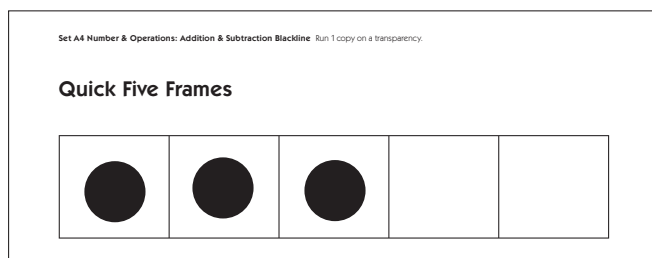


**Activity 1** Numbers & Combinations to Ten Through the School Year (cont.)**December: Quick Fives****You'll need**

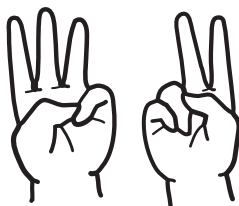
- ★ Quick Fives Frame (page A4.21, run 1 copy on a transparency)
- ★ 10 translucent counters; 5 blue and 5 red
- ★ overhead projector or document camera
- ★ chart paper and markers in blue, red, and black

In addition to discussing the ten-frame dot cards you post on the Our Month in School pocket chart each day, conduct the exercises described below a couple times a week.

1. Display the Quick Fives Frame on the overhead. Ask students how many squares they see, first whispering to one another, and then reporting the number out loud.
2. Turn off the projector light, and place blue counters in 3 of the squares on the frame. Work from left to right, leaving no empty squares between markers.

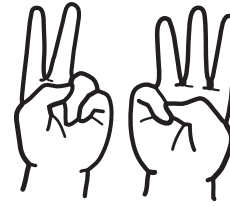
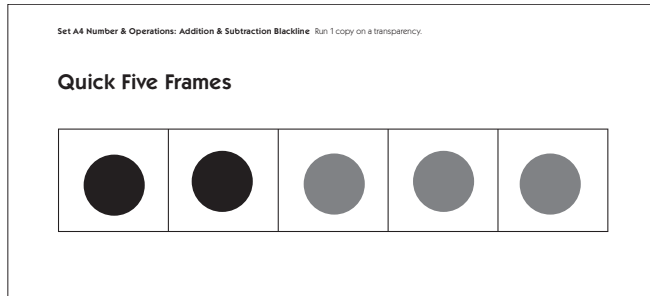


3. Turn on the projector light. Ask students how many dots they see, and how many empty squares. Have them raise their fists to their foreheads to make bunny ears, and then show the number of dots on one hand, and the number of empty squares on the other. Ask them to share observations.



**Students** *There are 3 dots up there, and 2 empty boxes.  
I made my fingers like that, 3 and 2.  
This hand is for the dots, and this hand is for empty places.*

4. Repeat this exercise several times during the first half of the month. During the latter half of the month, modify it by turning off the projector light and filling the 5-frame with blue and red counters. When you turn the light on, ask students to use their bunny ears to show what they see, and have them share their observations.

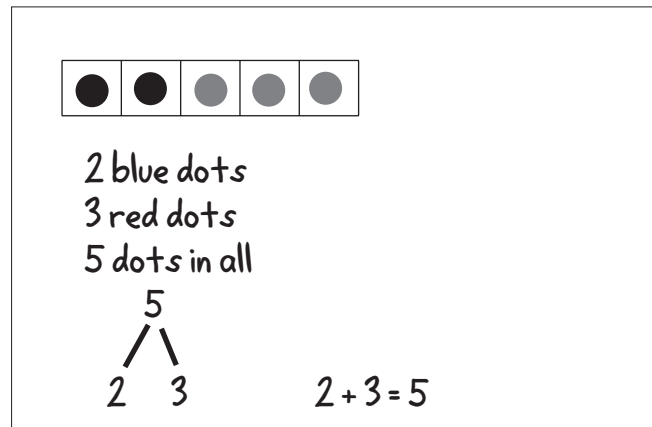
**Activity 1** Numbers & Combinations to Ten Through the School Year (cont.)

**Students** 2 blues and 3 reds, like this!

Now they all have dots.

I see 5 dots.

5. Make a quick sketch of the frame and dots on a piece of chart paper, and record students' observations. Work with input from the class to write a number sentence reflecting the numbers of counters.



6. Repeat steps 4 and 5 several times, keeping records on the same piece of chart paper if possible. By the end of the month, you should have several combinations of 5 displayed on the chart.

## January: Combinations to 10 on Frames and Fingers

### You'll need

- ★ Quick Tens Frame (page A4.22, run 1 copy on a transparency)
- ★ 20 translucent counters; 10 blue and 10 red
- ★ overhead projector or document camera
- ★ chart paper and markers in blue, red, and black

In addition to discussing the ten-frame dot cards you post on the Our Month in School pocket chart each day, conduct the exercises described below a couple times a week.

1. Display the Quick Tens Frame on the overhead. As students watch, place 5 blue counters in the top row and 2 red counters in the bottom row. Ask:



**Activity 1** Numbers & Combinations to Ten Through the School Year (cont.)

**Teacher** How many blue markers do you see?

How many red markers do you see?

How many markers are there in all? How do you know?

Can you show this combination on your fingers? Right – 5 fingers on one hand and 2 on the other.

Keep your fingers showing and put your hands on your head, like bunny ears. Wiggle the hand that has 5 fingers up. Wiggle the hand that has 2 fingers up. How many fingers are you showing in all?

Can you figure it out without looking at your fingers?

2. Repeat with other “5-plus” combinations, such as  $5 + 1$ ,  $5 + 3$ ,  $5 + 4$ , and  $5 + 5$ .

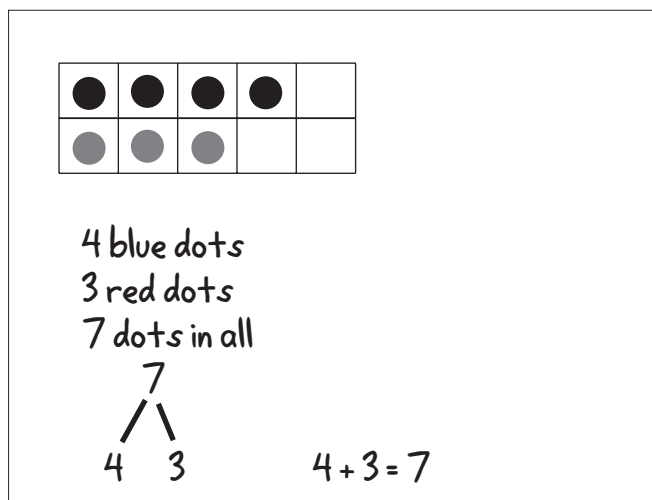
3. Later in the month, place 4 blue counters in the top row of the Quick Tens frame, and 3 red counters in the bottom row with the projector light turned off. Explain that you are going to show the frame for just a moment, and ask children to watch carefully. Turn on the projector light for a little less than a second, and then turn it off again. Ask:

**Teacher** How many blue markers did you see? Show it on your fingers.

How many red markers did you see? Show it on your fingers.

How many markers in all? How do you know?

4. Turn on the projector light so children can confirm the quantities and the total. Then make a quick sketch of the frame and dots on a piece of chart paper, and record students' observations. Work with input from the class to write a number sentence reflecting the numbers of counters.



5. Repeat steps 3 and 4 with other combinations for numbers between 6 and 10 that can be shown on frames and fingers, such as  $3 + 3$ ,  $4 + 2$ ,  $3 + 4$ ,  $4 + 4$ , and  $4 + 5$ .

---

## February: How Many Empty Squares?

### You'll need

- ★ Quick Fives Frame (page A4.21, run 1 copy on a transparency)
- ★ Quick Tens Frame (page A4.22, run 1 copy on a transparency)
- ★ 10 red translucent counters

**Activity 1** Numbers & Combinations to Ten Through the School Year (cont.)

- ★ overhead projector or document camera
- ★ white board and markers
- ★ individual whiteboards/chalkboards, markers/chalk, and erasers for students (optional)

In addition to discussing the pennies and nickels you post on the Our Month in School pocket chart each day, conduct the exercises described below a couple times a week.

1. Seat children so they can all see the screen. Place the Quick Fives Frame under the projector, light turned off. Explain that you're going to turn on the projector light for just a second so they can see the picture, and then turn it off again, so they'll need to watch carefully.
2. Show the frame for a little less than a second, and turn the projector light off again. Ask children to show on their fingers how many empty squares they saw.
3. Tell the class that you're going to put a red counter in 4 of the empty squares. How many of the squares will still be empty? Working with the projector light still off, place the 4 counters while children pair-share responses to your question. Then turn on the projector light so they can see if they were correct. Ask:

**Teacher** *How many squares do you see in all? (5)*  
*How many of the squares have counters in them? (4)*  
*How many of the squares are empty? (1)*

4. Work with input from the class to record the combination, as shown below:

$$\begin{array}{c}
 5 \\
 / \quad \backslash \\
 4 \quad 1 \\
 4 + 1 = 5
 \end{array}$$

5. Repeat with other partitions of 5 ( $2 + 3$ ,  $1 + 4$ ,  $3 + 2$ ,  $0 + 5$ )
6. Later in the month, repeat steps 1–4 with the ten frame instead of the five frame. Start with 8 counters. Repeat with other partitions of 10 ( $9 + 1$ ,  $7 + 3$ ,  $6 + 4$ ,  $5 + 5$ , and so on). You might also consider giving students each an individual whiteboard or chalkboard, marker or chalk, and eraser later in the month, and having them record the combinations with you when you get to that step in the exercise.

---

## March & April: Our Month in School Workouts

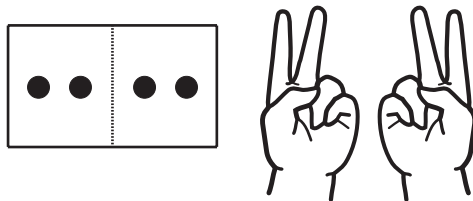
The Our Month in School workouts in March and April provide many opportunities for children to verbalize, read, and write addition combinations to 10.

**Activity 1** Numbers & Combinations to Ten Through the School Year (cont.)**May:** Dot Card Subtraction**You'll need**

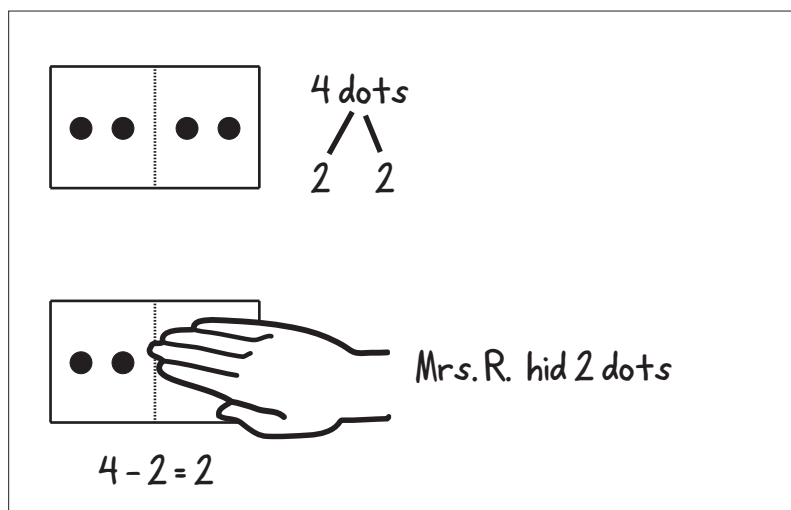
- ★ Doubles Dot Cards, 2 – 9 (pages A4.16–4.20, run 1 copy of each sheet on pastel cardstock)
- ★ Five Plus Dot Cards, 6 – 10 (pages A4.12 – A4.14, run 1 copy of each sheet on white cardstock)
- ★ white board and markers
- ★ individual whiteboards/chalkboards, markers/chalk, and erasers for students

In addition to counting by 5's with the 5-pointed stars during the Our Month in School workout, do the exercise described below a couple of times a week.

1. Place the Doubles Dot Cards in a stack face down. Turn the top card up and show it to the children for about half a second. Ask them to use their bunny ears to show the number of dots they saw.
2. Show the card again so children can confirm the quantity and discuss what they see.

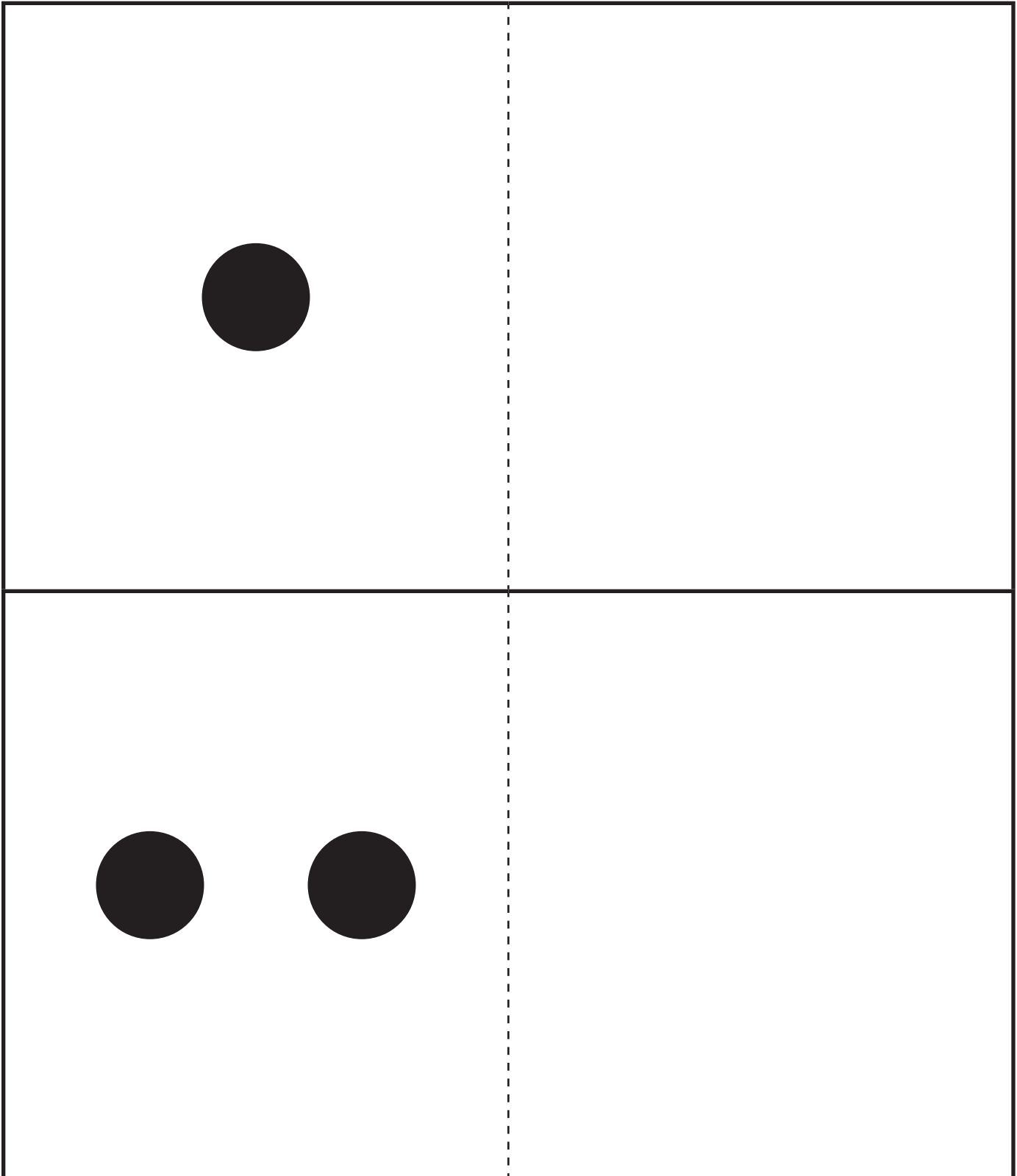


3. Cover one side of the card, and ask children how many dots they can still see. Where are the other dots? (hiding under your hand) Are there still (4) dots on the card (yes) How many are you hiding? (2)
4. Make a record of the action with sketches, words, and an equation.

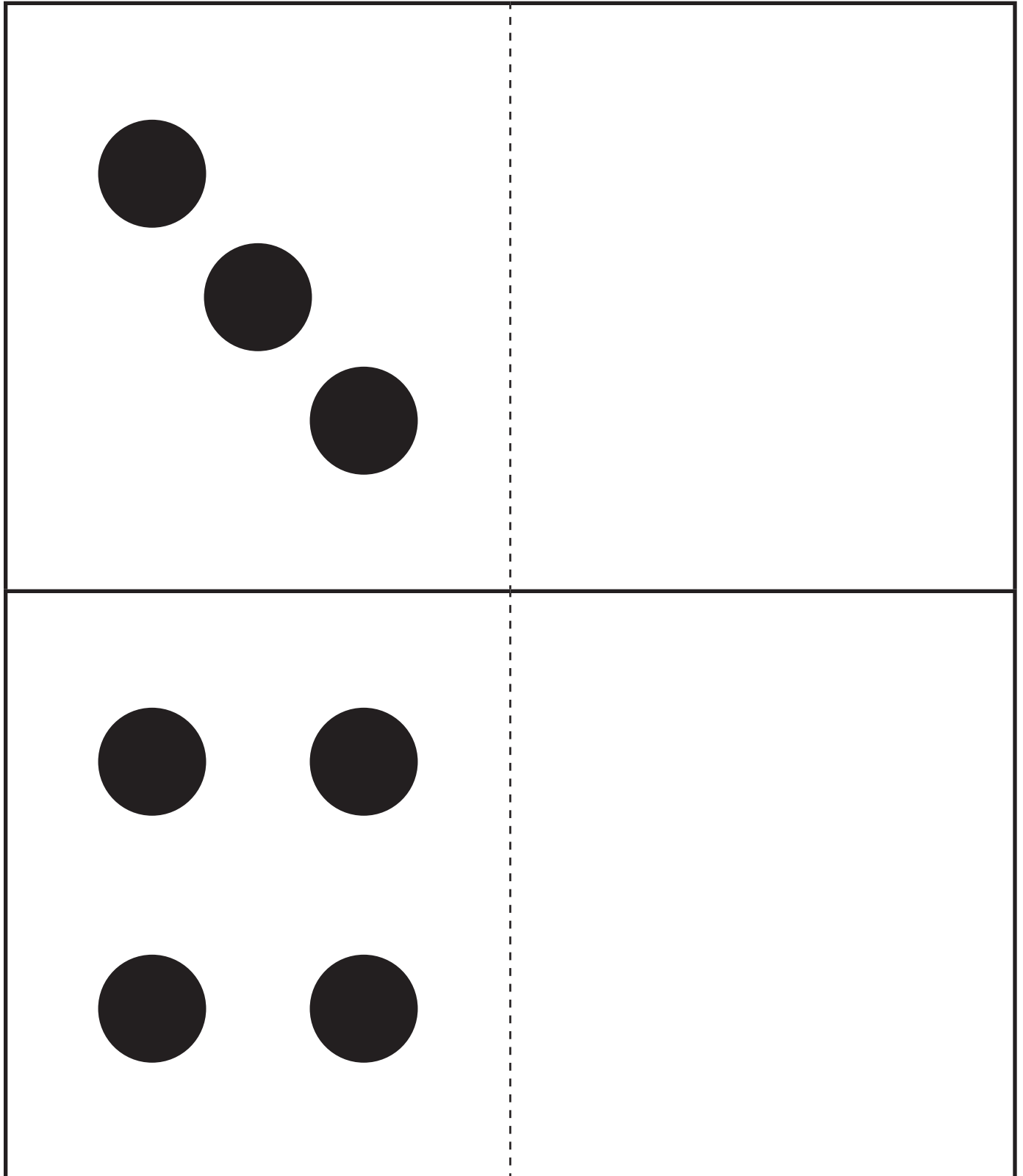


5. Repeat steps 1–4 with a couple more of the Doubles Dot cards.
6. Toward the middle of the month, mix the Five Plus cards into the stack. Also, give children each a whiteboard/chalkboard, pen/chalk, and eraser, and ask them to record the subtraction equations with you.

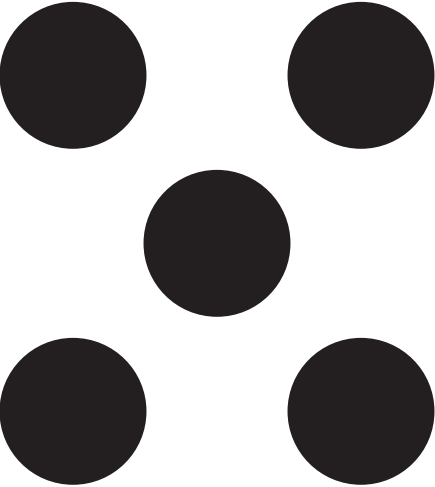
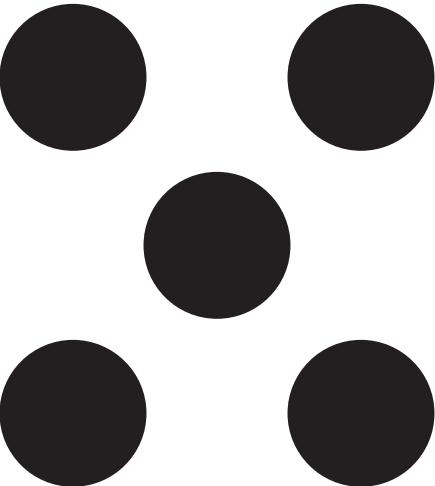

# Five Plus Dot Cards Sheet 1 of 5



# Five Plus Dot Cards Sheet 2 of 5



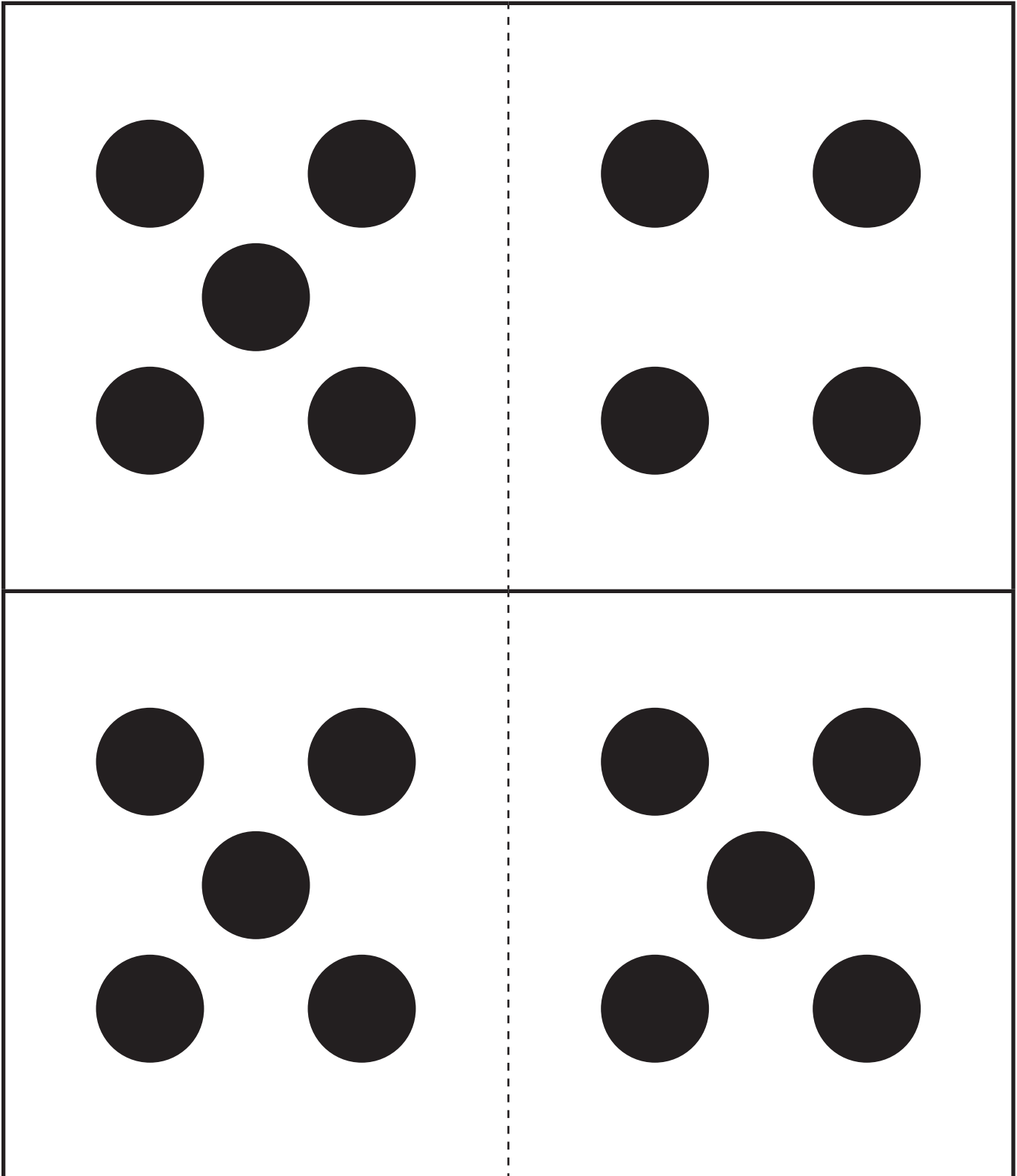
# Five Plus Dot Cards Sheet 3 of 5

# Five Plus Dot Cards Sheet 4 of 5

The image shows a large rectangular area divided into four quadrants by a horizontal and a vertical dashed line. Each quadrant contains a set of five black dots. The top-left and bottom-left quadrants each contain five dots arranged in a pentagonal pattern. The top-right and bottom-right quadrants each contain five dots arranged in a different pentagonal pattern.

# Five Plus Dot Cards Sheet 5 of 5

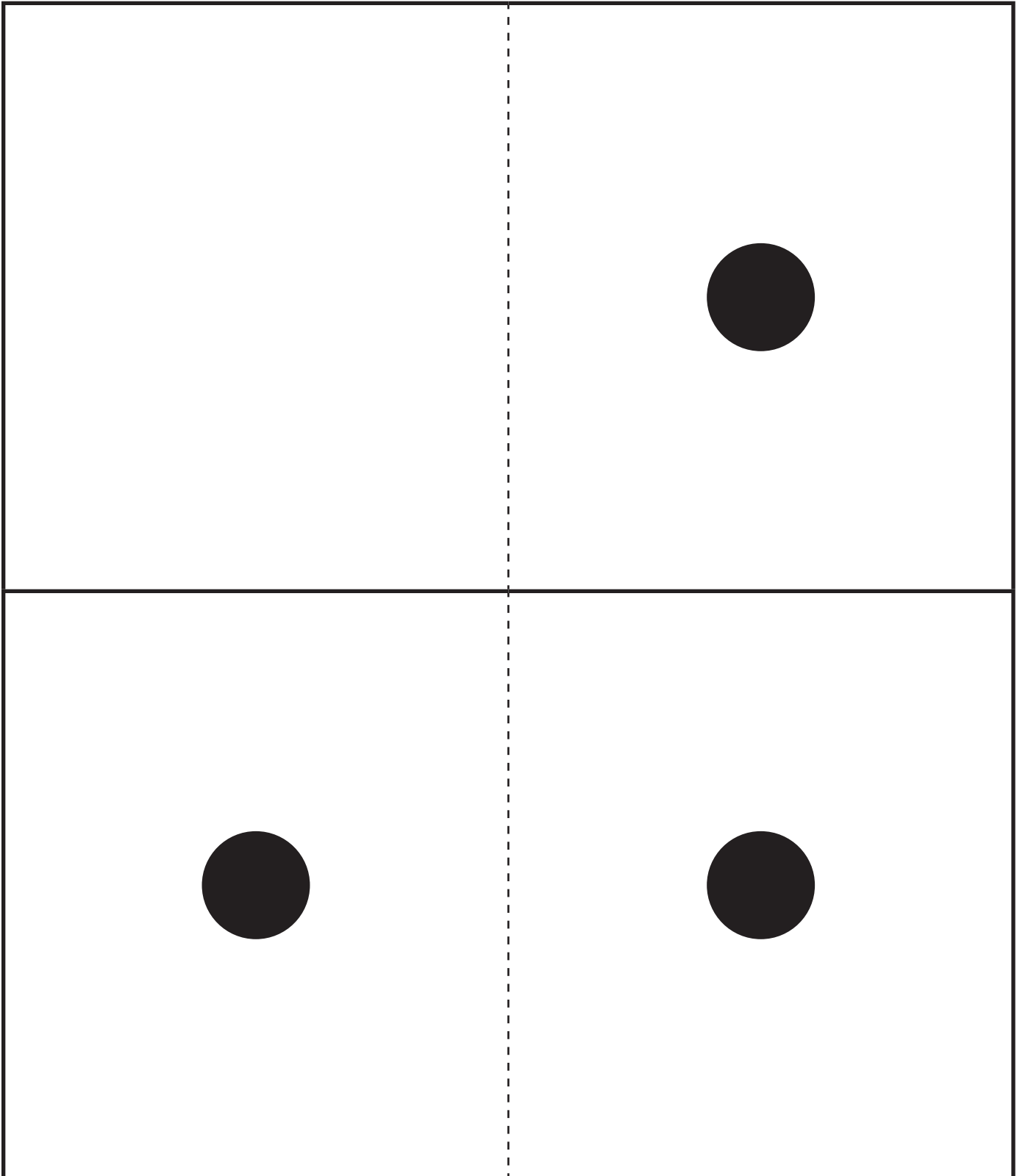




# Ten Frames



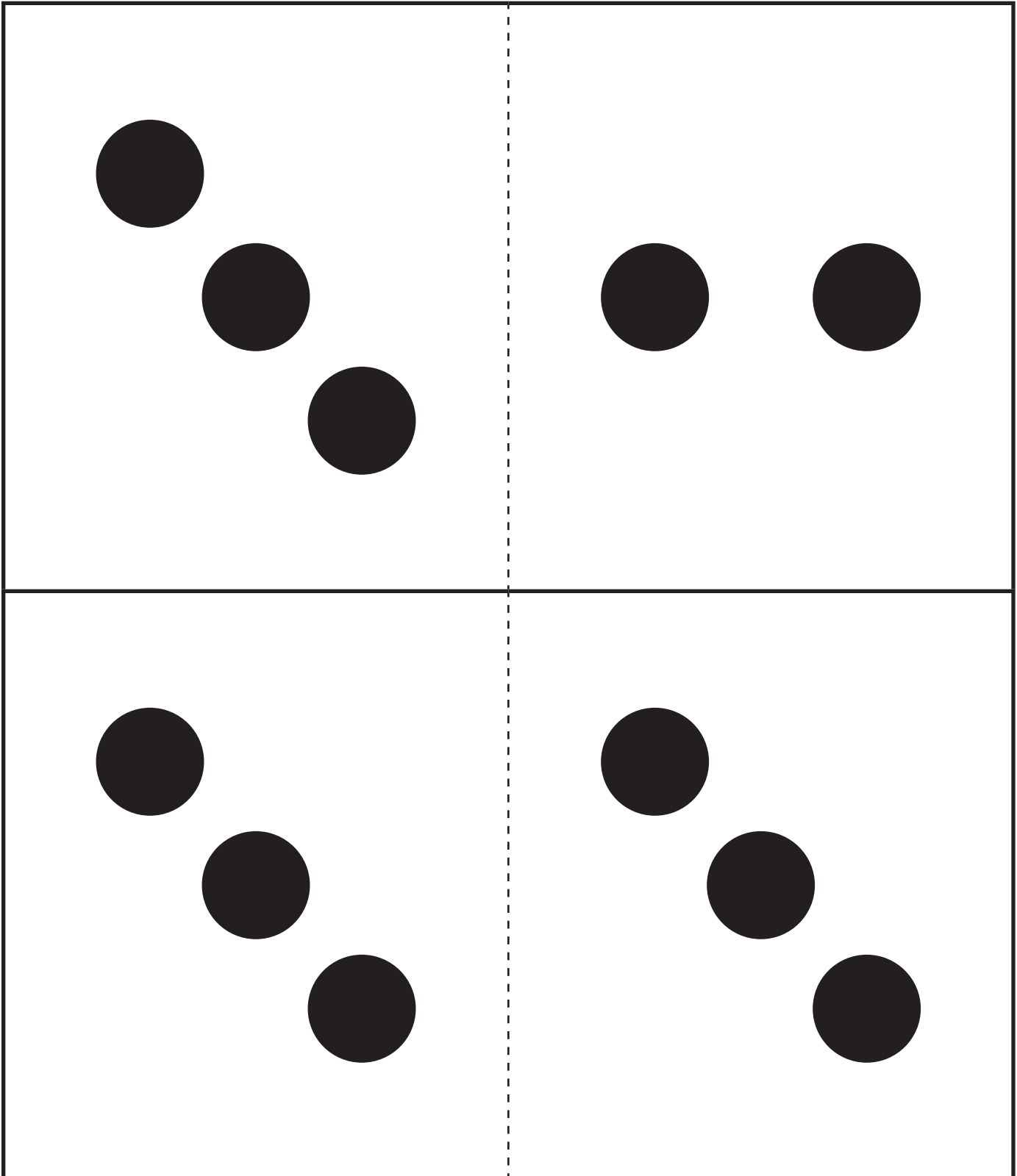

# Doubles Dot Cards Sheet 1 of 5



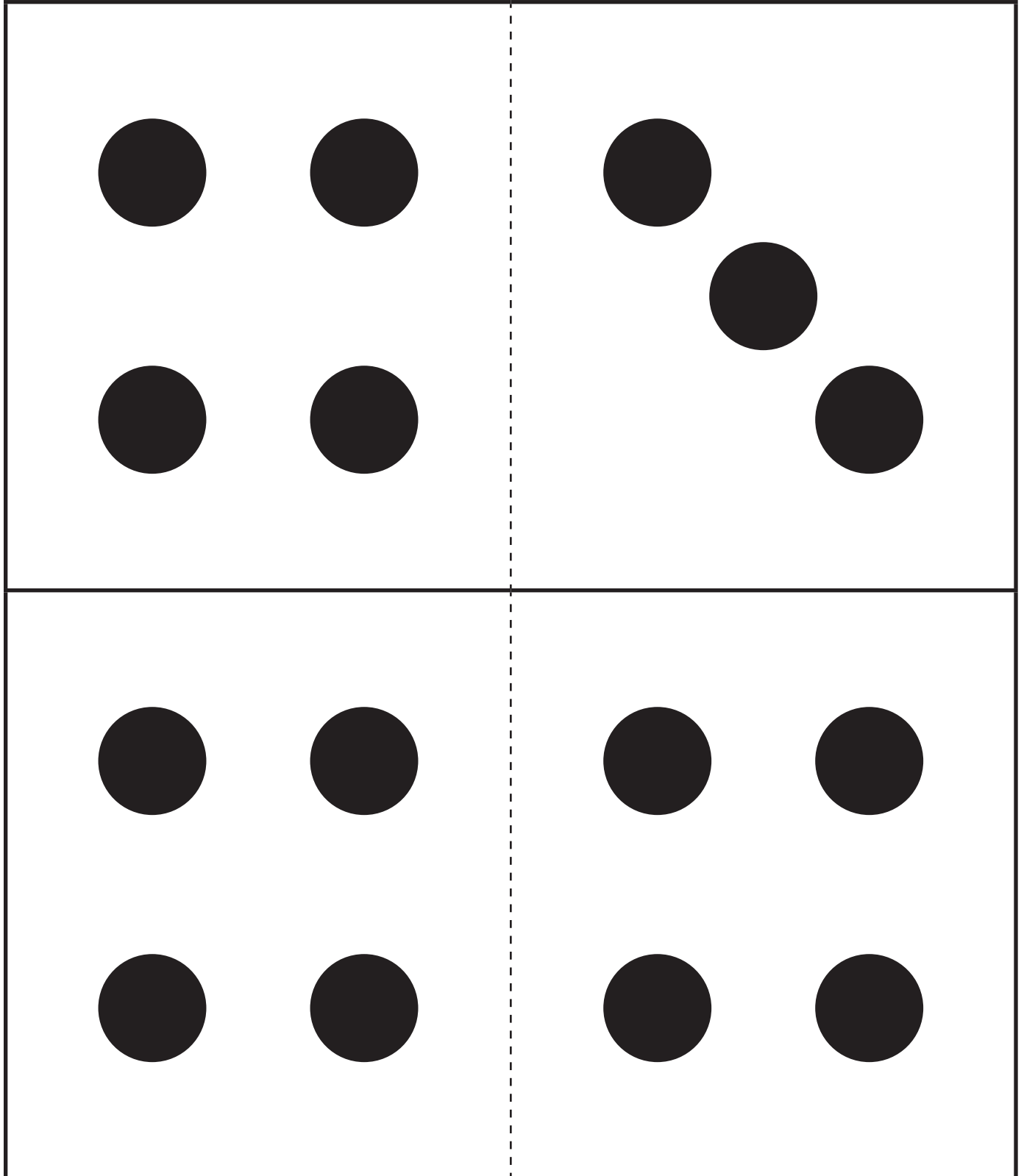
# Doubles Dot Cards Sheet 2 of 5

The image shows a large rectangular frame divided into four quadrants by a horizontal and a vertical dashed line. The top-left quadrant contains two black dots. The top-right quadrant contains one black dot. The bottom-left quadrant contains two black dots. The bottom-right quadrant contains two black dots.

# Doubles Dot Cards Sheet 3 of 5



# Doubles Dot Cards Sheet 4 of 5



# Doubles Dot Cards Sheet 5 of 5

The image shows a large rectangular frame divided into four quadrants by a horizontal and a vertical dashed line. Each quadrant contains black dots representing mathematical problems:

- Top-Left Quadrant:** Two vertical columns of three dots each, representing the equation  $3 + 3 = 6$ .
- Top-Right Quadrant:** Three dots arranged in a descending diagonal line from top-left to bottom-right, representing the equation  $3 + 2 = 5$ .
- Bottom-Left Quadrant:** Two vertical columns of three dots each, representing the equation  $3 + 3 = 6$ .
- Bottom-Right Quadrant:** Two vertical columns of two dots each, representing the equation  $2 + 2 = 4$ .

# Quick Five Frames

--	--	--	--	--

# Quick Ten Frames




# Set A4 ★ Activity 2



## ACTIVITY

### Butterfly Race

#### Overview

Butterfly Race is a simple game that provides practice with a variety of counting skills. Introduce it to the whole class, and play it with the group several times before adding it to your current set of Work Places.

#### Skills & Concepts

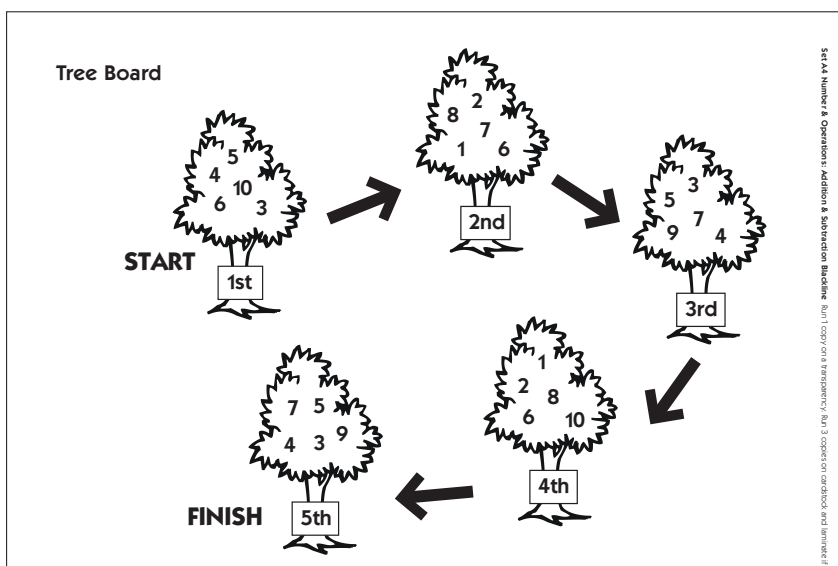
- ★ count pictures in a set
- ★ read numerals to 10
- ★ identify the ordinal position of objects
- ★ compose and decompose numbers from 2 to 10

#### You'll need

- ★ Butterfly Race Card (from Work Place Menu Cards, page A4.26, run 1 copy on cardstock, cut apart and laminate if desired)
- ★ Tree Boards (page A4.28, run 1 copy on a transparency and 3 copies on cardstock)
- ★ Count & Compare Butterflies Cards Overhead (pages A4.29 & A4.30, run 1 copy on transparency)
- ★ 3 sets of Count & Compare Butterflies Cards (pages A4.31–A4.33, run 3 copies on different color cardstock, cut apart and laminate if desired.)
- ★ 6 translucent game markers, 3 red and 3 blue

#### Instructions for Introducing Butterfly Race

1. Gather children where they can all see the screen easily. Display a copy of the Tree Board, and give students a minute or two to pair-share observations. Then ask volunteers to share observations about the game board with the class.

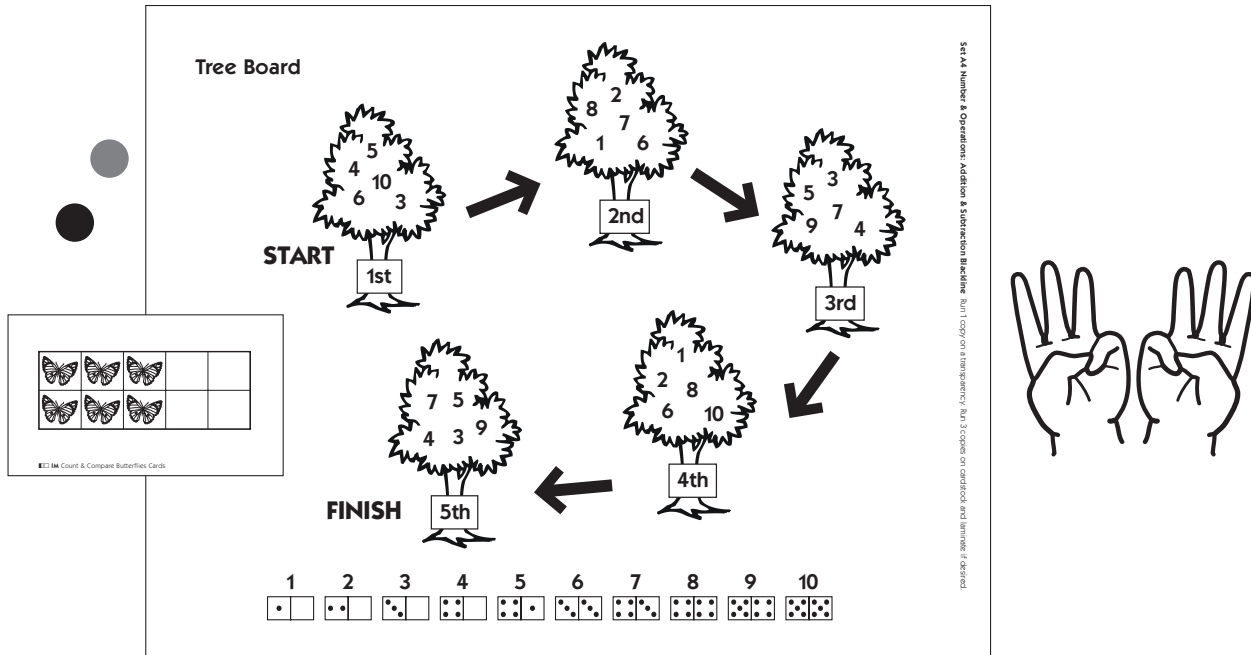


2. Once they have shared some observations, explain that this is a racetrack for butterflies that are going to fly from one tree to the next, starting with the first tree and moving in order to the fifth tree. The first butterfly to reach the fifth tree is the winner. Then point to each tree and name its ordinal position with the children: first, second, third, fourth, and fifth.

**Activity 2** Butterfly Race (cont.)

3. Place a red and a blue translucent counter near the board to the left of the first tree. Explain that the blue marker is yours, and the red one is for the class. These are your butterflies. You're going to race them through the trees to see which team is the first to get to the finish (the fifth tree).

4. Mix the overhead Count & Compare Butterflies cards, stack them, and set the stack near the projector. Take the top card and place it on the board. Ask students to show on their fingers the number of butterflies they see on the card. Then explain that you get to move your "butterfly" to the first tree if it has the numeral that matches the number of butterflies on your card.

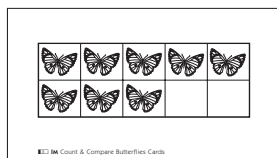


**Students** You got a 6!  
 There are 3 and 3 on there. That's 6.  
 I can show it on my fingers like 3 and then 3.

**Teacher** Can I move my blue butterfly marker to the first tree? Is there a 6 on that tree? Whisper to your neighbor yes or no. Okay, now let's hear from all of you.

**Students** Yes!

5. Call on a student volunteer to draw the next card from the stack and place it on the board. Ask students to pair-share how many butterflies they see on the card, and then choose 2 or 3 volunteers to share and explain their answers.



**Students** It's 8 because I counted them.  
 It's 5 on top, and then 6, 7, 8.  
 I know it's 8 because there are 2 empty ones.

**Activity 2** Butterfly Race (cont.)

**Teacher** *Can you move your red butterfly marker to the first tree?*

**Students** *No! There's no 8 on that tree.*

*What about the next tree? See the 8 there?*

*But we have to go around in the right order, like first and then second.*

6. Continue to take turns with the class until one team has reached the fifth tree. Remove the markers from the board, re-shuffle the cards, and play a second round of the game if time allows. (If you run out of cards before one team gets to the fifth tree, reshuffle and reuse the same cards.)

**Work Place S1** Butterfly Race**This Work Place will need**

- ★ 3 Tree Boards (page A4.28, run 3 copies on cardstock.)
- ★ 3 sets of Count & Compare Butterflies cards (pages A4.31–A4. 33, run 3 copies on different color cardstock, cut apart and laminate if desired.)
- ★ 6 translucent game markers, 3 red and 3 blue

**Object of the Game**

Be the first player to get your “butterfly” (game marker) to the fifth tree.

**Work Place Instructions**

1. Mix the Count & Compare Butterfly cards, stack them, and place the stack face down near the game board. Each player takes a different color game-marker and sets it to the left of the first tree.
2. First player draws the top card from the stack, and determines how many butterflies there are on the card. If the first tree on the game board has the corresponding numeral, the player can move his or her marker to the tree and set it on top of that numeral. If the first tree doesn't have that numeral, the first player must leave his/her marker where it is.
3. Second player takes a turn to draw a card and move his/her marker to the first tree if possible. Partners continue to take turns drawing cards and moving their markers ahead, one tree at a time. The first player to reach the fifth tree wins the game.

***Note** If the players go through the entire stack of cards before one of them wins, mix the cards thoroughly, place them in a facedown stack again, and continue playing.*

**Instructional Considerations for Butterfly Race**

If some of your students need support recognizing the numerals, encourage them to use the “key” at the bottom of the game board.

Questions to ask:

- Which tree are you on right now? (first, second, third, fourth, or fifth)
- How many butterflies are on the card you just picked? How do you know?
- Can you use bunny ears to show me how many butterflies are on your card?
- Which card do you hope you'll get on your next turn?
- Are there any cards you don't want to get on your next turn? Why not?

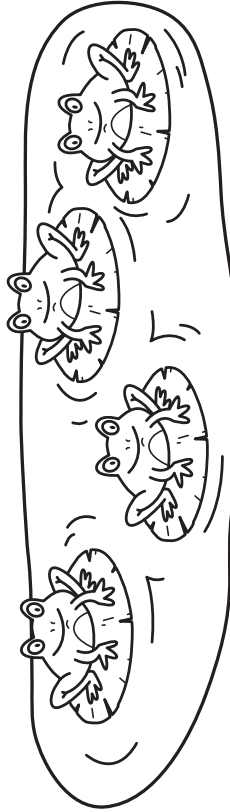
# Work Place Menu Cards Sheet 1 of 2

**S2 Fives Up**



**5**

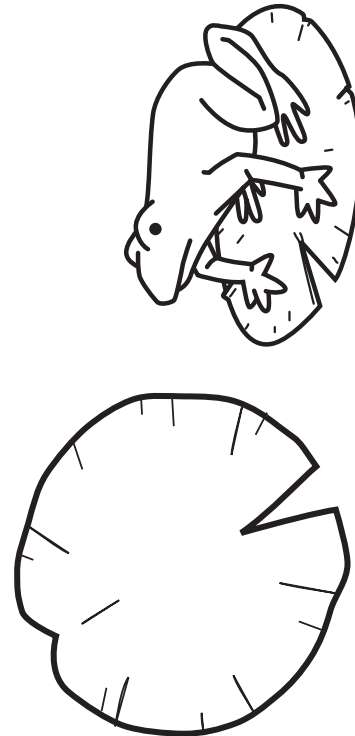
**S4 Pond Game**



**S1 Butterfly Race**

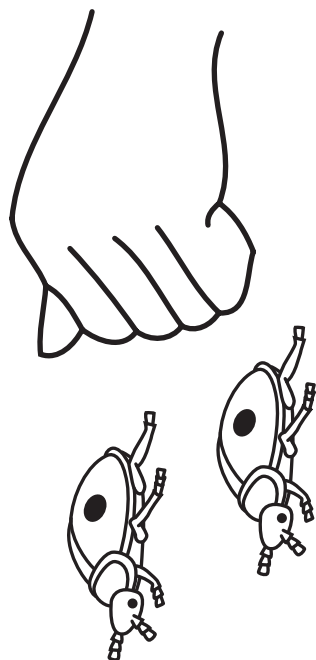


**S3 Frogs & Lillypads**

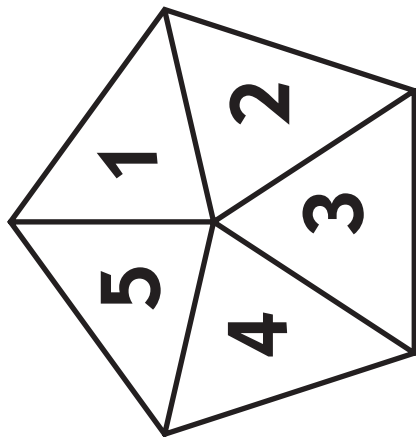


# Work Place Menu Cards Sheet 2 of 2

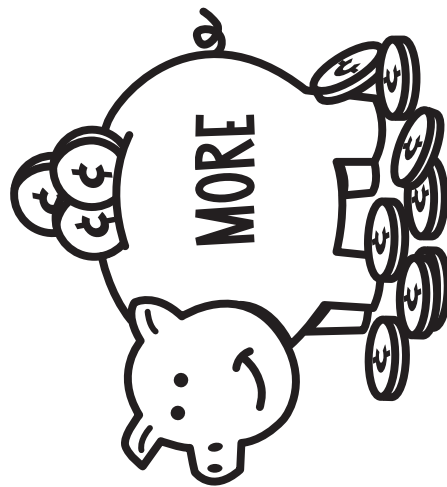
## S6 Bug Catchers



## S5 Spin, Add & Compare







































































































































## S7 Piggy Bank Subtraction

































































































































































# Count & Compare Butterfly Cards Overhead 1 of 2

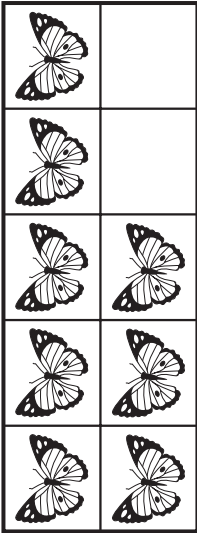

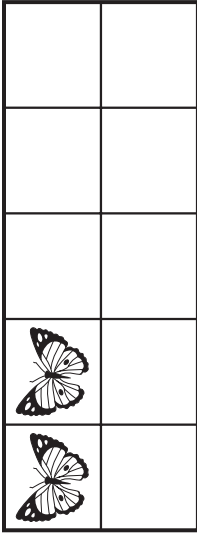
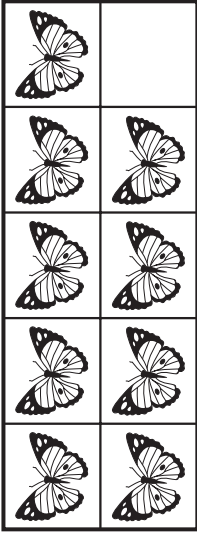

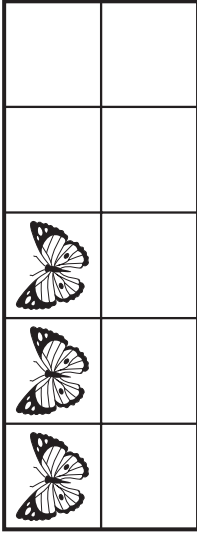
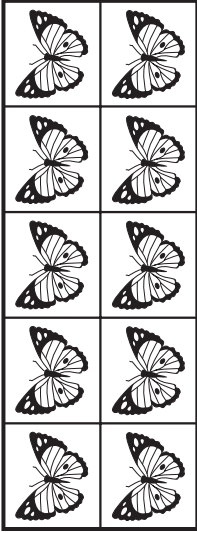

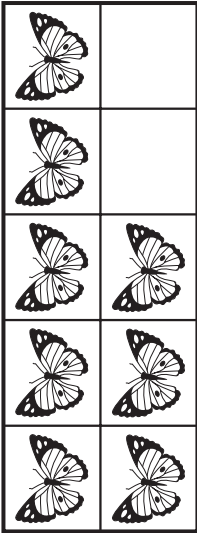

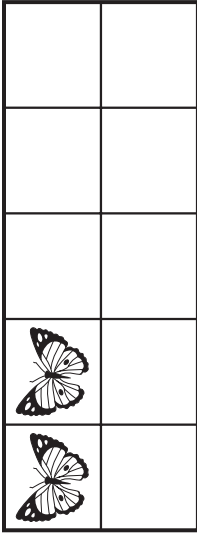
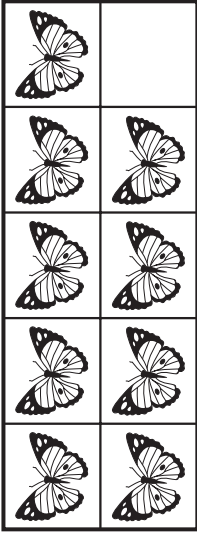

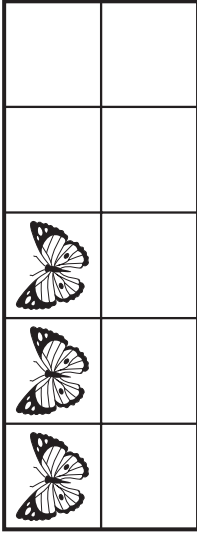
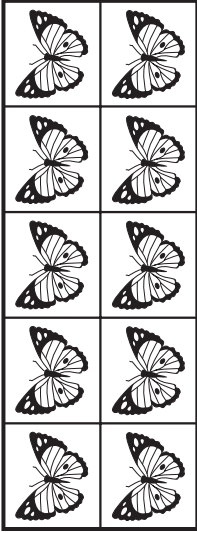

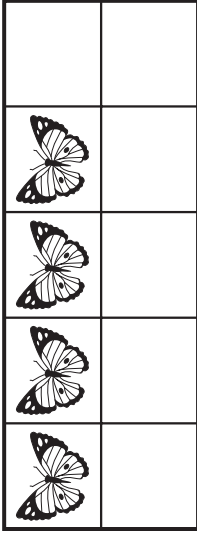




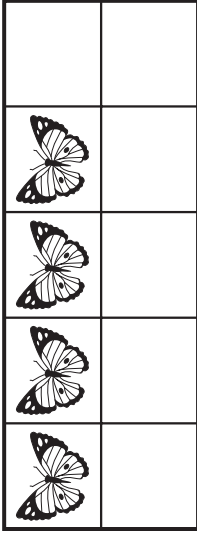








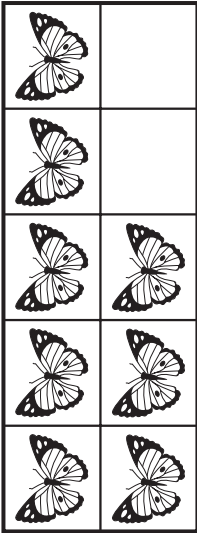

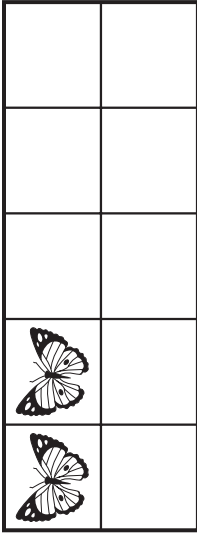
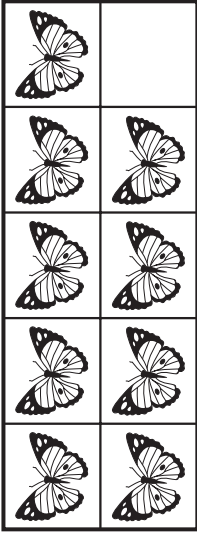

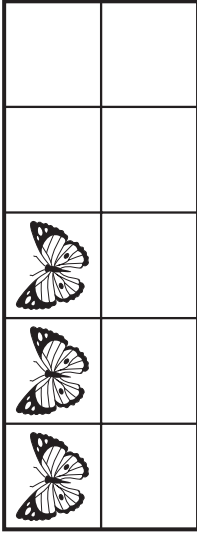
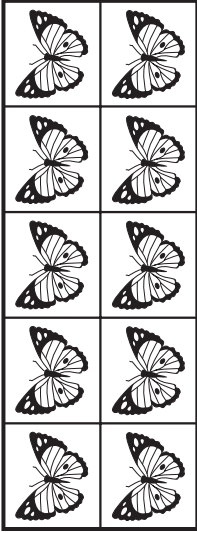

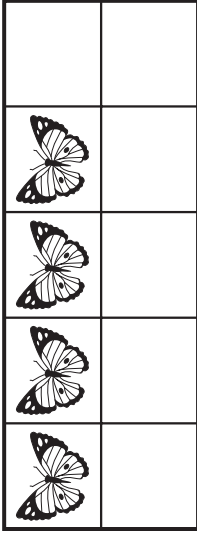



























































































































<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>											<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>										
																					
																					
																					
																					
<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>											<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>										
																					
																					
																					
																					
<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>											<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>										
																					
																					
																					
																					
<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>											<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>										
																					
																					
																					
																					

# Count & Compare Butterfly Cards Overhead 2 of 2

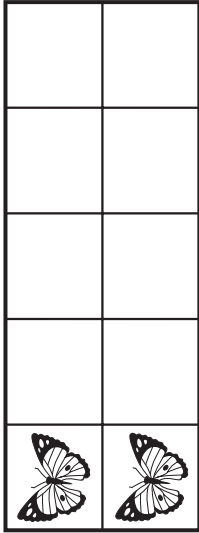
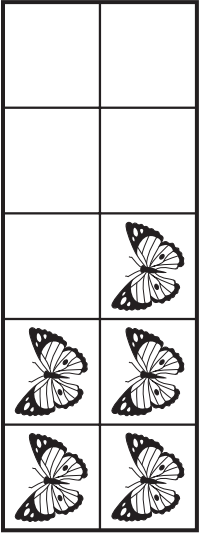
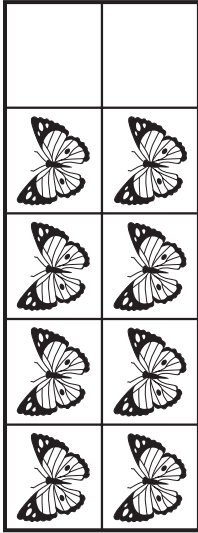
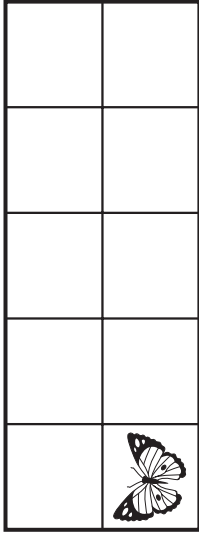
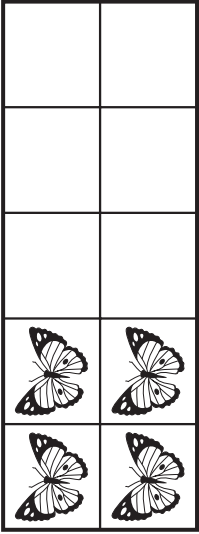
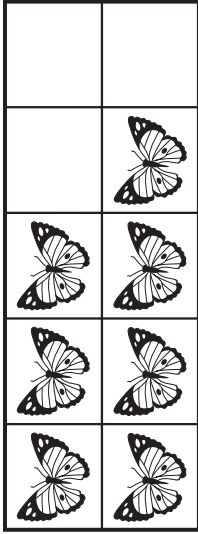
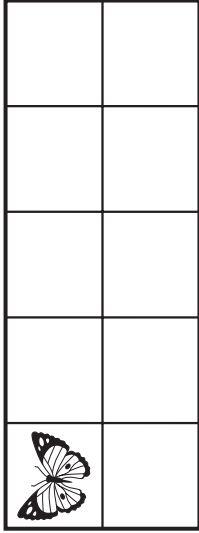
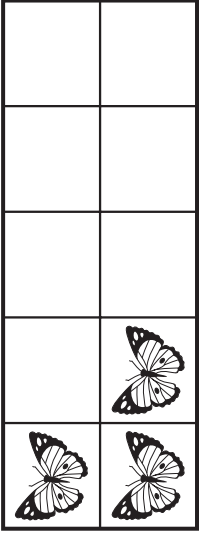
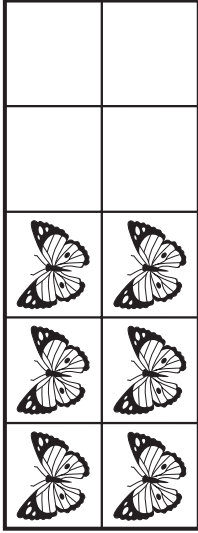
<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>											<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>										
																					
																					
																					
																					
<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>											<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>										
																					
																					
																					
<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>											<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>										
																					
																					
																					
<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>											<table border="1"><tbody><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>										
																					
																					
																					



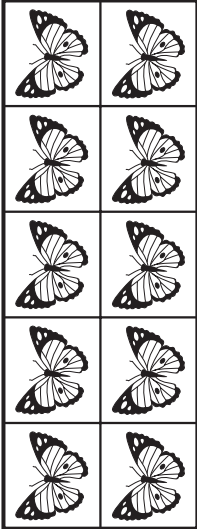
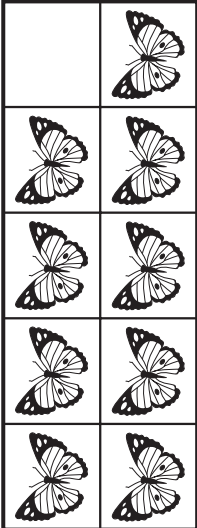
# Count & Compare Butterfly Cards Sheet 1 of 3

<table border="1"> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> <p>IM Count &amp; Compare Butterflies Cards</p>												
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
<table border="1"> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> <p>IM Count &amp; Compare Butterflies Cards</p>												
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
<table border="1"> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> <p>IM Count &amp; Compare Butterflies Cards</p>											<table border="1"> <tbody> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </tbody> </table> <p>IM Count &amp; Compare Butterflies Cards</p>												
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		
																																		

# Count & Compare Butterfly Cards Sheet 2 of 3

 <p>■ <b>IM</b> Count &amp; Compare Butterflies Cards</p>	 <p>■ <b>IM</b> Count &amp; Compare Butterflies Cards</p>	 <p>■ <b>IM</b> Count &amp; Compare Butterflies Cards</p>
 <p>■ <b>IM</b> Count &amp; Compare Butterflies Cards</p>	 <p>■ <b>IM</b> Count &amp; Compare Butterflies Cards</p>	 <p>■ <b>IM</b> Count &amp; Compare Butterflies Cards</p>
 <p>■ <b>IM</b> Count &amp; Compare Butterflies Cards</p>	 <p>■ <b>IM</b> Count &amp; Compare Butterflies Cards</p>	 <p>■ <b>IM</b> Count &amp; Compare Butterflies Cards</p>

# Count & Compare Butterfly Cards Sheet 3 of 3

	IM Count & Compare Butterflies Cards
	IM Count & Compare Butterflies Cards



# Set A4 ★ Activity 3



## ACTIVITY

### Fives Up

#### Overview

Fives Up is a partner or small group game in which students search for combinations of dot cards and/or numeral cards that total 5. Introduce it to the whole class, and play it with the group several times before adding it to your current set of Work Places.

#### Skills & Concepts

- ★ read numerals to 5
- ★ compose and decompose numbers to 5
- ★ model addition by joining sets
- ★ verbally describe mathematical relationships involving addition situations
- ★ use one-to-one correspondence to count and compare sets of objects

#### You'll need

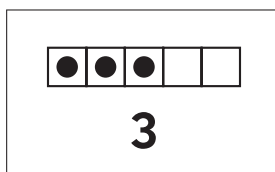
- ★ Fives Up Work Place Menu Card (from Work Place Menu Cards, page A4.26, run 1 copy on cardstock, cut apart and laminate if desired)
- ★ Fives Up cards (pages A4.39–A4.42, see Advance Preparation)
- ★ Fives Up Record Sheet (page A4.43, optional; run as needed)
- ★ helper jar containing a popsicle stick for each child with his/her name on it

.....  
**Advance Preparation** Run 1 copy of each page, A4.39–A4.42, on each of 3 different pastel colors of cardstock. Cut cards apart and laminate if desired. Collate so you have 3 decks of 32 cards, each in a different color.  
 .....

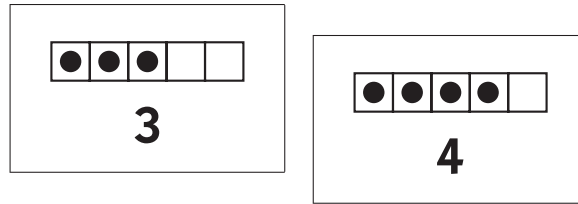
#### Instructions for Introducing Fives Up

1. Gather children to your discussion circle, and explain that you have a new game to play with them. Show them a deck of the Fives Up dot cards you have prepared, and then hold up 6 or 7 of the cards in quick succession as children hold up their fingers to show how many dots they see on each card.
2. Explain that the object of the game is to find cards that can be combined to make a total of 5 dots. Use the cards to show and discuss a couple of examples and counter-examples (e.g., 4 dots and 1 dot, 2 dots and 3 dots, 4 dots and 3 dots). Tell the children that you are going to take your turn first, and then pick a stick from your helper jar to choose a student to take the first turn for the class.

***Teacher** I'm going to take the first card from the stack and turn it up so we can all see it. How many dots did I get? Three? You're right!*



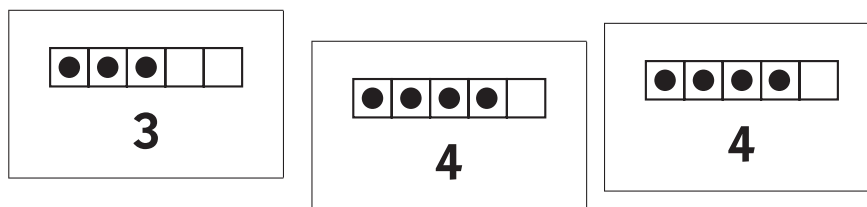
***Teacher** I didn't get 5, did I? So now it's your turn. Imani, I picked your stick from the jar. Please come turn up the next card in the stack for the class, and set it beside mine.*

**Activity 3** Fives Up (cont.)

**Teacher** Can Imani use these two cards to make 5 for you? What happens if we put the two cards together and count up all the dots? Talk to the person sitting next to you, and raise your hand when you have an idea.

**Students** It makes 7 because it's 1, 2, 3, 4, 5, 6, 7.  
I know because 3 and 3 is 6, then 1 more is 7.

3. Take your next turn, and then choose a stick from your jar to choose the next student to turn over a card for the class.



**Teacher** So far, neither team has been able to make a combination of 5. Jorge, I just picked your stick. Before Jorge turns over the next card, let's think. What card do you hope he gets for you?

**Jon** One with 5 dots!

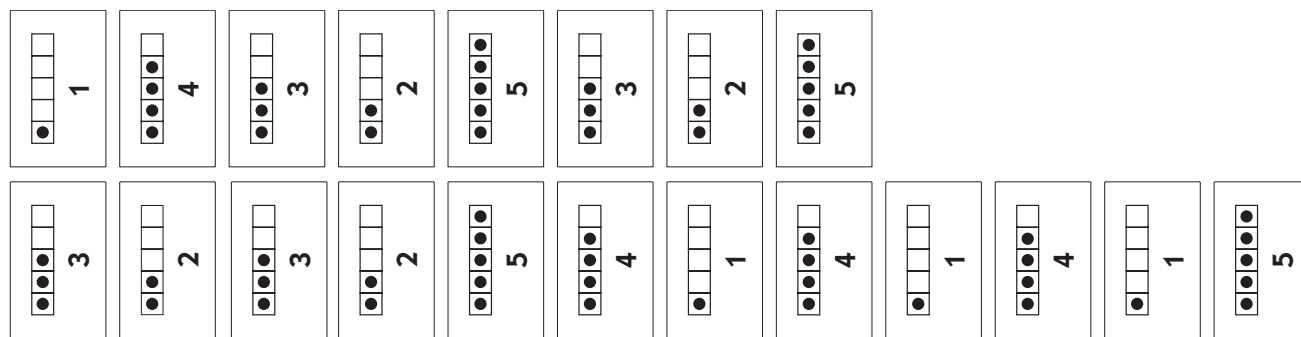
**Teacher** Yep, if Jorge got one with 5 dots, you could take it. Is there any other card that would be good for Jorge to pick for you?

**Alicia** If he gets 2 dots, he can put it with 3. That will make 5.

**Teacher** Do you all agree with Alicia? Thumbs up if you think 3 and 2 will make 5. Does anyone else have an idea?

**Dawn** He should get a 1 because then he can put it with the 4.

4. Play back and forth with the class, picking sticks from the jar to choose children to turn the cards over for the class, as you conduct a play-by-play discussion. At the end of the game, tell the class that the team with the most cards will be the winner. Can they predict which team will win? How will you know for sure? After a little discussion, work with the class to set out the two sets of cards side by side, matching them one for one, so it is easy to see which team got more. Ask children to compare the two sets using such phrases as “more than”, “less than”, or “the same as”. Then have the class count each set, and compare the two in terms of how many more than, and how many less than.

**Activity 3** Fives Up (cont.)

5. Work with the children to count all the dot cards as you pick them up one by one and mix them in preparation for another game.

6. Play Fives Up again with your group several times before making it available during Work Places. Depending on the needs of your students, you might also play it with small groups before adding it to your current set of Work Places.

**Work Place S2** Fives Up**You'll need**

- ★ 3 sets Fives Up Cards (dot cards only; numeral cards are optional, see Instructional Considerations)
- ★ Fives Up Record Sheets (optional; see Instructional Considerations)

**Object of the Game**

Collect pairs or sets of cards that total 5 (e.g., 2 dots and 3 dots; or 2 dots, 2 dots, and 1 dot; a single card with 5 dots). The player with the most cards at the end of the game wins.

**Work Place Instructions**

1. The players mix up the cards and place them in a stack face down between them.
2. First player takes the card from the top of the stack, turns it face up and reports the number of dots. If there are 5 dots, Player 1 can take the card. If there are fewer than 5 dots, Player 1 leaves the card sitting out between him/herself and the other player.
3. Player 2 takes the next card from the stack, turns it face up and reports the number of dots. If there are 5 dots, or if this card can be combined with the other card to make a total of 5, Player 2 gets to take one or both the cards. If it is not possible to make a combination of 5, Player 2 leaves the cards sitting out between him/herself and the other player.
4. Players take turns drawing one card at a time, reporting the number of dots on the card, and trying to combine it with one or more of the cards that are sitting face up to make 5.
5. Play continues until no more cards can be combined to make 5.
6. When as many as possible of the cards have been used, partners lay their cards out in two lines, side-by-side, and count them to determine who got more.

**Note** No one gets extra turns in this game. If a player wins a set of cards, play still reverts to the other player. Also, players can combine more than 2 cards to make 5, for instance,  $2 + 2 + 1$ .

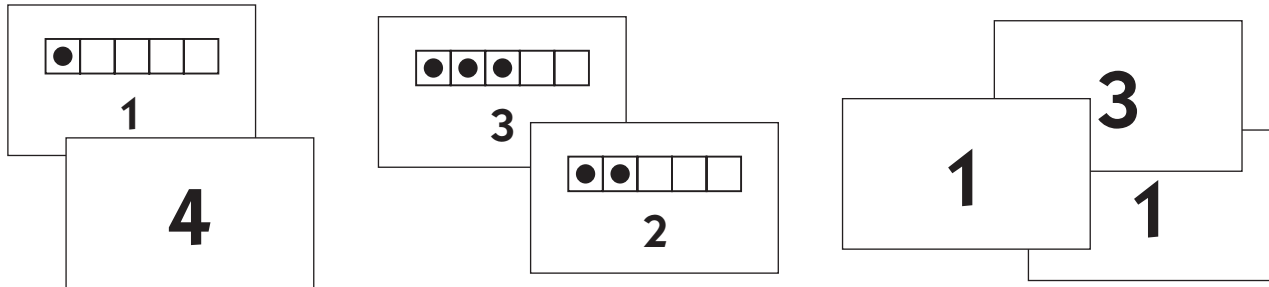
## Activity 3 Fives Up (cont.)



## CHALLENGE

## Instructional Considerations

You can make the game more challenging for students who are ready by adding the numeral cards to the deck. The game is played exactly the same, but some of the combinations will involve dot cards only, some dot and numeral cards, and some just numerals. Some of your students might also enjoy playing the game with numeral cards only.



Another way to extend a challenge is to ask students to record their game results, using the optional Fives Up Record Sheet blackline. The sheet asks students to record the number of cards each partner won, circle “yes” or “no” in response to three questions, and show three different ways to make 5 by drawing pictures or recording combinations.

Name JASON

**Fives Up Record Sheet**


I won 8 cards. My partner won 12 cards.

I won more cards than my partner. YES  NO

I won less cards than my partner. YES  NO

I won the same number of cards as my partner. YES  NO

Here are three different ways to make 5:

  $4 + 1$   $2 + 2 + 1$

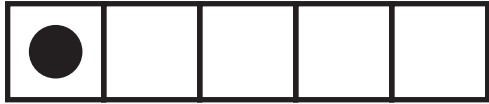
Students who are ready might also be challenged to play for combinations of 6, 7, or 8 using just the dot cards, or even the all the dot and numeral cards in the set.

**Note** The National Council of Teachers of Mathematics (NCTM) offers a collection of free online computer activities for K-12 students on their Illuminations web site (<http://illuminations.nctm.org/>). One of the activities on the web site is called Five Frame, and can be reached directly by going to the following URL:  
<http://illuminations.nctm.org/ActivityDetail.aspx?ID=74>

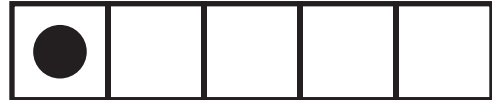
Five Frame allows children to count, build, and add quantities in five frames on screen, and provides a nice way to reinforce and extend the skills introduced in Fives Up. You might consider adding Five Frame to your Work Places, or linking parents to the activity so children can use it at home on their own computer.



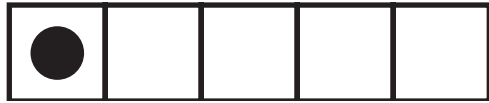
# Fives Up Cards Sheet 1 of 4



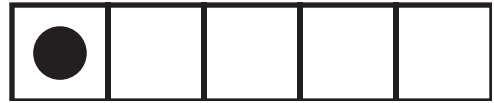
**1**



**1**



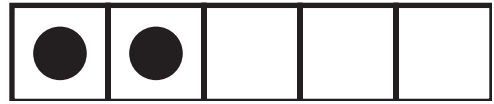
**1**



**1**



**2**



**2**



**2**

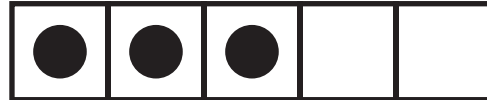


**2**

# Fives Up Cards Sheet 2 of 4



**3**



**3**



**3**



**3**



**4**



**4**



**4**

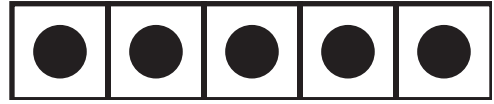


**4**

# Fives Up Cards Sheet 3 of 4



5



5



5



5

0

0

1

1

## Fives Up Cards Sheet 4 of 4

**2**

**2**

**3**

**3**

**4**

**4**

**5**

**5**

Name \_\_\_\_\_

## Fives Up Record Sheet

I won \_\_\_\_\_ cards. My partner won \_\_\_\_\_ cards.

I won more cards than my partner.    YES    NO

I won less cards than my partner.    YES    NO

I won the same number of cards as my partner.    YES    NO

Here are three different ways to make 5:

Name \_\_\_\_\_

## Fives Up Record Sheet

I won \_\_\_\_\_ cards. My partner won \_\_\_\_\_ cards.

I won more cards than my partner.    YES    NO

I won less cards than my partner.    YES    NO

I won the same number of cards as my partner.    YES    NO

Here are three different ways to make 5:



# Set A4 ★ Activity 4



## ACTIVITY

### Frogs & Lillypads

#### Overview

Frogs & Lillypads is a board game similar to Butterfly Race that provides an opportunity to teach and reinforce the skill of counting on. Introduce it to the whole class, and play it with the group once or twice before adding it to your current set of Work Places.

#### Skills & Concepts

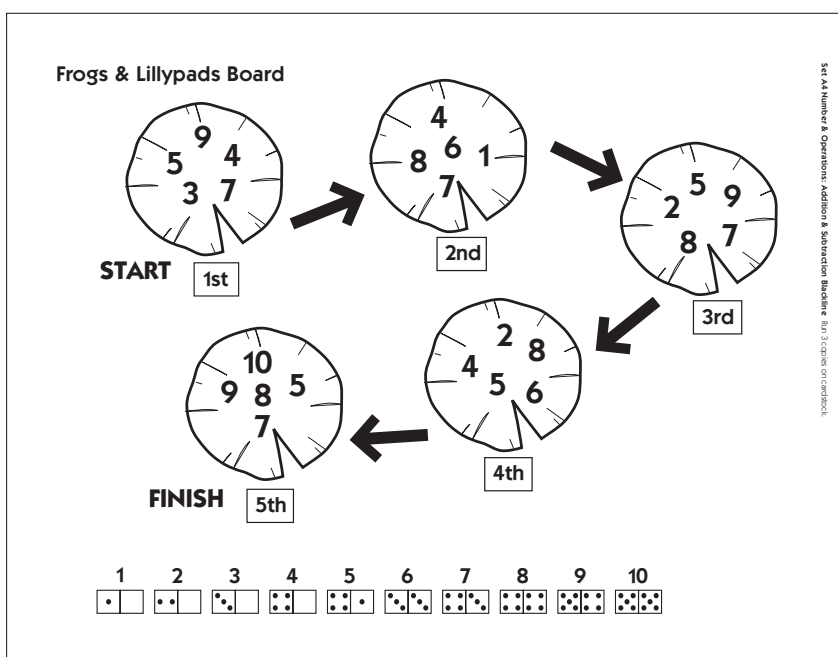
- ★ read numerals to 10
- ★ identify the ordinal position of objects
- ★ model addition for numbers less than 10 by joining sets of objects
- ★ count on to add two numbers

#### You'll need

- ★ Frogs & Lillypads Work Place Menu Card (from Work Place Menu Cards, page A4.26, run 1 copy on cardstock, cut apart and laminate if desired)
- ★ 3 Lillypad Boards (page A4.49, run 3 copies on cardstock)
- ★ 3 Frogs & Lillypads Spinners (pages A4.50–A4.51, run 1 copy of each sheet on cardstock. Color each of the number spinners green. Color the dot spinners light blue. Cut sheet in half and laminate if desired.)
- ★ 6 translucent game markers in several different colors
- ★ helper jar containing a popsicle stick for each child with his/her name on it

#### Instructions for Introducing Frogs & Lillypads

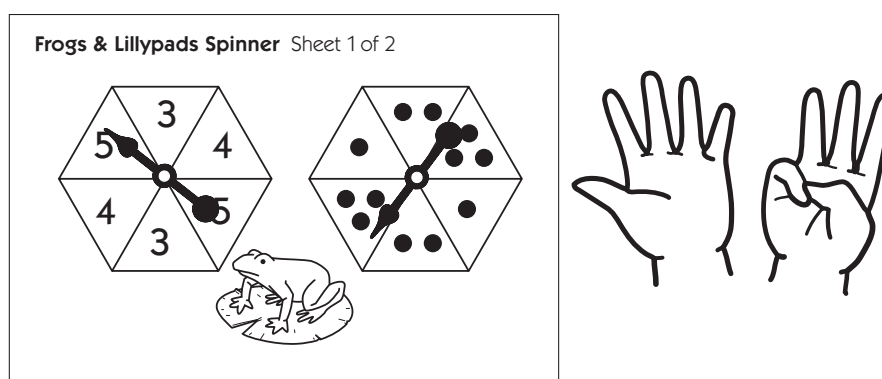
1. Pin one of the Lillypad boards to a display easel or whiteboard near your discussion area. Gather children to the area, and seat them in a way that they can all see the game board. Explain that you have a new game to share with them, and this is the playing board you will use. Give them a minute or two to pair-share observations about the game board. Then ask volunteers to share their observations with the class.



**Activity 4** Frogs & Lillypads (cont.)

2. Next, tell them that this game is called Frogs and Lillypads. It is similar to the Butterfly Race in that the object of the game is to be the first player to reach the fifth lillypad. This time, instead of drawing cards from a stack, you're going to use a double spinner to help get from one lillypad to the next.

3. Ask children to form a circle. Place the spinner on the floor near enough for you to reach as you sit in the circle, but far enough into the middle so children can see it. Give them a moment to examine the spinner, and then spin the arrow on the first spinner. Ask children to name the numeral you spun and show the corresponding quantity on the fingers of one hand. Then spin the arrow on the second spinner. Ask children to identify the number of dots, and show the corresponding quantity on the fingers of their other hand. What happens if they add the two quantities? Give them a moment to pair-share ideas, and then call on volunteers.



4. While some students probably counted their fingers one by one to find a total of 8, others may have counted on from 5 to get the answer. Reinforce the counting on strategy by modeling it and practicing it with the group. Ask children to stretch the fingers on their first hand wide as they say the numeral that was spun, and then tap their heads with each of the fingers on their other hand as they count on: five, six, seven, eight!

5. Repeat steps 3 and 4 several times. Then place the Lillypad board on the floor next to the spinner, and play the game with the students, following the instructions on the next page. Use your helper jar to select students to spin the spinner each time the class takes their turn. Model and reinforce the counting-on strategy throughout.

6. Play Frogs and Lillypads again with your group at least once before making it available during Work Places. Depending on the needs of your students, you might also play it with small groups before adding it to your current set of Work Places.



**Activity 4** Frogs & Lillypads (cont.)**Work Place S3** Frogs & Lillypads**This Work Place will need**

- ★ 3 Lillypad boards
- ★ 3 Frogs & Lillypads spinners
- ★ 6 translucent game markers in several different colors

**Object of the Game**

Be the first player to get your “frog” (game marker) to the fifth lillypad.

**Work Place Instructions**

1. Each player takes a different color game marker and sets it to the left of the first lillypad on the game board.
2. First player spins both spinners, names the number on the first spinner, and counts on the number of dots spun on the second spinner to determine the total. If the first lillypad on the game board has a numeral that matches the total, the player can move his or her marker to the lillypad and set it on top of that numeral. If the first lillypad doesn't have that numeral, the first player must leave his/her marker where it is.
3. Second player takes a turn to spin both spinners, count on to find the total, and move his/her marker to the first lillypad if possible. Partners continue to take turns spinning, adding, and moving their markers ahead, one lillypad at a time. The first player to reach the fifth lillypad wins the game.

**Instructional Considerations for Frogs & Lillypads**

This game presents a good opportunity to teach and reinforce the strategy of counting on, instead of counting one by one. While some of your students may already be proficient with this strategy, others will need more support to develop the skill.

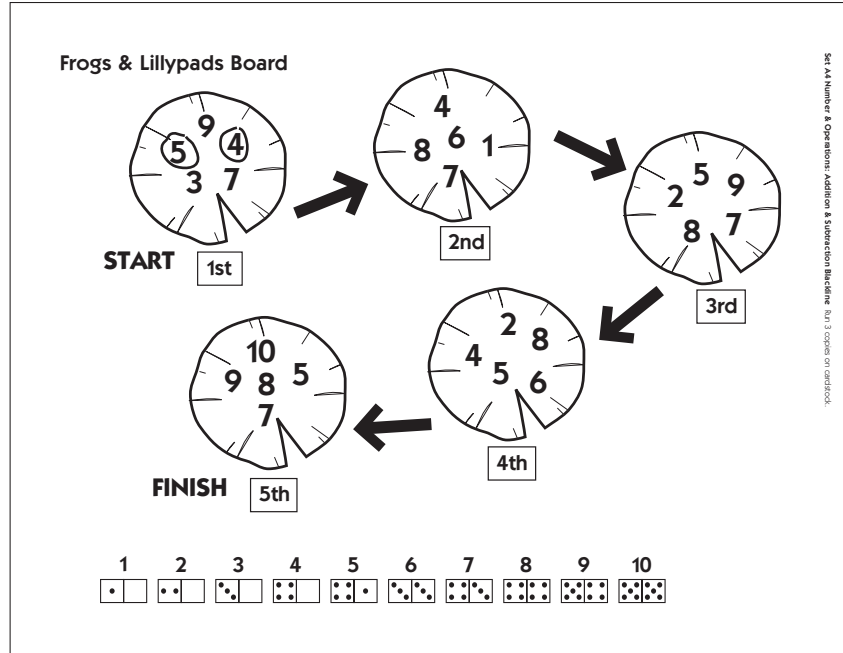
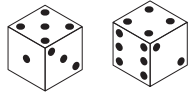
If you encourage children to show both quantities on their fingers each time, students who aren't yet able to count on will have recourse to one-by-one counting, which is fine, but you'll also want to work with those students, or have them play the game with a more capable classmate, older student, or parent volunteer, so they can learn to count on as well.

**CHALLENGE**

Students who are ready for more of a challenge can be asked to spin the numeral spinner twice, add the two numbers, spin the dot spinner, and subtract that number of dots from the total by counting backwards (e.g.,  $4 + 5 = 9$  and  $9 - 2 = 7$ ).

Another way to extend a challenge is to have students roll two regular dice (dotted 1–6), and allow them to use any of the four operations (add, subtract, multiply, or divide) to make a number that will allow them to move their game marker to the next lillypad.

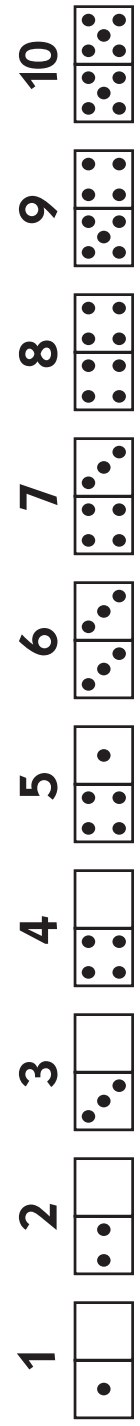
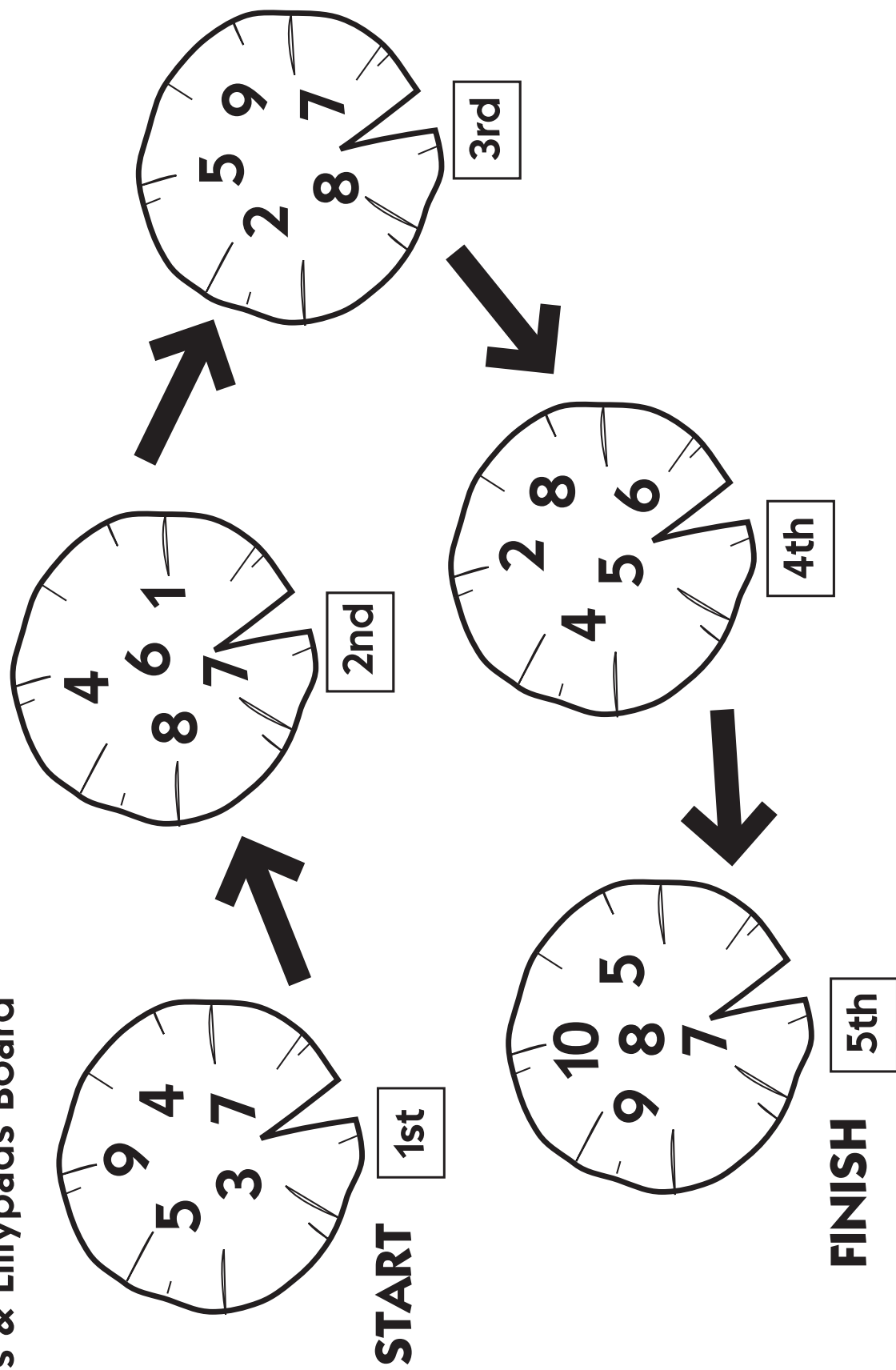
**Activity 4** Frogs & Lillypads (cont.)



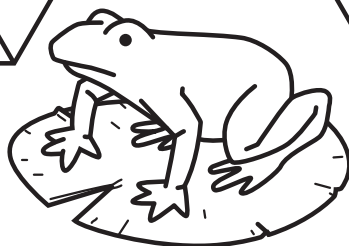
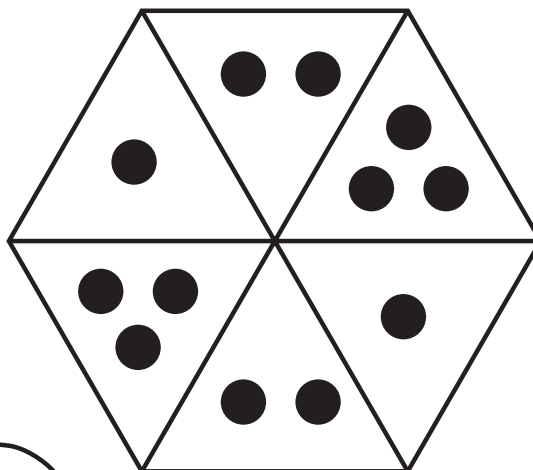
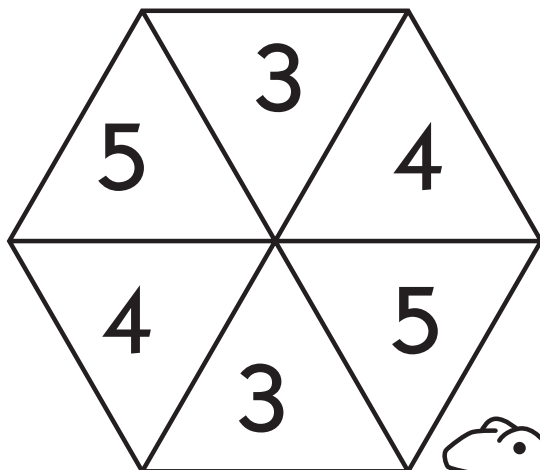
**Jessica** Hmmmm.....I got a 5 and a 4. If I add them, it makes 9, but there's no 9 on the next lillypad. I know! I could go  $5 - 4$ , and that makes 1.

**Josh** I see something else you could do. You could subtract them and take that answer times 4. Five minus four is one. One times four is four which is on the next lillypad.

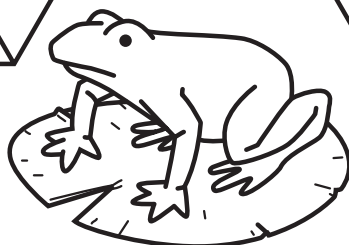
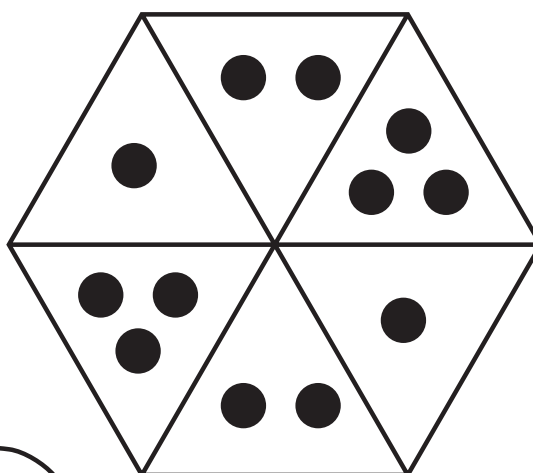
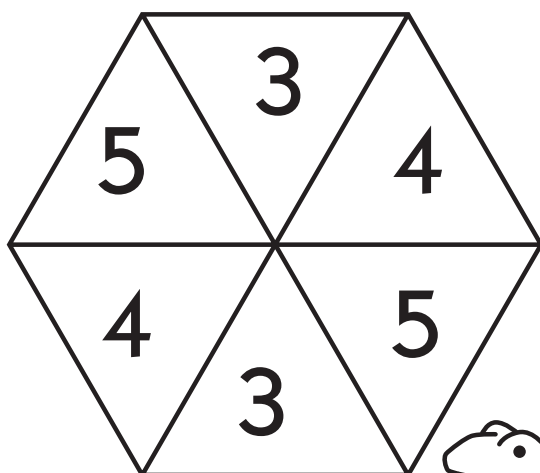
# Frogs & Lillypads Board



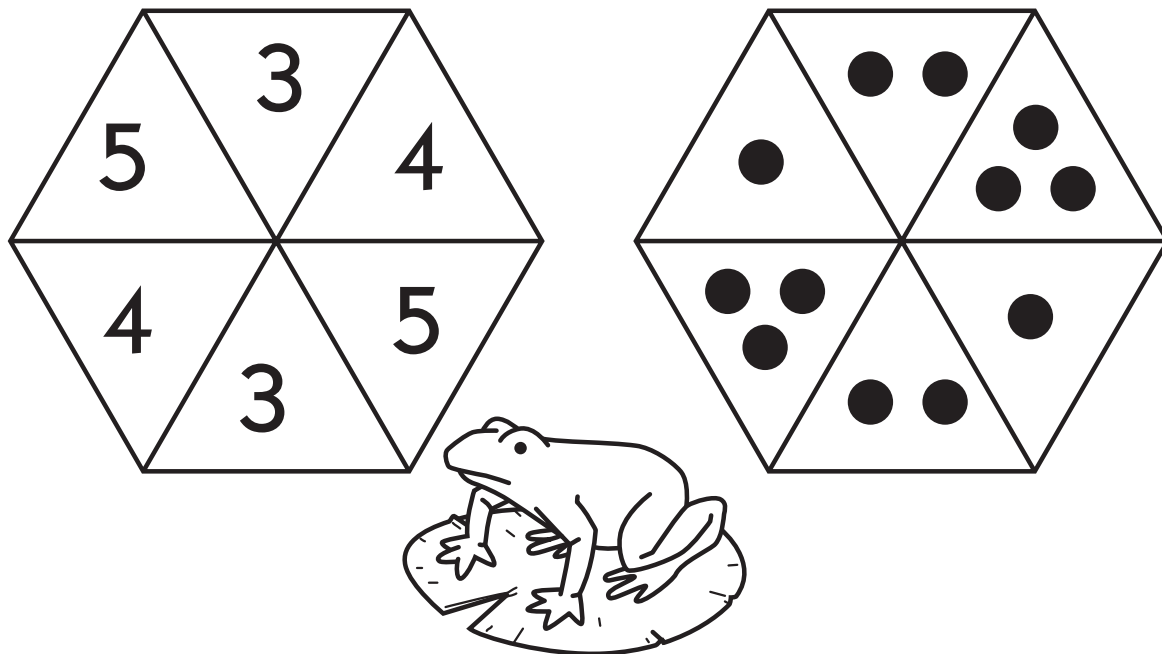
## Frogs & Lillypads Spinner Sheet 1 of 2



## Frogs & Lillypads Spinner

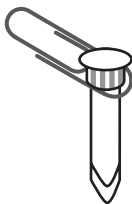


## Frogs & Lillypads Spinner Sheet 2 of 2



### Spinner-Making Instructions

1. Poke a brass fastener through a  $\frac{1}{4}$ " length of drinking straw and a paperclip. Be sure to insert the brad and straw into the large end of the paperclip, as shown.



2. Keeping the straw and the paperclip on the brass fastener, insert it into the midpoint hole of the spinner. Once it has been pushed through to the back side, bend each side of the fastener flat against the underside of the gameboard. The section of straw should serve as a spacer so the brad doesn't push the paperclip flat against the gameboard and prevent it from spinning.

3. Give the paperclip a test spin to see if it works.



# Set A4 ★ Activity 5



## ACTIVITY

### The Pond Game

#### Overview

The Pond Game provides an opportunity to teach and reinforce the meaning of the addition and subtraction signs while helping children develop lively understandings of both operations. Introduce the game to your whole class, and play it with the group once or twice before adding it to your current set of Work Places.

#### Skills & Concepts

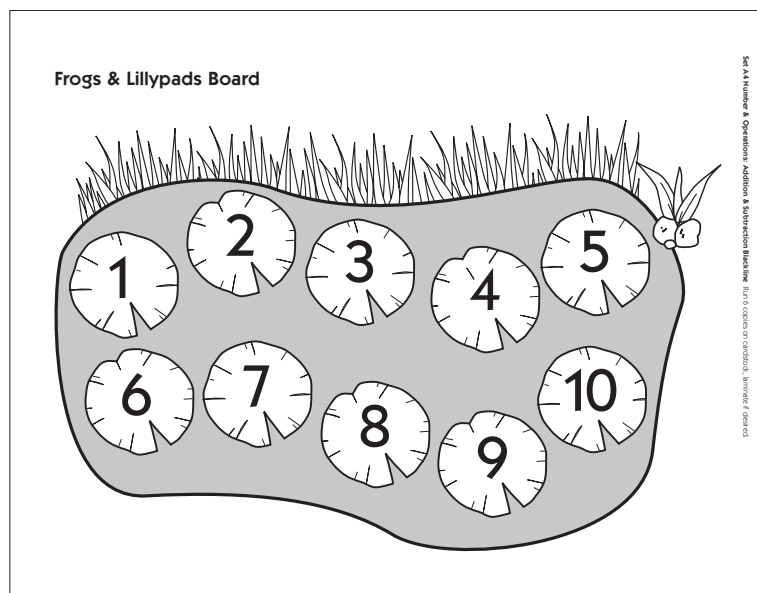
- ★ count objects using one-to-one correspondence
- ★ read the symbols for addition and subtraction, and numerals to 10
- ★ model addition by joining sets of objects and model subtraction by removing objects from sets for numbers less than 10
- ★ verbally describe mathematical relationships involving addition and subtraction situations

#### You'll need

- ★ Pond Game Work Place Menu Card (from Work Place Menu Cards, page A4.26, run 1 copy on cardstock, cut apart and laminate if desired)
- ★ 6 Pond boards (page A4.58, run 6 copies on cardstock, laminate if desired.)
- ★ 3 Add & Subtract spinners (page A4.59, run 1 copy on cardstock, cut apart and laminate if desired.)
- ★ Bucket of Frogs
- ★ Splash! by Ann Jonas (optional)

#### Instructions for Introducing The Pond Game

1. Pin one of the Pond boards to a display easel or whiteboard near your discussion area. Gather children to the area, and seat them in a way that they can all see the game board. Explain that you have a new game to share with them, and this is the playing board you will use. Give them a minute to pair-share observations about the game board. Then ask volunteers to share their observations with the class.



**Activity 5** The Pond Game (cont.)

2. Now ask children to form a circle. Place the board on the floor near enough for you to reach as you sit in the circle, but far enough into the middle so children can see it. Then count 10 frogs out of the bucket as children count with you. Place 5 of them on the board, one on each of the first 5 lily pads, and set the other 5 to the side of the board.

3. Explain that in this game, frogs are going to hop in and out of the pond, but they have to follow the instructions on the game spinner to do so. Then show the spinner and discuss the numbers and symbols on it briefly. Chances are, most of the children can read the numbers. What do those other symbols mean?

**Students** *The one that looks like a cross is for adding. It means you have to add.  
The one that looks like a little line is for taking away, I think.*

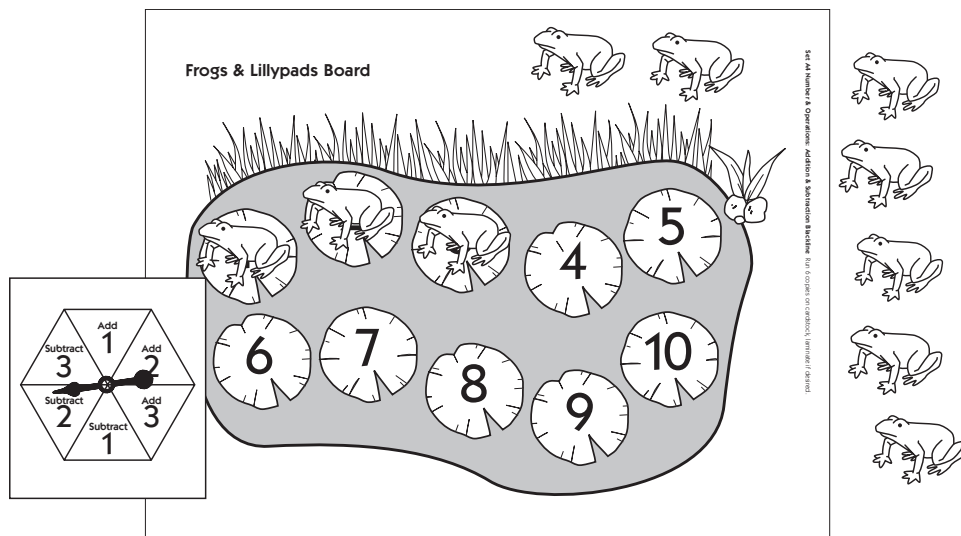
4. Spin the spinner and work with the class to carry out the action indicated by the spinner. Then ask the children to report how many frogs are in the pond.

**Teacher** *The spinner landed on subtract 2. What do I have to do?*

**Students** *You have to take 2 away!  
You have to make 2 of those guys hop out of the pond.*

**Teacher** *Okay, I'll subtract 2. Here they go! How many frogs are in my pond?*

**Students** *Three frogs! Now there are only 3 left! That's not very many.  
Can we put some more in?*



5. Repeat the step above several times, noting with the class that the number of frogs in the pond changes each time, except if the spinner lands on subtract 0. Note too that sometimes it is not possible to carry out the spinner's instructions. If you only have 1 frog on the board, and spin  $-2$ , you have to spin again until you get something you can do. If you have 8 frogs on the board and spin  $+3$ , you have to spin again because you only have 2 frogs left to add, and 2 lilypads left to fill.



**Activity 5** The Pond Game (cont.)

6. Then place another Pond board on the floor next to yours. Ask students to help you count another 10 frogs out of the bucket, and set up both boards so there are 5 frogs on each, and another 5 frogs off to the side for each team. Play the game with the students, following the instructions below. Use your helper jar to select students to spin the spinner and hop the frogs in or out of the pond each time the class takes their turn. Model and reinforce the meaning of the addition and subtraction sign, as well as the two operations, as you play.

7. Play the Pond Game again with your group at least once before making it available during Work Places. Depending on the needs of your students, you might also play it with small groups before adding it to your current set of Work Places.

**Work Place S4** The Pond Game**You'll Need**

- ★ 6 Pond boards
- ★ 3 Add & Subtract spinners
- ★ 10 frogs (or other game markers) for each player

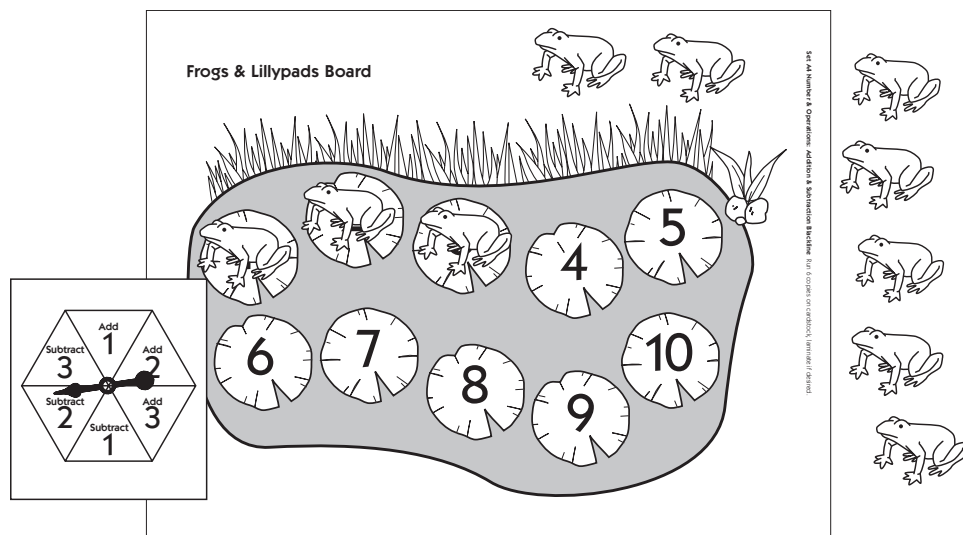
**Object of the Game**

Be the first player fill your Pond board with ten frogs.

**Work Place Instructions**

1. Each player gets a Pond board and 10 frogs. The players each place 5 frogs on their Pond board, on top of the numerals 1–5, and set the other 5 frogs to the side.
2. The first player spins the Add & Subtract spinner, adds or subtracts that many frogs from his/her board, and reports how many frogs are in the pond then.

**Brianna** *I got a 2 with a minus. That means I have to take 2 frogs off my board. Now I only have 3 frogs in my pond.*



3. The second player spins, adds or subtracts the number of frogs indicated by the spinner, and reports how many frogs there are in his/her pond.

**Activity 5** The Pond Game (cont.)

4. Players take turns spinning, adding or removing frogs from the pond, and reporting the results until one player has collected exactly 10 frogs in his/her pond. That player wins the game.

***Note** If a player makes a spin that cannot be carried out, such as spinning  $-2$  when there is only 1 frog left on the board, or spinning  $+3$  when there are 8 frogs on the board and only 2 available to be added, that player loses his/her turn, and must wait until the next turn to make a move.*

**Instructional Considerations**

Some children will definitely benefit from time spent playing this game with an older student or an adult.

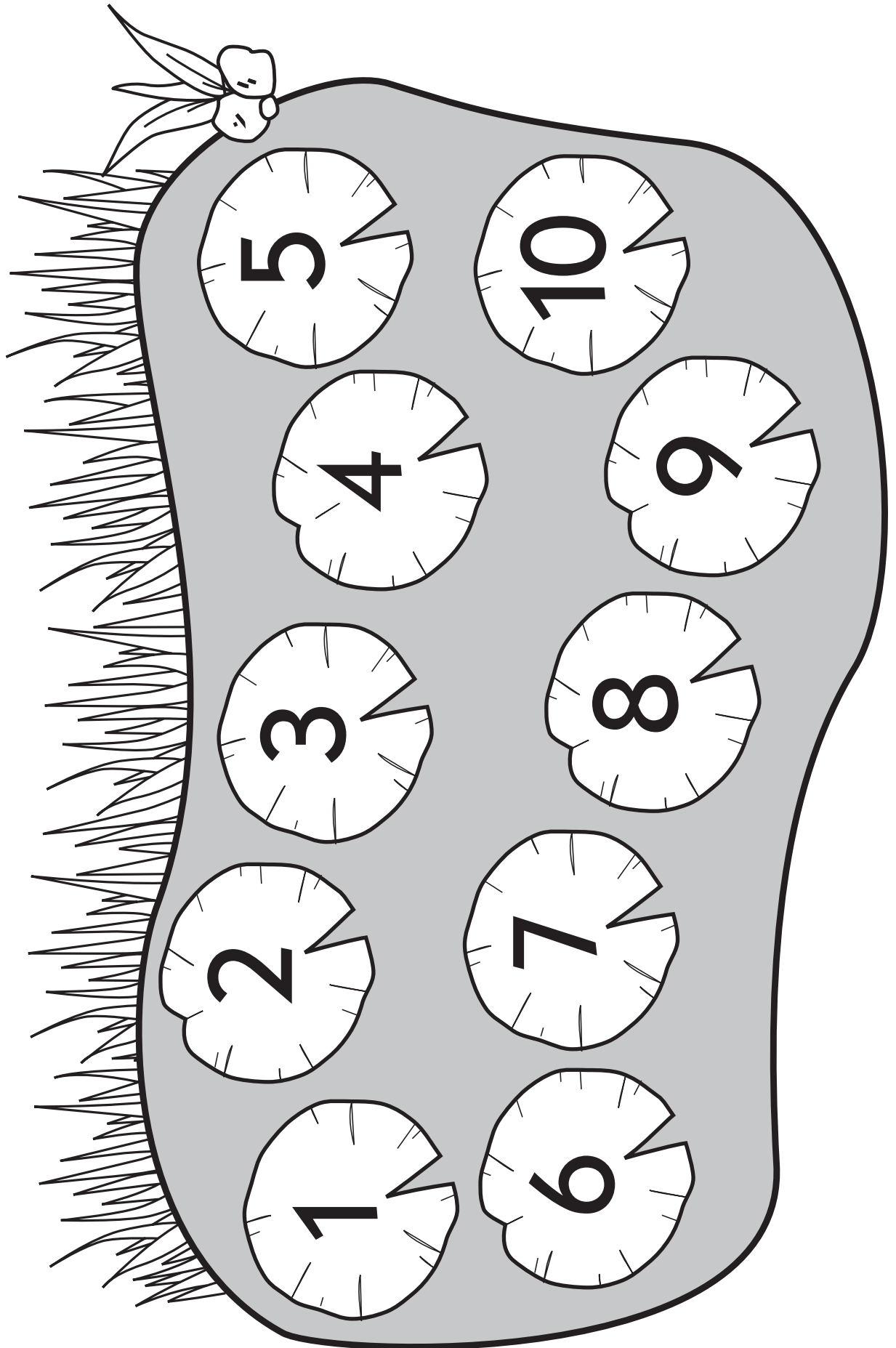
If children have difficulty keeping their frogs organized as they hop in and out of the pond, you might want to provide each player with a 6" x 9" piece of brown construction paper to serve as the bank of the pond, where the frogs that aren't in the pond can sit and sun themselves. An alternative would be to give each player a Counting Mat from your Bridges kit to serve as a resting place for the frogs that aren't in the pond.

Here are some questions you might ask, whether you are observing or playing with a small group of children:

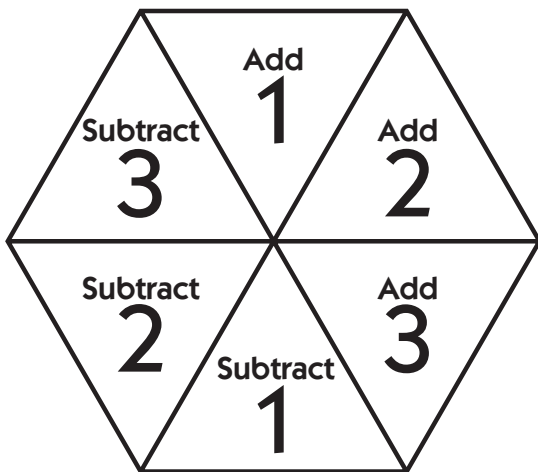
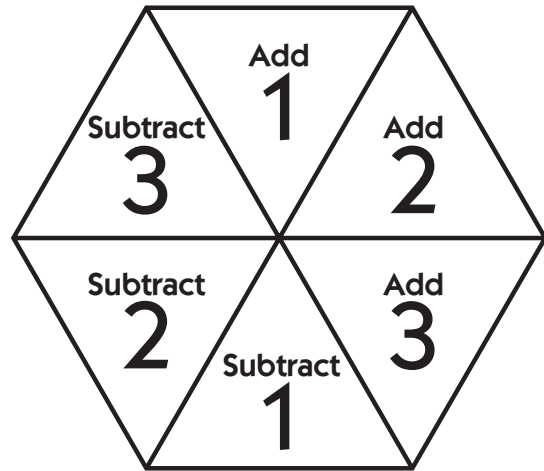
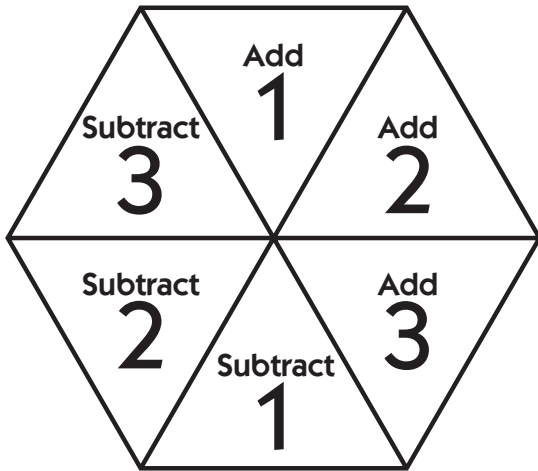
- How many frogs do you have in your pond right now?
- How many more frogs do you need to fill all 10 lily pads?
- How many more frogs does your partner need?
- Where do you want the spinner to land on your next turn? Why?
- Do you think you can win the game? How many more turns do you think it might take? Why?

Either before or after you introduce this game, you might want to read *Splash!* by Ann Jonas to your class. This delightful story is narrated by a little girl who has a pond in her backyard, along with a good collection of pets. It provides a nice introduction to addition and subtraction as the text follows the ins and outs of the pond-side animals.

# Frogs & Lillypads Board

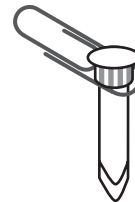


# Add & Subtract Spinners



## Spinner-Making Instructions

1. Poke a brass fastener through a  $\frac{1}{4}$ " length of drinking straw and a paperclip. Be sure to insert the brad and straw into the large end of the paperclip, as shown.



2. Keeping the straw and the paperclip on the brass fastener, insert it into the midpoint hole of the spinner. Once it has been pushed through to the back side, bend each side of the fastener flat against the underside of the gameboard. The section of straw should serve as a spacer so the brad doesn't push the paperclip flat against the gameboard and prevent it from spinning.

3. Give the paperclip a test spin to see if it works.

# Set A4 ★ Activity 6



## ACTIVITY

### Spin, Add & Compare

#### Overview

In Spin, Add & Compare, children spin 2 number spinners, build both quantities with Unifix cubes, add the cubes, and write an equation to show the results. After 3 rounds, partners each snap all their cubes together and compare their winnings. Although you will introduce an abbreviated form of the game to the whole class, and play it several times over a period of a few days, we recommend that you play the full version of Spin, Add & Compare with small groups before adding it to your current set of Work Places.

#### Skills & Concepts

- ★ use one-to-one correspondence to count and compare sets of objects to 30
- ★ read numerals to 5; write numerals to 30
- ★ model addition by joining sets of objects for numbers less than 10
- ★ record mathematical thinking by writing simple addition sentences

#### You'll need

- ★ Spin, Add & Compare Work Place Menu Card (from Work Place Menu Cards. page A4.27, run 1 copy on cardstock, cut apart and laminate if desired)
- ★ Introducing Spin, Add & Compare (page A4.64, run 1 copy on a transparency.)
- ★ 3 Spin, Add & Compare Spinners (page A4.65, see Advance Preparation.)
- ★ Spin, Add & Compare Record Sheet (page A4.66, run a class set)
- ★ Unifix cubes
- ★ pencils
- ★ crayons, felt markers, bingo daubers, or small stickers (optional)
- ★ helper jar containing a popsicle stick for each child with his/her name on it

.....

**Advance Preparation** Run 3 copies of page A4.65 on cardstock. Color the left spinner green and right spinner light blue. Cut page in half and laminate top half. Follow directions on bottom half to create spinners if overlay spinners are not available..

.....

#### Instructions for Introducing Spin, Add & Compare

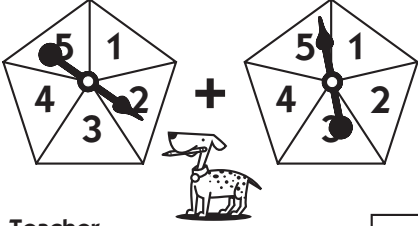
1. Gather children to your discussion area and seat them so they can all see the screen. Explain that you have a new game to play with them called Spin, Add & Compare. Display the game introduction transparency and give students a few moments to examine it quietly. Then tell them that the object of the game is to win the most cubes, and that you will take the first turn so they can see how to play.
2. Spin both spinners, and read the results with the class. If you added the two numbers, what would your total be? Give children a few moments to pair-share their ideas. Then work with input from the class to build the first quantity in the top row of the first frame using Unifix cubes in a single color. Do the same for the second quantity, using cubes of a different color. Ask children to add the cubes in the two rows and whisper the total to their nearest neighbors.

**Activity 6** Spin, Add & Compare (cont.)

3. Work with input from the class to record the results of your turn by writing an addition equation on the transparency.
4. Then have the class take their turn, pulling sticks from your helper jar to select children to spin the spinners and count out the cubes onto the board. Work with input from the class to write an equation to show their results.

Set A4 Number & Operations: Addition & Subtraction Blackline Run 1 copy on a transparency.

**Introducing Spin, Add & Compare**



**Teacher**


$$\begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$$

**Class**


$$\begin{array}{r} 2 \\ + 5 \\ \hline 7 \end{array}$$

5. Next, ask children to compare the two quantities. Who won more cubes, the teacher or the class? How do they know?

**Students** *We got more!*  
*We got 7. You only got 6.*  
*We got a whole row full but you didn't.*  
*Let's count them!*

6. Finally, use your helper jar to select two children to snap the cubes into two trains. Hold up the two trains side by side for the children to see, and work with their input to fill in the information at the bottom of the game sheet.

Who won more cubes? TEACHER CLASS TEACHER & CLASS WON THE SAME

The teacher won 6 cubes. The class won 7 cubes.



### Activity 6 Spin, Add & Compare (cont.)

7. Play this game several times with the class. Consider giving the children each 4 stacks of 5 cubes, each stack a different color, and having them build and add the quantities along with you. When they are familiar with the format, introduce and play the game as described below with small groups before adding it to your current set of Work Places.

## Work Place S5 Spin, Add & Compare

### This Work Place will need

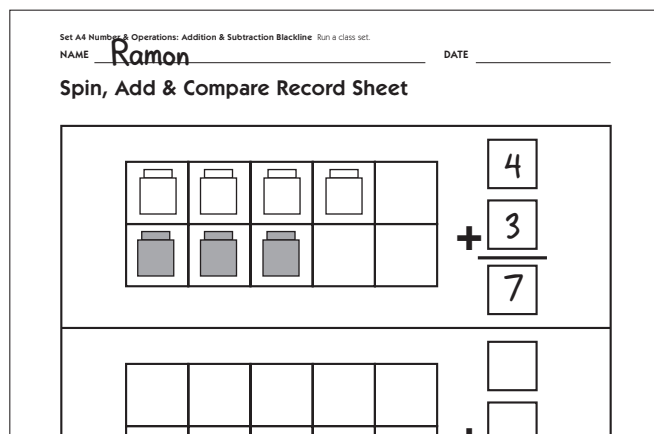
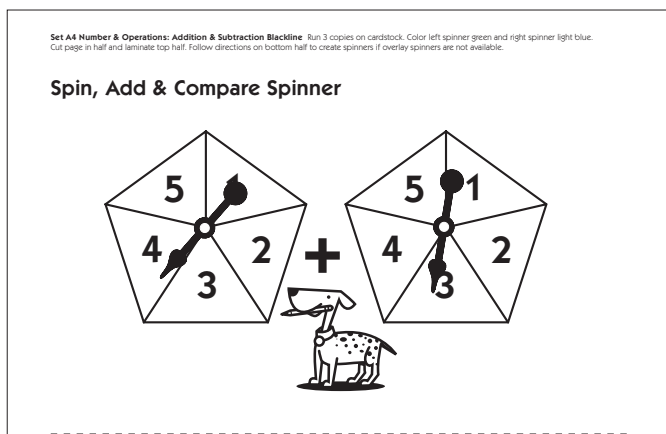
- ★ 3 Spin, Add & Compare spinners
- ★ Spin, Add & Compare Record sheets
- ★ six sets of 30 Unifix cubes; each set should include 5 cubes in each of 6 different colors
- ★ pencils
- ★ crayons, felt markers, bingo daubers, or small stickers (optional)

### Object of the Game

Collect the most Unifix cubes in three turns.

### Work Place Instructions

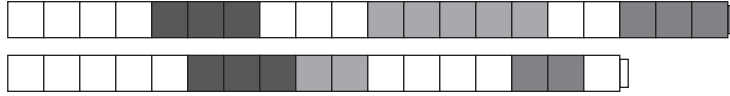
1. Each partner will need a record sheet, a set of Unifix cubes, and a pencil. Players will need a hard writing surface, and should work at a table rather than the floor, if possible.
2. The first player spins both the top and bottom spinners on the Spin, Add & Compare spinner. Then he/she sets out the specified quantity of Unifix cubes in the top and bottom row of the first frame on his/her record sheet, using a different color for each row. Next, he/she records how many cubes there are in each row, and their total when added.



3. The second player takes a turn to spin, build, and record on his/her sheet.
4. Players each take 2 more turns spinning, building, and recording addition combinations on their own sheets.

**Activity 6** Spin, Add & Compare (cont.)

5. Each player then removes all the cubes from his/her sheet and snaps them together. Players set their cube trains side by side to compare them, and record the results at the bottom of their sheets. Finally, each player counts all the cubes in his/her train and records that information at the bottom of the sheet as well.



Set A4 Number & Operations: Addition & Subtraction Blackline Run a class set.  
 NAME Ramon DATE \_\_\_\_\_

**Spin, Add & Compare Record Sheet**

0 1 2 3 4 5 6 7 8 9 10

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> </table>											<table style="margin: auto;"> <tr><td style="border: 1px solid black; padding: 2px;">4</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">+</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">3</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">—</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">7</td></tr> </table>	4	+	3	—	7
4																
+																
3																
—																
7																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> </table>											<table style="margin: auto;"> <tr><td style="border: 1px solid black; padding: 2px;">3</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">+</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">5</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">—</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">8</td></tr> </table>	3	+	5	—	8
3																
+																
5																
—																
8																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> </table>											<table style="margin: auto;"> <tr><td style="border: 1px solid black; padding: 2px;">2</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">+</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">3</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">—</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">5</td></tr> </table>	2	+	3	—	5
2																
+																
3																
—																
5																

Who won more cubes?  I DID  MY PARTNER DID  MY PARTNER & I WON THE SAME  
 I won 20 cubes. My partner won 17 cubes.

Set A4 Number & Operations: Addition & Subtraction Blackline Run a class set.  
 NAME SAM DATE \_\_\_\_\_

**Spin, Add & Compare Record Sheet**

0 1 2 3 4 5 6 7 8 9 10

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> </table>											<table style="margin: auto;"> <tr><td style="border: 1px solid black; padding: 2px;">5</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">+</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">3</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">—</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">8</td></tr> </table>	5	+	3	—	8
5																
+																
3																
—																
8																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> </table>											<table style="margin: auto;"> <tr><td style="border: 1px solid black; padding: 2px;">2</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">+</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">4</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">—</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">6</td></tr> </table>	2	+	4	—	6
2																
+																
4																
—																
6																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> <tr><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td><td style="width: 25px; height: 20px;"></td></tr> </table>											<table style="margin: auto;"> <tr><td style="border: 1px solid black; padding: 2px;">2</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">+</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">1</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">—</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">3</td></tr> </table>	2	+	1	—	3
2																
+																
1																
—																
3																

Who won more cubes? I DID   MY PARTNER DID  MY PARTNER & I WON THE SAME  
 I won 17 cubes. My partner won 20 cubes.

**Instructional Considerations for Spin, Add & Compare**

Although some of your students may have the skills to count the cubes in their train by pointing or touching, they will probably get more accurate results if you encourage them to break their trains apart one cube at a time, counting as they go.

You may need to simplify this game for some children by having each partner take just 2 or even 1 turn, instead of 3.

As an extension to this activity, students can be asked once they have completed the game to use crayons, felt markers, bingo daubers, or small stickers to show the number of cubes they got in each row. This gives children an opportunity to picture what has been recorded numerically.



**Activity 6** Spin, Add & Compare (cont.)

Set A4 Number & Operations: Addition & Subtraction Blackline Run a class set.

NAME Ramon DATE \_\_\_\_\_

**Spin, Add & Compare Record Sheet**

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </table>	X	X	X	X			0	0	0				$\begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array}$
X	X	X	X										
0	0	0											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">♥</td> <td style="text-align: center;">♥</td> <td style="text-align: center;">♥</td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;">e</td> <td style="text-align: center;">e</td> <td style="text-align: center;">e</td> <td style="text-align: center;">e</td> <td style="text-align: center;">e</td> <td style="text-align: center;"> </td> </tr> </table>	♥	♥	♥				e	e	e	e	e		$\begin{array}{r} 3 \\ + 5 \\ \hline 8 \end{array}$
♥	♥	♥											
e	e	e	e	e									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">□</td> <td style="text-align: center;">□</td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;">△</td> <td style="text-align: center;">△</td> <td style="text-align: center;">△</td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </table>	□	□					△	△	△				$\begin{array}{r} 2 \\ + 3 \\ \hline 5 \end{array}$
□	□												
△	△	△											

Who won more cubes?  I DID  MY PARTNER DID  MY PARTNER & I WON THE SAME

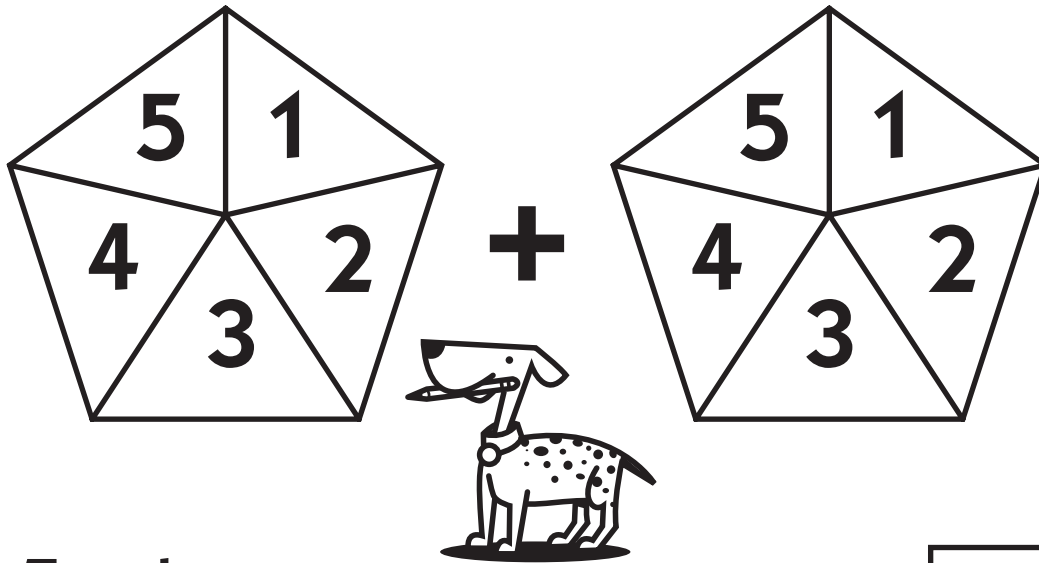
I won 20 cubes. My partner won 17 cubes.

**Note** The National Council of Teachers of Mathematics (NCTM) offers a collection of free online computer activities for K-12 students on their Illuminations web site (<http://illuminations.nctm.org/>). One of the activities on the web site is called Ten Frame, and can be reached directly by going to the following URL:

<http://illuminations.nctm.org/ActivityDetail.aspx?ID=75>

Ten Frame allows children to count, build, and add quantities in ten frames on screen, and provides a nice way to reinforce and extend the skills introduced in Spin, Add & Compare. You might consider adding Ten Frame to your Work Places, or linking parents to the activity so children can use it at home on their own computer.

# Introducing Spin, Add & Compare



**Teacher**


+	

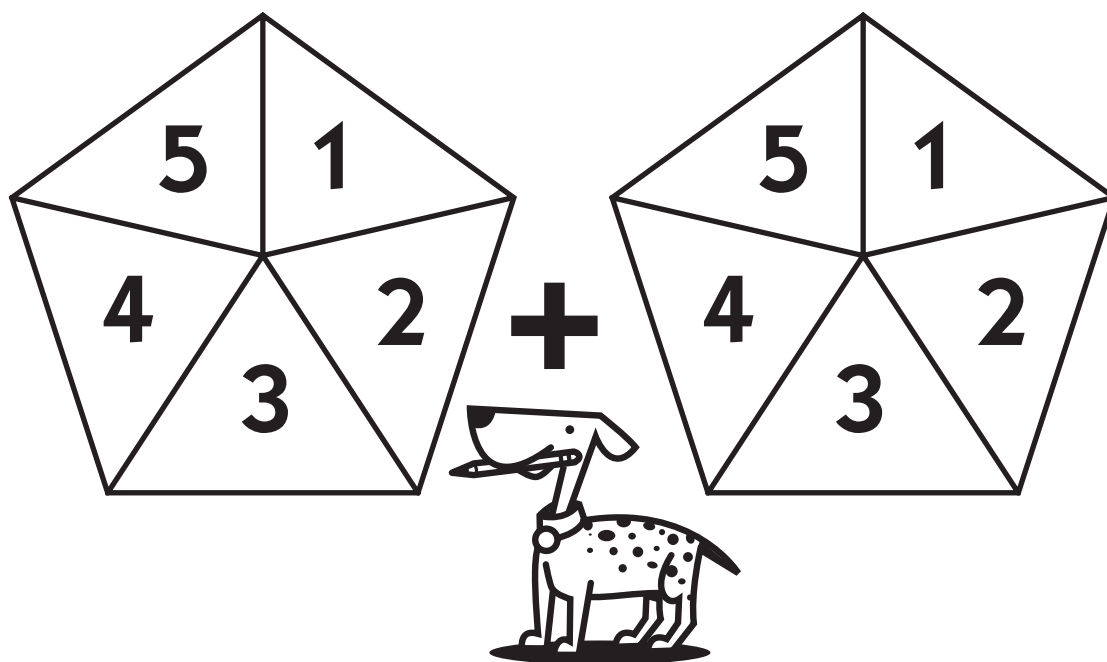
**Class**


+	

Who won more cubes?    TEACHER    CLASS    TEACHER & CLASS WON THE SAME

The teacher won \_\_\_\_\_ cubes. The class won \_\_\_\_\_ cubes.

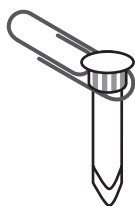
## Spin, Add & Compare Spinner



---

### Spinner-Making Instructions

1. Poke a brass fastener through a  $\frac{1}{4}$ " length of drinking straw and a paperclip. Be sure to insert the brad and straw into the large end of the paperclip, as shown.



2. Keeping the straw and the paperclip on the brass fastener, insert it into the midpoint hole of the spinner. Once it has been pushed through to the back side, bend each side of the fastener flat against the underside of the gameboard. The section of straw should serve as a spacer so the brad doesn't push the paperclip flat against the gameboard and prevent it from spinning.

3. Give the paperclip a test spin to see if it works.



# Set A4 ★ Activity 7



## ACTIVITY

### Bug Catchers

#### Overview

Bug Catchers is an individual activity rather than a partner game, in which children set out a number of plastic bugs, “catch” some of them, and write a subtraction equation to represent the transaction.

#### Skills & Concepts

- ★ compose and decompose numbers to 10
- ★ model subtraction by removing objects from sets for numbers less than 10
- ★ verbally describe mathematical relationships involving subtraction situations for numbers less than 10
- ★ record mathematical thinking by writing simple subtraction sentences

#### You'll need

- ★ Bug Catcher Record Sheet (page A4.71, run a class set)
- ★ 6 Bug Catcher Spinners (page A4.72, run 3 copies on cardstock. See Advance Preparation.)
- ★ 6 Counting Mats (introduced in Bridges, Session 4)
- ★ Bucket of Bugs
- ★ Pencils
- ★ individual chalkboard/whiteboard, chalk/pen, and eraser for each student

.....

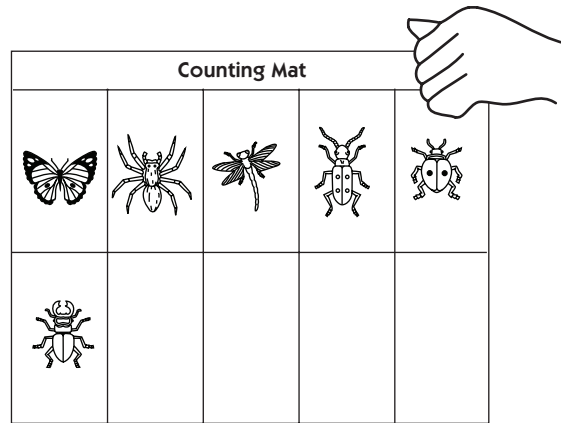
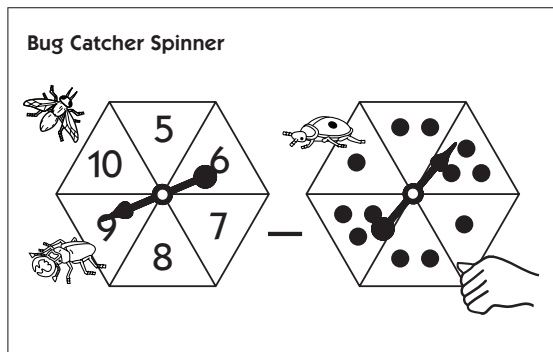
**Advance Preparation** Run 3 copies of page A4.72 on cardstock. Color each of the number spinners green. Color each of the dot spinners pink. Cut sheet in half and laminate. Follow directions on page A4.65 to create spinners (unless clear overlay spinners are available).

.....

#### Instructions for Introducing Bug Catchers

1. Ask children to each get a chalkboard/whiteboard, piece of chalk/pen, and an eraser, and join you in the discussion area. Ask them to form a circle and place their writing materials on the floor in front of them.
2. Explain that you are going to introduce a new Work Place called Bug Catchers. Set out a counting mat, a handful of bugs, and a spinner. These are some of the materials you'll need to do the activity. Let the children know that this is an individual activity rather than a partner game, and will help them learn more about subtraction.
3. As students watch, spin the numeral side of the spinner. Work with their help and input to read the numeral and place that many bugs on the counting mat. Then spin the dotted side of the spinner. When it lands, ask students to name the quantity, and explain that the dots show how many bugs you get to catch. Place your hand dramatically over that many bugs and remove them from the counting mat, holding them in your fist. How many bugs are still left on the mat? How many bugs are you holding in your hand? Ask students to pair-share ideas, and then call on volunteers to share with the class. As they share, encourage them to explain their answers.

## Activity 7 Bug Catchers (cont.)



**Maribel** 6 bugs left, even the butterfly.

**Teacher** Maribel says there are 6 bugs left on the mat. Thumbs up if you agree. How do you know for sure?

**Students** There are 5 on top and 1 on the bottom. That's 6!

1, 2, 3, 4, 5, 6!

2 up and down, and 4 more. That's 6!

**Teacher** How many bugs am I holding in my hand?

**Gerald** 4, I think, because there are 4 empty boxes on there.

**Teacher** Gerald says there are 4 bugs in my hand. Thumbs up if you agree. How do you know for sure?

**Students** There are 4 empty boxes.

But there were only 9 bugs to start. I think teacher has 3.

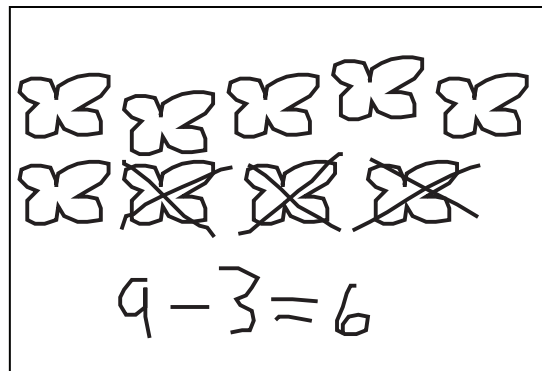
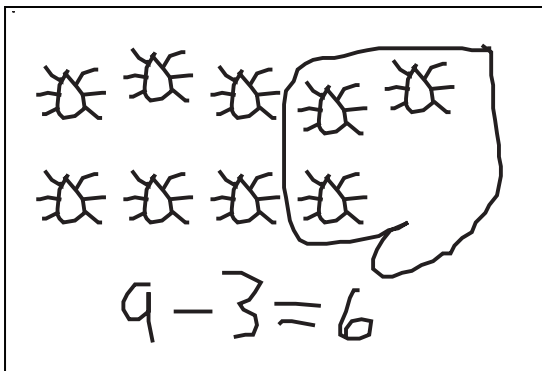
Can we see?

4. Open your hand so students can see how many bugs you caught. Then work with input from the children to re-enact the story.

**Teacher** I spun 9 so I put 9 bugs on the mat. Are there 9 here? Oh, okay. I guess I need to put these 3 bugs back on the mat. Are there 9 now? Okay! Then what happened? Right! I spun 3 dots, so I caught 3 bugs and left the rest on the mat. Max, can you come and catch 3 bugs from the mat? How many bugs are left? How many bugs does Max have in his hand?

5. Ask students to each draw a picture on their board to show the bug catching story you re-enacted. Model as necessary at the whiteboard or on a piece of chart paper. Then work with the students to write an equation that represents the transaction.

**Activity 7** Bug Catchers (cont.)



6. Repeat the teaching sequence described above several times over the course of a week or two, before you introduce the Work Place and add it to your current collection of Work Places.

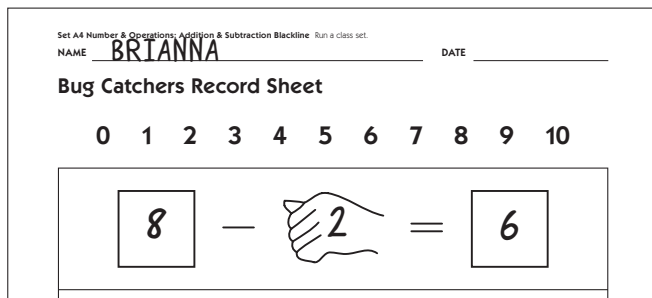
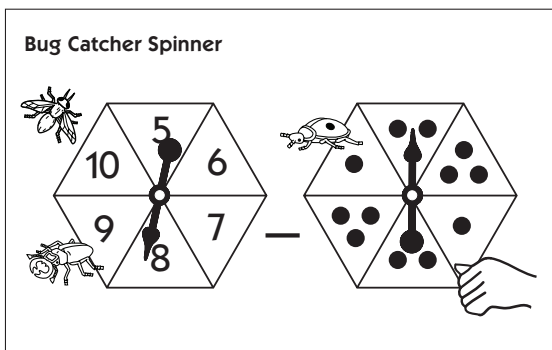
**Work Place S6** Bug Catchers

**This Work Place will need**

- ★ Bug Catcher Record Sheet (page A4.71, run a class set)
- ★ 6 Bug Catcher Spinners (page A4.72, run 3 copies on cardstock.)
- ★ 6 Counting Mats (introduced in Bridges, Session 4)
- ★ Bucket of Bugs
- ★ Pencils

**Work Place Instructions**

1. Get a spinner, a record sheet, a counting mat, 10 bugs, and a pencil. Work at a table instead of the floor if possible because you need a hard writing surface.
2. Spin the number spinner, and place that many bugs on your counting mat. Write the number on your record sheet.
3. Spin the dot spinner. Catch that many bugs and take them off the counting mat.
4. Record the number of bugs you caught and the number of bugs still left on your counting mat.



## Activity 7 Bug Catchers (cont.)

5. Repeat these steps four more times so that your record sheet is full.

### Instructional Considerations for Bug Catchers

Even though this Work Place is an individual activity rather than a game, you might want to encourage children to work in pairs so they can tell their bug catching stories to each other, as well as share and compare their work.

Some children may need to work with support from older students or parent volunteers. Bug Catchers is a good activity to use in a small group setting as well as during Work Places.

### Questions to ask:

How do you know how many bugs to start with? How do you know how many you get to catch?

Can you tell me the story of your first equation? How many bugs did you put on your board to start?

How many bugs were left? What does this number at the end of the sentence mean? Oh, it's the number of bugs that were left on the mat? What happened to the other ones?

.....  
**Note** The National Council of Teachers of Mathematics (NCTM) offers a collection of free online computer activities for K-12 students on their Illuminations web site (<http://illuminations.nctm.org/>). One of the activities on the web site is called *How Many Under the Shell*, and can be reached directly by going to the following URL: <http://illuminations.nctm.org/ActivityDetail.aspx?ID=198>

*How Many Under the Shell* features an animated Octopus who hides some bubbles under a shell, and then either adds more bubbles or takes some away. Students have to figure out how many bubbles are under the shell once Okta has made the transaction. This online activity provides a nice way to reinforce and extend the skills introduced in *Bug Catchers*. You might consider adding *How Many Under the Shell* to your Work Places, or linking parents to the activity so children can use it at home on their own computer.

.....



NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Bug Catchers Record Sheet

0 1 2 3 4 5 6 7 8 9 10

$$\square - \text{hand} = \square$$

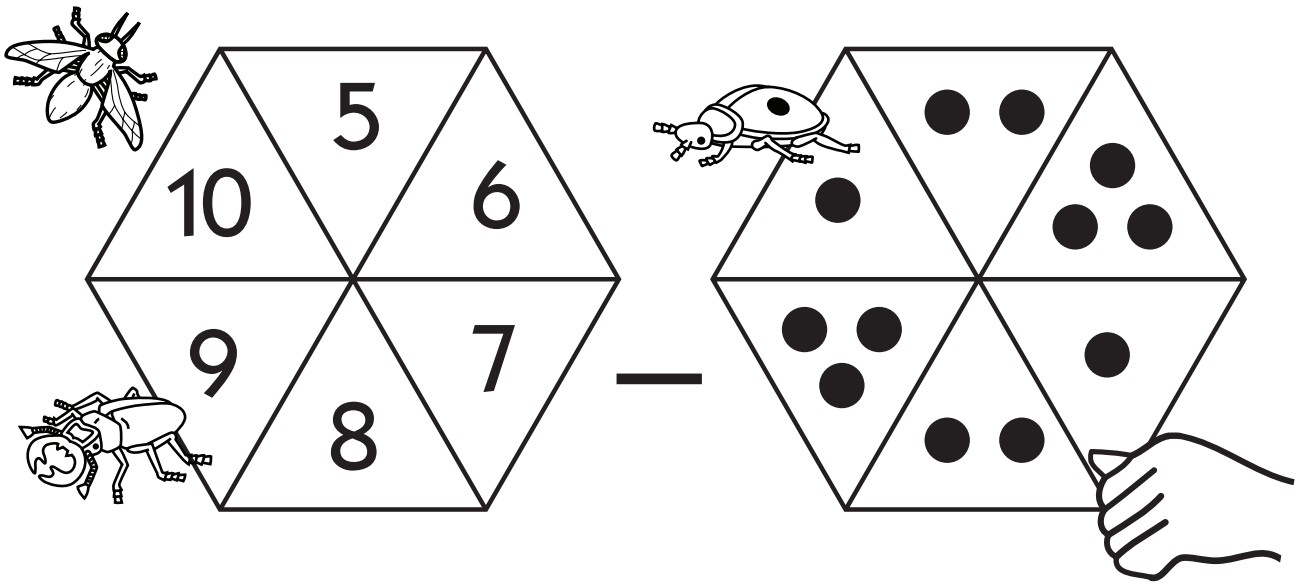
$$\square - \text{hand} = \square$$

$$\square - \text{hand} = \square$$

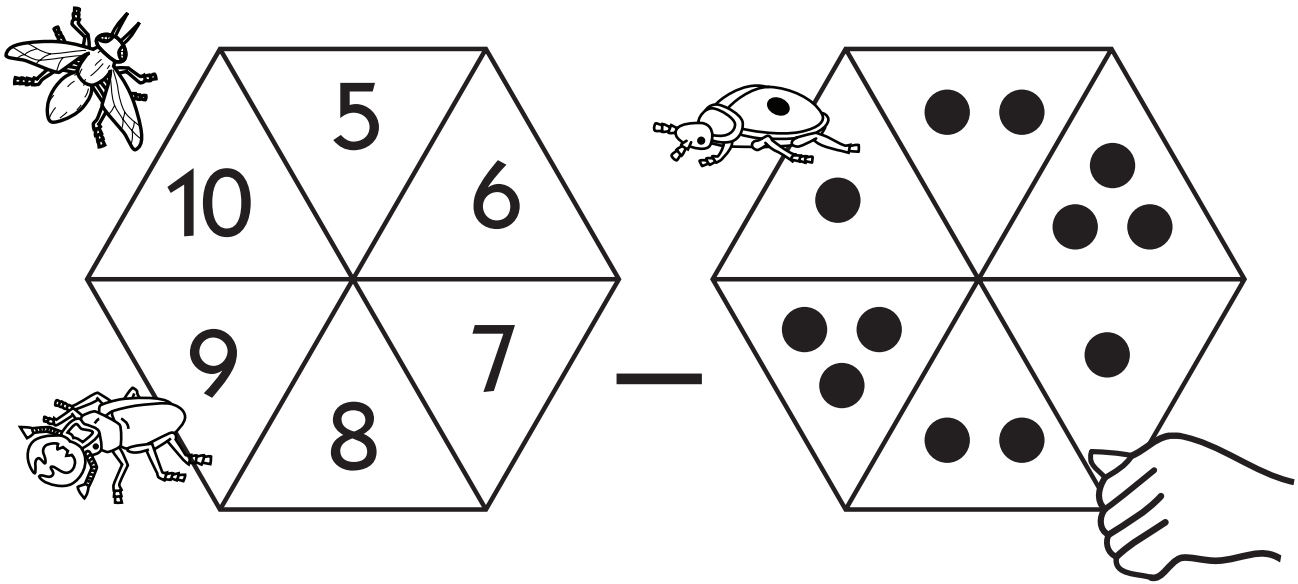
$$\square - \text{hand} = \square$$

$$\square - \text{hand} = \square$$

## Bug Catcher Spinner



## Bug Catcher Spinner



# Set A4 ★ Activity 8



## ACTIVITY

### Piggy Banks

#### Overview

Piggy Banks is an individual activity rather than a partner game, in which children set out a number of pennies, drop some of them into a paper cup piggy bank, and write a subtraction equation to represent the transaction.

#### Skills & Concepts

- ★ composing and decomposing numbers to 10
- ★ model subtraction by removing objects from sets for numbers 10 or less
- ★ counting backwards to subtract
- ★ verbally describe mathematical relationships involving subtraction situations for numbers 10 or less
- ★ record mathematical thinking by writing simple subtraction sentences

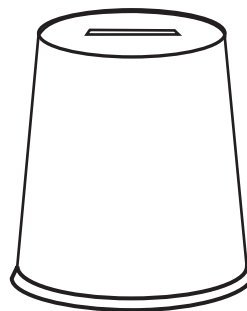
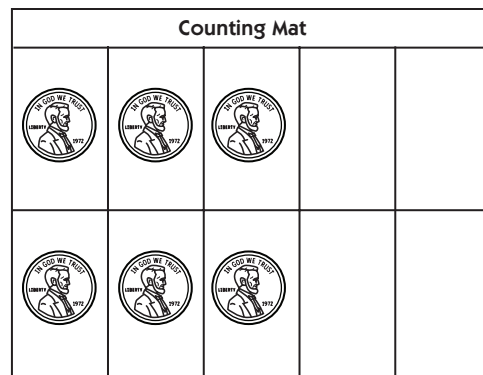
#### You'll need

- ★ 6 Piggy Bank Spinners (page A4.77, run 3 copies on cardstock)
- ★ Piggy Bank Record Sheet (page A4.78, run as needed)
- ★ 6 Counting Mats (introduced in Bridges, Session 4)
- ★ 6 small paper cups and 1 large paper cup (see Advance Preparation)
- ★ 60 real pennies
- ★ pencils
- ★ a metal or plastic tray

.....  
**Advance Preparation** Cut a slot a little wider and longer than a penny in the bottom of each paper cup. Decorate the large cup by gluing on a pair of paper ears and drawing a piggy face on one side if you like.  
 .....

#### Instructions for Introducing Piggy Banks

1. Ask children to join you in the discussion area and form a circle. Explain that you are going to introduce a new Work Place called Piggy Banks. Place the metal or plastic tray in the middle of the circle where children can see it, but you can still reach it easily as you sit at the edge of the circle.
2. Show students the large paper cup, and explain that it is your piggy bank. Demonstrate that you can drop a penny through the slot at the top. Then place the “bank” on the metal or plastic tray, bottom up, so the slot is accessible.
3. Place the counting mat beside the tray and set 10 pennies onto the mat as the children count with you. Explain that you are going to save some of these pennies by dropping them into your bank. Ask students to close their eyes and listen for the sound of the pennies dropping into the bank; they'll need to be extra quiet! Remove 4 pennies from the counting mat one by one, dropping them into the bank as you go.
4. Ask children to keep their eyes shut and show with their fingers how many pennies you dropped into the bank. Then have them open their eyes. How many pennies did you put in the bank? How many pennies do you have left on the mat? How do they know? Have them pair-share their ideas and then ask a few volunteers to share with the group. Encourage them to explain their answers.



**Students** You put 4 in the cup because I heard them.

It's 6 on the mat 'cause 3 and 3.

I know you did 4 because there are 4 empty spaces on the mat.

There were 10 but now only 6. That's 'cause 10 take away 4 is 6.

Can we see?

5. Lift up the cup and show children that you put 4 pennies in the bank. What will happen if you take the pennies out of the bank and put them back on the mat? Will you have 10 again? Why?

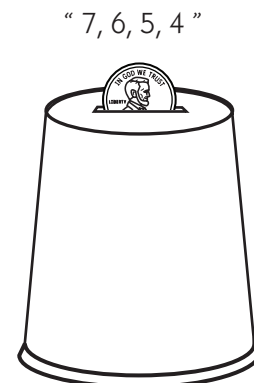
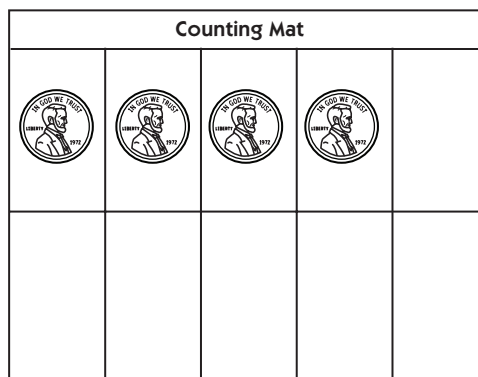
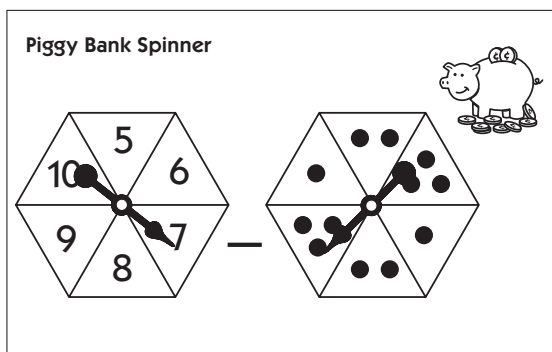
**Students** Because 6 and 4 is 10.

It goes 6, 7, 8, 9, 10.

6. Return the pennies to the counting mat, and repeat steps 3–5 several times. Drop a different number of pennies into the bank each time, but no more than 5.

7. Now clear all 10 pennies off the mat. Show children the Piggy Bank spinner. Explain that the spinner will tell you how many pennies to start with on the counting mat, and how many to put in the bank. Then spin the numeral side of the spinner. Read the numeral the spinner lands on with the students, and call on a volunteer to count that many pennies onto the mat.

8. Now spin the dotted side of the spinner. How many pennies does it tell you to put into the piggy bank? How many pennies will you have left on the mat? Ask children to pair-share their ideas, and then call on a couple of volunteers to share. Then ask children to show on their fingers how many pennies there are on the mat right now. Have them count backward from that number with you as you drop the specified quantity of pennies into the bank. How many pennies are left on the mat? Does that number match the last number they named as they were counting backwards? Why?



9. Repeat steps 7 and 8 once or twice more, and promise to return to the activity the next day.

10. Prior to sending children out to do Work Places the following day, set up the spinner, counting mat, piggy bank on the tray, and pennies again as the students join you in the discussion circle. Ask them to each bring a chalkboard/whiteboard, piece of chalk/pen, and eraser to the circle. Repeat steps 7 and 8 several times, but this time, record an equation to show the transaction on the board, while children work on their own boards.

11. Show children the Piggy Bank Work Place and make it available as one of the day's choices. As soon as students are settled, meet with the group of children who chose to go to the Piggy Bank activity to help them get started. Call other small groups to join you at that Work Place over the next few days as time allows.

## Work Place S7

**Piggy Banks** This Work Place will need

- ★ 6 Piggy Bank Spinners (page A4.77, run 3 copies on cardstock)
- ★ Piggy Bank Record Sheet (page A4.78, run as needed)
- ★ 6 Counting Mats (introduced in Bridges, Session 4)
- ★ 6 small paper cups (see Advance Preparation)
- ★ 60 pennies
- ★ pencils

### Work Place Instructions

1. Get a spinner, a record sheet, a counting mat, a paper cup, 10 pennies, and a pencil. Work at a table instead of the floor if possible because you need a hard writing surface.
2. Spin the number spinner, and place that many pennies on your counting mat. Write the number on your record sheet.
3. Spin the dot spinner, and write the number on the piggy bank's nose because that is how many pennies you will put into the bank.
4. Count backwards from the starting number as you drop each penny into the bank.

5. Record the number of pennies still left on the mat after you put some in the bank.

**Piggy Bank Spinner**

**Counting Mat**


“ 6, 5, 4, 3 ”

Set A4 Number & Operations: Addition & Subtraction Blackline Run as needed

NAME Maria DATE \_\_\_\_\_

**Piggy Bank Record Sheet**

0 1 2 3 4 5 6 7 8 9 10

6	—		=	3
	—		=	

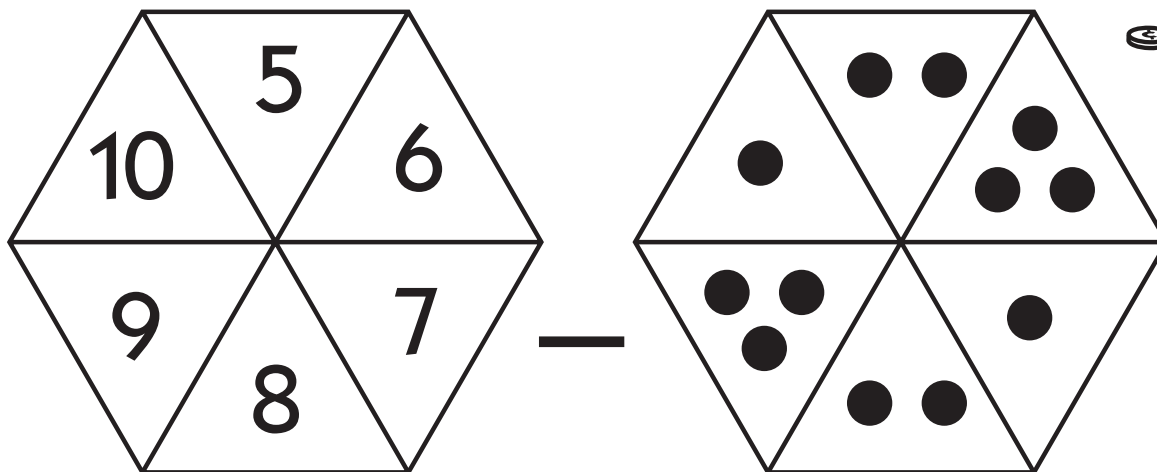
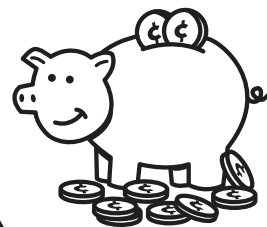
6. Repeat these steps four more times so that your record sheet is full.

**Instructional Considerations for Piggy Banks**

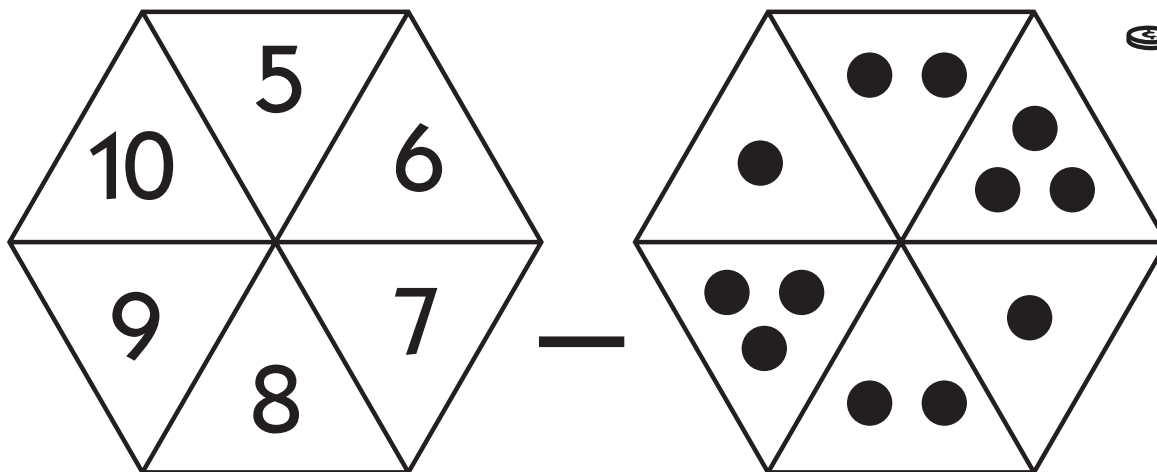
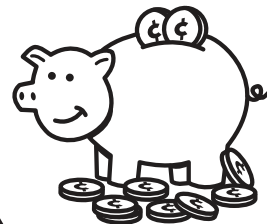
Even though this Work Place is an individual activity rather than a game, you might want to encourage children to work in pairs so they can tell their piggy bank stories to each other, as well as share and compare their work.

Some children may need to work with support from older students or parent volunteers, especially to develop the skill of counting backwards to subtract. Piggy Banks can be used in a small group setting as well as a Work Place.

## Piggy Bank Spinner



## Piggy Bank Spinner



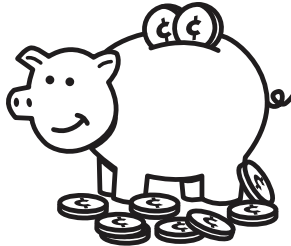
NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Piggy Bank Record Sheet

0 1 2 3 4 5 6 7 8 9 10

—



=

—



=

—



=

—



=

—



=





# KINDERGARTEN SUPPLEMENT

---

## Set A6 Number & Operations: One Dot, Many Dots Calendar Pattern

### Includes

October Calendar Pattern

A6.1

### Skills & Concepts

- ★ compare sets of objects and determine whether they have the same, fewer, or more objects
- ★ use and understand the words *one/many, none/some/all, more/less, most/least, equal to/more than/less than*
- ★ describe numbers using 5 as a benchmark
- ★ describe and extend simple growing and repeating patterns
- ★ count and read numerals to 31
- ★ identify ordinal positions through the 31st

**Bridges in Mathematics Kindergarten Supplement**

**Set A6** Number & Operations: One Dot, Many Dots Calendar Pattern

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2010 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0510

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).

# Set A6 ★ October Calendar Pattern



## CALENDAR GRID

### One Dot, Many Dots

#### Overview

This set of Calendar Grid markers replaces the student-made markers in the month of October, and provides opportunities for kindergartners to count and compare sets to 31.

#### Skills & Concepts

- ★ compare sets of objects and determine whether they have the same, fewer, or more objects
- ★ use and understand the words *one/many, none/some/all, more/less, most/least, equal to/more than/less than*
- ★ describe numbers using 5 as a benchmark
- ★ describe and extend simple growing and repeating patterns
- ★ count and read numerals to 31

#### You'll need

- ★ Calendar Grid pocket chart
- ★ Day, Month, and Year Calendar Grid cards
- ★ One Dot, Many Dots Calendar Markers (available at <http://gotomlc.org/calmarkers>) Print 1 copy of the calendar marker sheets in color, single-sided, on white cardstock. Cut the calendar markers apart and laminate if desired.
- ★ Comparison Word Resource Cards (pages A6.7–A6.11, see Advance Preparation)
- ★ 2 pieces of lined chart paper (see Advance Preparation)
- ★ red and blue Unifix cubes
- ★ chart paper or whiteboard near calendar display
- ★ helper jar containing a popsicle stick for each child with his/her name on it

**Advance Preparation** Run 1 copy of the Comparison Word Resource Cards on paper or cardstock. Cut the cards apart and laminate if desired. Post the 10 cards to the left of your calendar grid, or in a pocket chart near the grid if you don't have room on the wall. Finally, draw 4 columns on both sheets of lined chart paper, as shown below. Add a title and column labels to the first sheet, and post the sheet next to your calendar grid pocket chart. Keep the second sheet in reserve until the middle of the month, and then attach it to the first so you can continue to record observations through the entire month.

One Dot, Many Dots			
How Many Dots?	Red	Blue	Comparison

## October Calendar Pattern (cont.)

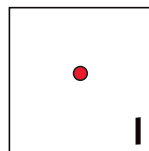
**Background for the Teacher: Growing Patterns** While we often introduce patterns as sequences composed of core units (e.g., AB, ABB, ABC, and so on) that repeat over and over, it is important for young learners to understand that patterns can also be sequences of shapes or numbers that grow in some predictable way. One Dot, Many Dots is a simple growing pattern that adds 1 dot per day to a growing collection. However, if you examine the first few markers in the sequence, you can observe a variety of other patterns as well.

October						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14

You might notice, for instance, that there is an equal number of red and blue dots on every even-numbered marker. Every fourth marker, starting with Marker 1, displays dots in only one color, and the colors alternate. Marker 1 shows one red dot. Marker 5 shows five blue dots. Marker 9 shows nine red dots, Marker 13 shows thirteen blue dots, and so on. Then there is the fact that the dots are looped in groups of 5 to make them easier to count. As the month unfolds, students might notice that every fifth marker, starting with Marker 5, another loop appears. While some of your students may benefit primarily from the daily opportunities to count and compare sets, rest assured that others will discover some of the patterns mentioned here, as well as others, especially if you are alert to the many possibilities.

### Introducing the One Dot, Many Dots Calendar Grid Pattern: Day 1

Open your first Number Corner lesson in October by directing students' attention to the calendar grid. Explain that you will put up a new calendar marker as each day of October passes. Place the first marker in the correct pocket, and ask children to pair-share observations. What do they notice about this marker? After a few moments, pull popsicle sticks from your helper jar to call on children to share their observations with the class.



**Students** It's a tiny little circle.

Red—little red dot.

It's so little I can hardly see it!

Then ask children to predict what they might see on the marker for the following day.

**Students** Maybe another dot!

It could be a blue or green one

Or maybe a square not a circle.

I think it will be two dots!

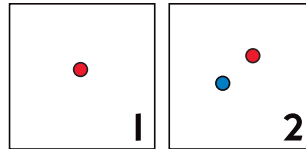
## October Calendar Pattern (cont.)

**Teacher** *Why do you think we might see two dots tomorrow, Hannah?*

**Hannah** *Because today is number 1 and there's 1 dot. Tomorrow will be 2, so maybe there will be 2 dots.*

### Introducing the One Dot, Many Dots Calendar Grid Pattern: Day 2

The next day, invite children to predict what Marker 2 will show, and then place it on display in the correct pocket. Ask children to pair-share observations, and then call on a few volunteers to share with the group.



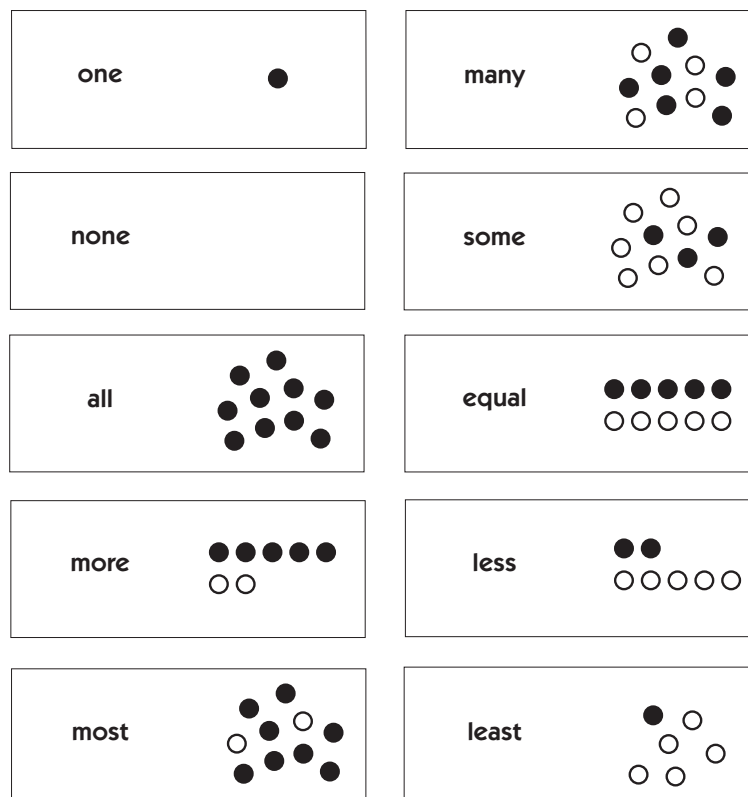
**Students** *It is two dots—I was right!*

*One of them is red. The other one is blue.*

*First 1 dot. Now 2. Maybe there will be 3 tomorrow.*

*Maybe another color, too, like green.*

Next, draw children's attention to the word cards you have posted near the calendar grid. Explain that these are words people use when they count and compare sets of objects. Choose 2 or 3 of the cards to read to the children. As you read each, challenge the students to use it to describe the markers you have posted so far.



## October Calendar Pattern (cont.)

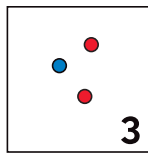
**Teacher** So there are an equal number of reds and blues on this marker?

**Justin** Yes! One of red and one of blue.

**Teacher** Equal is on one of our word cards. Let's see—here it is.

## Continuing through October with the Calendar Grid

The next day, have children predict what Marker 3 will show, and then place it on display in the correct pocket. Have students pair-share observations, and then call on a few volunteers to share with the group. During the discussion, introduce a couple more word cards, and challenge children to utilize these words in their observations.



**Students** 3 dots today, I knew it!

There are more reds.

Some are red and one is blue.

All of them are round.

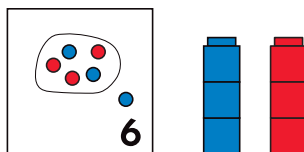
Then draw students' attention to the recording chart you have prepared. Work with input from the class to enter information about the first 3 markers.

One Dot, Many Dots			
How Many Dots?	Red	Blue	Comparison
1	1	0	There is only 1 red dot
2	1	1	Red and blue are equal. $1 = 1$
3	2	1	There are more reds than blues. $2 > 1$

Over the next few days, introduce the rest of the word cards and encourage children to use them as they make their predictions and observations about the markers. Once the marker for the day has been posted, have students count the total number of dots on that marker, and compare the sets of reds and blues that appear. Work with their input to record a comparison statement, along with the other information about the dots, on the chart.

**Note** Starting on the 4th or 5th day, ask a volunteer to set out 1 red or blue Unifix cube for each dot on the day's marker, and then link the cubes into stacks by color. Have the other students count along with your volunteer, and then place the stacks on display for all to see. This will make it easier for students to see and compare the quantities, and will become increasingly important as the number of dots increases through the month.

## October Calendar Pattern (cont.)



**Students** *It's 3 reds and 3 blues today!*

*They're the same number.*

*The cubes come up to the same place.*

*They're equal!*

Here are some questions and prompts to use throughout the month:

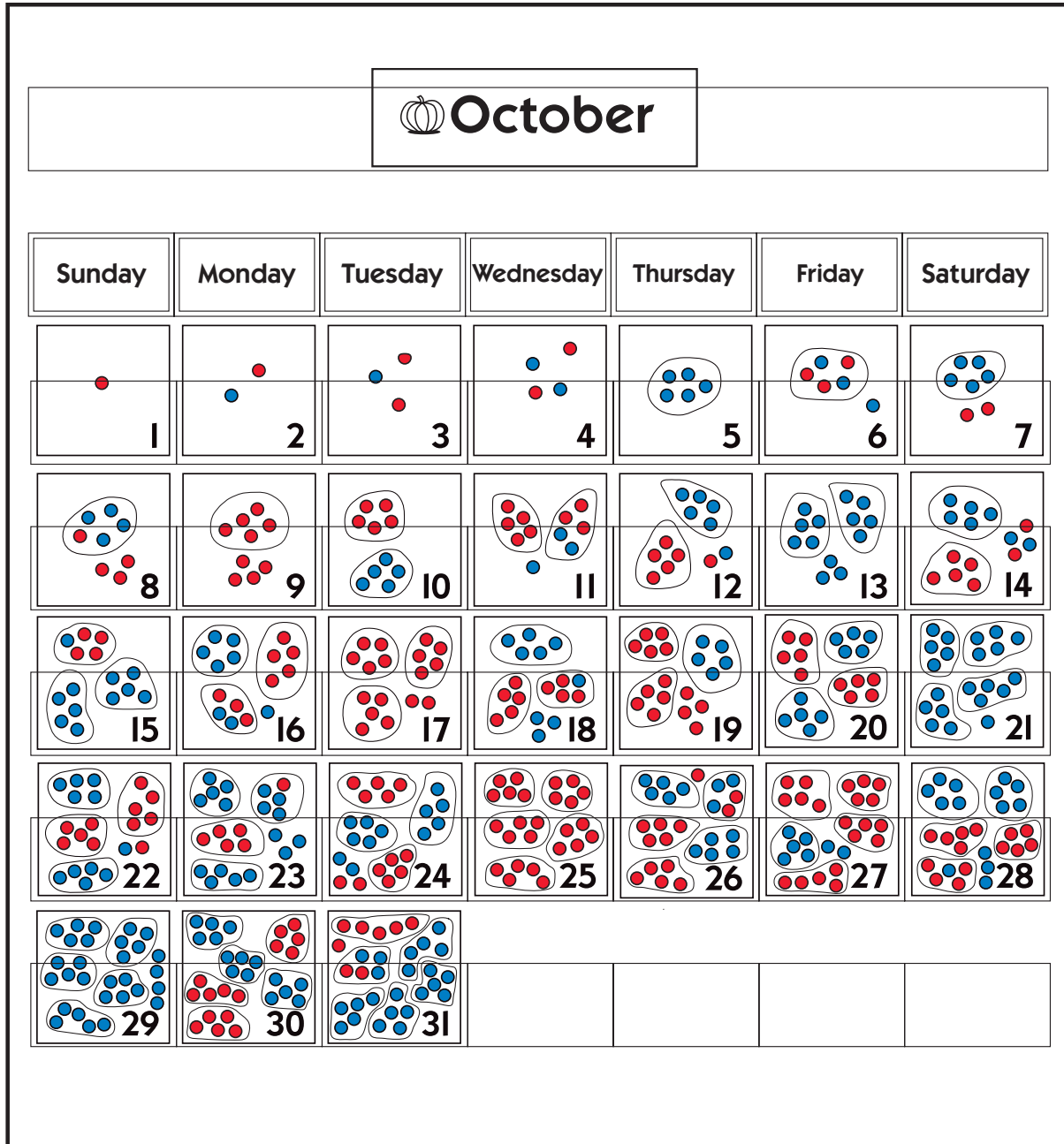
- How many dots are there on the marker today? How many are red? How many are blue?
- Are there more blue or more red dots? How do you know?
- How many dots will we see on tomorrow's marker? How do you know?
- Do you think there will be more reds, more blues, or an equal number of each color on our next marker? Why?
- Are there any markers where all of the dots are the same color? Which ones? Do you think there will be other markers like that this month? Can you point to where you think the next one will show up? Why do you think it will be there?
- Which markers so far have an equal number of red and blue dots? Do you think we'll see any other markers like that this month? Which ones? How do you know?
- Which marker so far has the most blue dots? The least or fewest blue dots? The most red dots? The least or fewest red dots?

### Extensions

- After the fifth of the month, work with children to count the quantities of dots by 5's and 1's, as well as 1 by 1 each day.
- In addition to recording a comparison statement for the marker each day, write an equation to reflect the blues, the reds, and the total (e.g.,  $3 + 3 = 6$ ).
- It won't be long before some students discover that every other marker in the sequence is composed of an equal number of red and blue dots. When this comes up, take the opportunity to introduce the idea of even numbers as quantities where each member of the set has a partner.
- Encourage children to use red and blue Unifix cubes to build their predictions about upcoming markers. Prediction trains can be placed near the calendar grid and examined the following day as the next marker is posted.

October Calendar Pattern (cont.)

**NOTE** Below is a representation of the October calendar grid. The full-size calendar markers are available at <http://gotomlc.org/calmarkers>.





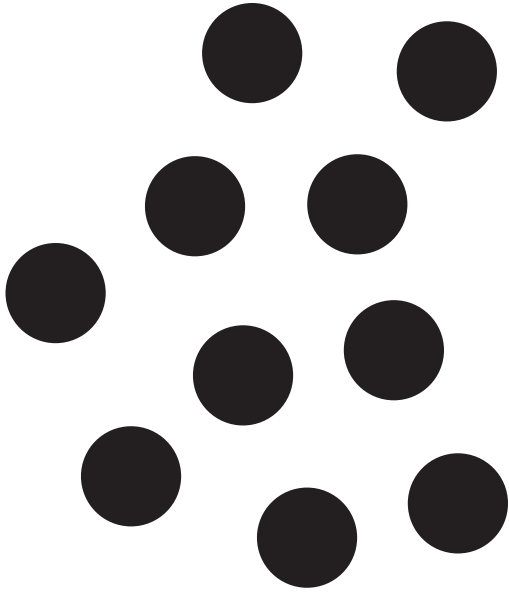
# Comparison Word Resource Cards page 1 of 5



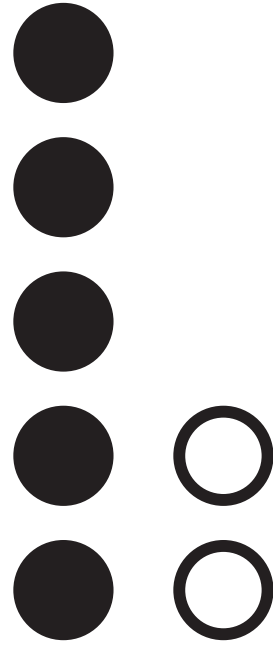
**one**

**none**

## Comparison Word Resource Cards page 2 of 5

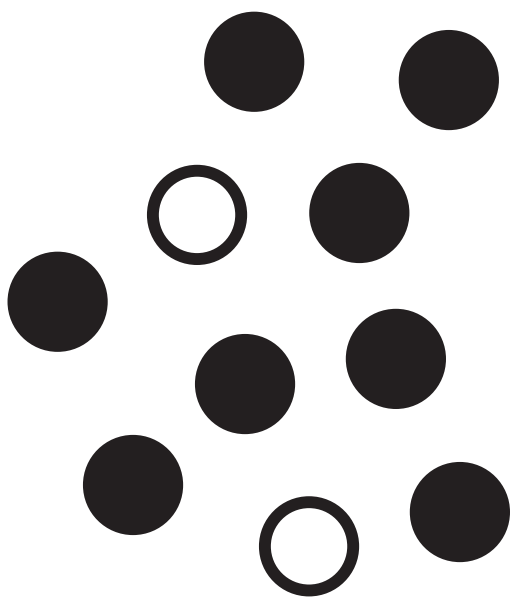


**all**

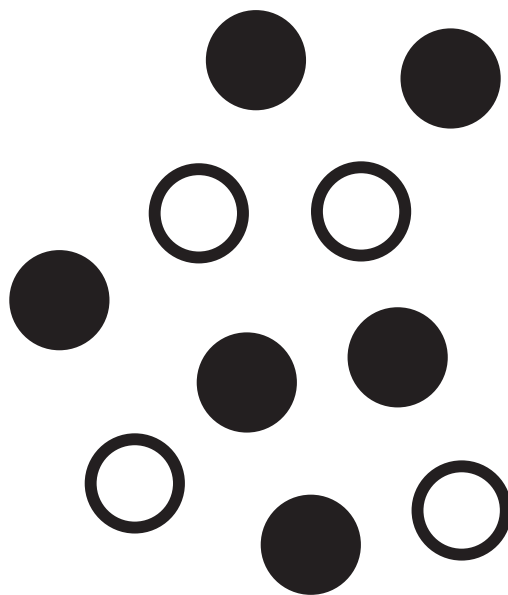


**more**

# Comparison Word Resource Cards page 3 of 5

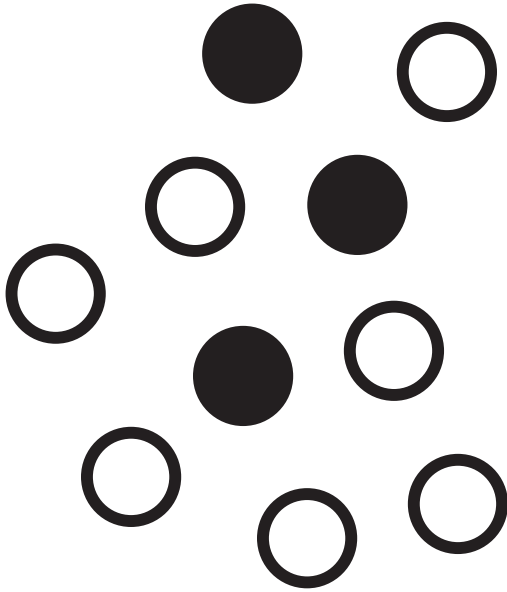


**most**

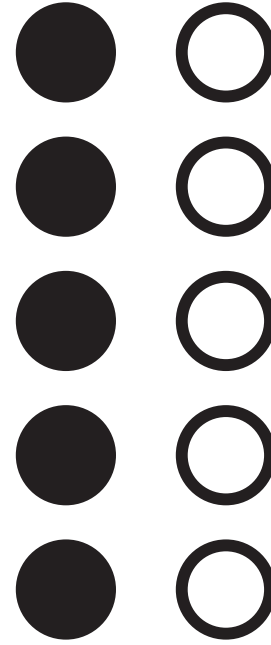


**many**

## Comparison Word Resource Cards page 4 of 5

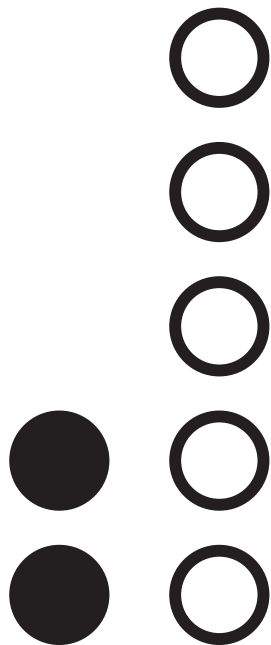


**some**

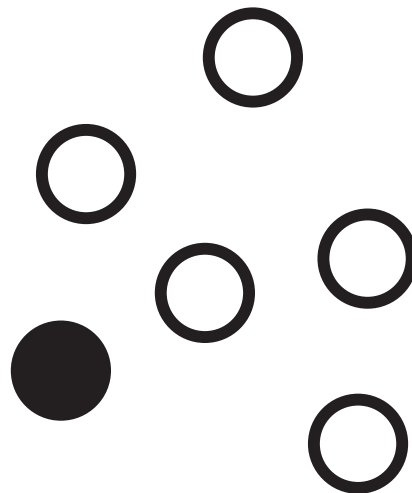


**equal**

# Comparison Word Resource Cards page 5 of 5



**less**



**least**





# KINDERGARTEN SUPPLEMENT

---

## Set C1 Geometry: 3-D Shapes

### Includes

Activity 1: Mystery Bag Sorting	C1.1
Activity 2: Shape Detectives	C1.5
Activity 3: 3-D Shape Walk	C1.11

### Skills & Concepts

- ★ identify, name, describe, and sort basic three-dimensional shapes
- ★ recognize three-dimensional shapes in the environment

**Bridges in Mathematics Kindergarten Supplement**

**Set C1** Geometry: 3-D Shapes

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2009 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0709

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).



# Set C1 ★ Activity 1



## ACTIVITY

### Mystery Bag Sorting

#### Overview

The teacher pulls a collection of 3-dimensional objects out of a grocery sack, placing all the objects with flat faces (cubes and rectangular prisms) in one group and all the objects with curved surfaces (cylinders, spheres, and cones) in another. After several objects have been sorted, students predict the group in which each new object belongs as it comes out of the bag, trying to guess the teacher's sorting rule.

#### Skills & Concepts

- ★ identify, name, describe, and sort basic three-dimensional shapes
- ★ recognize three-dimensional shapes in the environment

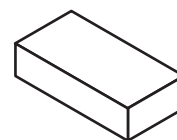
#### You'll need

- ★ grocery sack or gift bag containing 15–20 different 3-D objects (see Advance Preparation)
- ★ 2 pieces of 12" × 18" construction paper, one yellow and one blue

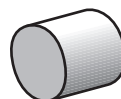
**Advance Preparation** Place 3 or 4 examples of each of these shapes in the sack or gift bag. Look in your block corner, among your table toys and school supplies, and perhaps in the gym to find the objects you need.



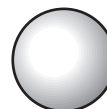
Cube



Rectangular Prism



Cylinder



Sphere



Cone

#### Instructions for Mystery Bag Sorting

1. Gather children to your discussion circle. Place the pieces of yellow and blue paper in the circle where you can reach them and all the students can see them. Let the children know that these are your sorting mats. Then hold up the grocery or gift sack and explain that you are going to pull out some things for them to see, one at a time. Each time you pull out a new object, you're going to place it on either the yellow or the blue mat. Their job is to figure out how you're sorting the objects by watching very closely. Let them know that you're going to work in silence, and they'll need to be very quiet as well.
2. Pull 4 or 5 objects out of the sack one at a time, placing those with flat faces on one mat and those with curved surfaces on the other.
3. Pull the next object out of the sack, hold it up, and shrug your shoulders. Then motion for children to point to the mat where they think it belongs. After a few moments, place it on the correct mat. Repeat this with another object.

**Activity 1** Mystery Bag Sorting (cont.)

4. Pull another object out of the sack, hold it up, and motion for the children to indicate the mat of their choice by pointing. Before placing the object where it belongs, ask several children to explain their thinking.

**Teacher** *Jessica, I see you're pointing to the yellow mat. Can you explain why you think my alphabet block belongs there?*

**Jessica** *Because it's yellow, so it goes on the yellow mat.*

**Teacher** *Zachary, you're pointing to the blue mat. Can you explain why?*

**Zachary** *Because all the stuff on the yellow mat is kind of round, and that one's not.*

**Teacher** *Alex, you seem to think my cube belongs on the blue mat. Why is that?*

**Alex** *Because it has squares on it, and there are lots of squares on the blue mat.*

5. Without commenting on any of the explanations, place the object on the correct mat. Some students may feel confirmed in their thinking, while others may still be puzzled as to how you're sorting the objects. Give them a few more clues by pulling another 2 or 3 objects out of the sack and placing them correctly, asking students to silently point to the mat they believe is correct each time.

6. Pull another object out, have students to point to the mat they believe is correct, and ask a few to explain their reasoning this time. After the object has been placed correctly, continue to sort silently, as students point to one of the mats each time. If many still seem puzzled by the time you're down to the last few objects, ask for more explanations. You might also give them a few hints in the form of questions: "Am I sorting these objects by their color?" or "Am I sorting these objects by the size—small and large?" or "Am I sorting objects by their shape?"

7. When all the objects have been sorted onto the two mats, ask children to pair-share their observations, and then call on volunteers to share their thinking with the class. Toward the end of the discussion, confirm that you were sorting the objects by flat and curved surfaces, and then identify each of the shapes by name. Kindergartners often refer to a cube as a "square" or a sphere as a "circle". While we don't expect them to use the formal names for these 3-dimensional figures right away, the more often we model the correct terms ourselves, the more quickly students will learn them.

## Activity 1 Mystery Bag Sorting (cont.)

### Extensions

- Leave the collection of objects out for children to sort on their own. Other attributes by which they might sort include: shapes that roll and shapes that slide; shapes that have square faces, rectangular faces, or circular faces; shapes you can stack and shapes you can't; and so on.
- Repeat this activity with a collection of shapes that includes cubes, rectangular prisms, triangular prisms, and pyramids. (You can build pyramids and triangular prisms with your polydrons, and there are usually several different types of triangular prisms in a set of building blocks.) Sort by those that have triangular faces and those that have rectangular faces, bearing in mind that a square is a special type of rectangle.
- Bring 3-dimensional shapes from home to put in your mystery sack. You'll find that students are even more engaged when the objects you're pulling out of the sack come from the teacher's house.



# Set C1 ★ Activity 2



## ACTIVITY

### Shape Detectives

#### Overview

The teacher shows pictures and examples of 6 different 3-D shapes. Student pairs then hunt around the room to find more examples of each.

#### Skills & Concepts

- ★ identify, name, describe, and sort basic three-dimensional shapes
- ★ recognize three-dimensional shapes in the environment

#### Recommended Timing

Anytime after Set C1 Activity 1

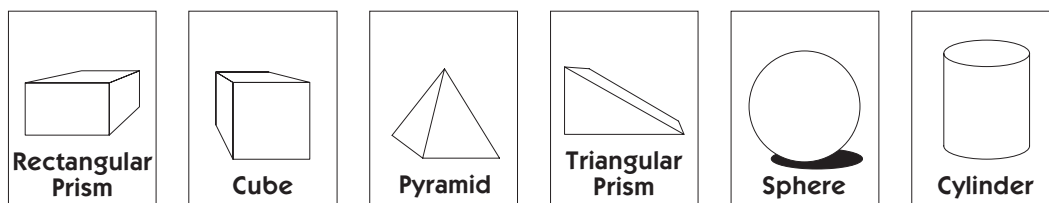
#### You'll need

- ★ 3-D Shape Cards (pages C1.7–C1.9, one copy of each card)
- ★ one object to match each of the cards (see Advance Preparation)
- ★ polydrons (see Advance Preparation)
- ★ six 12" × 18" pieces of construction paper, each a different color

**Advance Preparation** Find a cube, a small box, a can, and a ball in your classroom. You'll probably be able to find a triangular prism in your block corner, and you can build a pyramid with polydrons if you can't find anything else. You'll also want to divide your polydrons into smaller baskets and set them out on several tables in preparation for this lesson.

#### Instructions for Shape Detectives

1. Gather children to your discussion circle and tell them you are going to explore some new shapes today. Hold up the 3-D Shape Cards one by one along with the matching 3-D objects, as you name each shape and invite observations from the children.



**Note** In sharing observations, kindergartners are likely to talk about the faces of the objects and will most likely refer to the sphere and cylinder as circles, the pyramid as a triangle, and so on. You'll want to be careful to use the correct terms consistently, drawing the distinction between a cube and a square, for instance, both to model the language of geometry accurately and to avoid future misconceptions.

2. Once you've shared the cards and the objects, set 6 different colored sheets of construction paper in the middle of the circle and place a shape card on each. Hand out the objects to 6 different children

**Activity 2** Shape Detectives (cont.)

around the circle. Then call on them one by one to place their object on one of the colored sheets, next to the card that names its shape, and explain why they're putting it there.



**Andrew** *I put this block here because it's a square.*

**Teacher** *Where do you see a square on that block, Andrew?*

**Andrew** *There's one on top, and another here, and another here. It's got lots of squares.*

**Teacher** *You're right. A cube has 6 square faces.*

3. After all 6 objects have been placed where they belong, explain that the children are going to be shape detectives today. You're going to send them out in pairs to look around the room for one or more of these 6 different shapes. Each time they find one, they'll bring it to the circle and set it on the piece of paper near the shape card that tells its name. Let them know that they have to stay with their partners, walk at all times, and move quietly, like good detectives. They can only bring one object to the circle at a time, and anything they bring has to fit on the paper. If they want, they can build one of the shapes with polydrons and bring their construction to the circle. (It's possible to build cubes, triangular prisms, rectangular prisms, and pyramids with polydrons, though you may have a few students who are convinced that they will be able to build a sphere.)

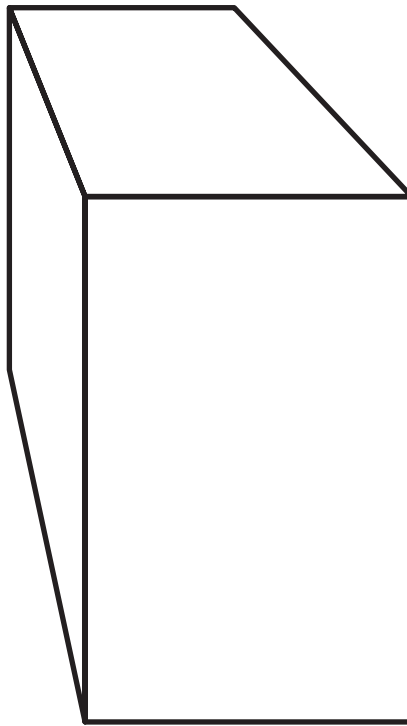
4. Send the children away from the circle, one pair at a time, complimenting the first few pairs to leave on how quietly and carefully they're walking. (Detectives can't rush around, or they'll never find what they're looking for!)

5. After a short work period, call children back to the circle to view the group's discoveries and constructions briefly.

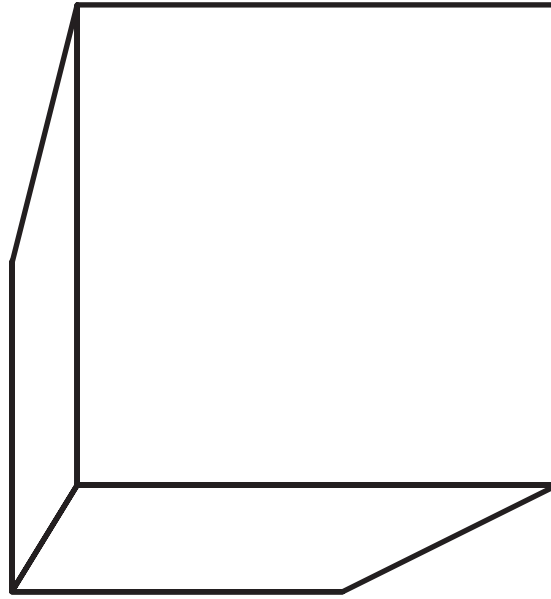
**Extensions**

- If you're able to leave the mats with the cards and objects still on them for a few days, you may find that some children are interested in adding things or changing things around. Use the opportunity to continue modeling the correct names and talking with children about the attributes of each shape.
- Leave the shape cards on the mats, but remove all the objects from the mats and put them in a basket. Invite children to sort the objects back onto the correct mats.
- Ask students to bring things from home to place on the shape mats.

**3-D Shape Cards, page 1 of 3**

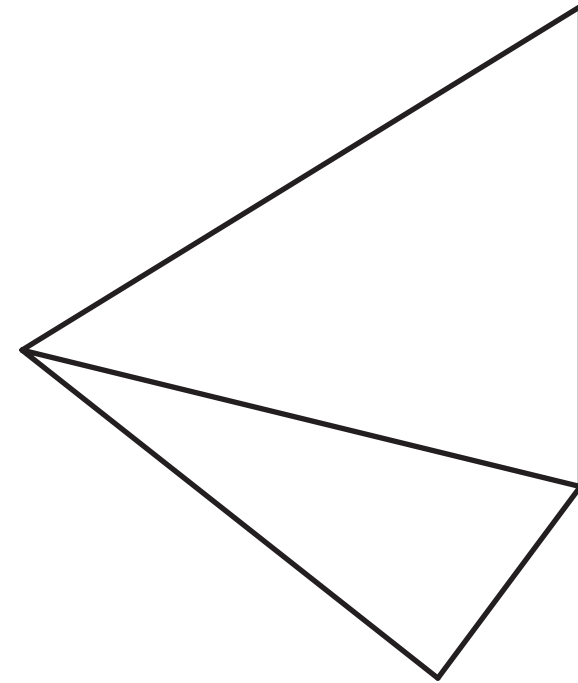


**Rectangular  
Prism**

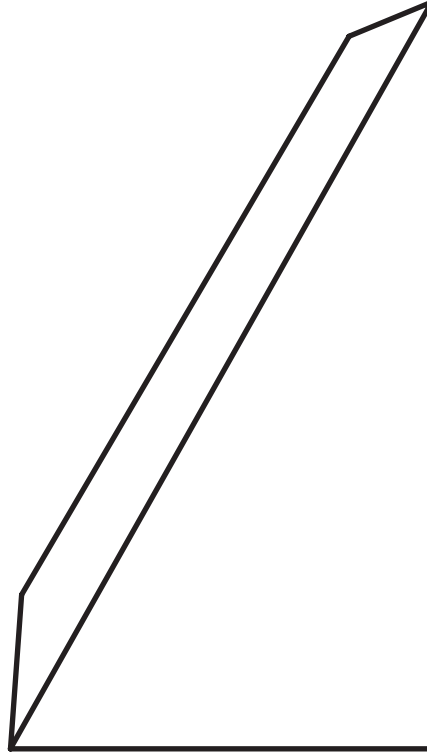


**Cube**

3-D Shape Cards, page 2 of 3



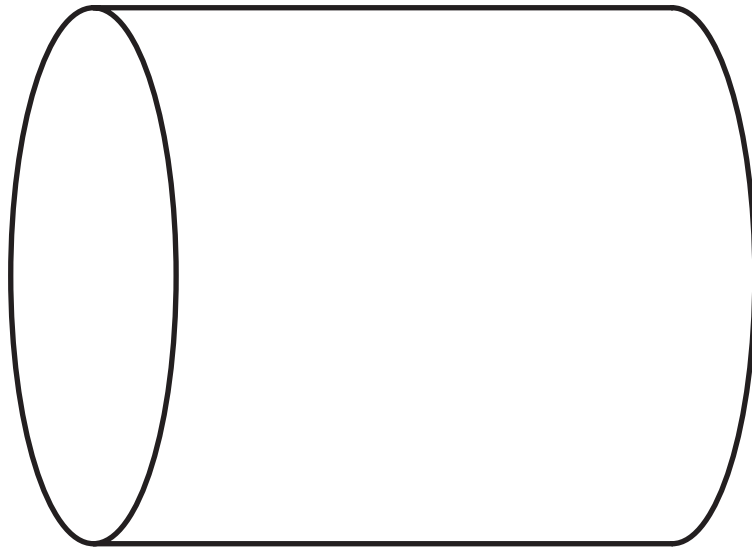
**Pyramid**



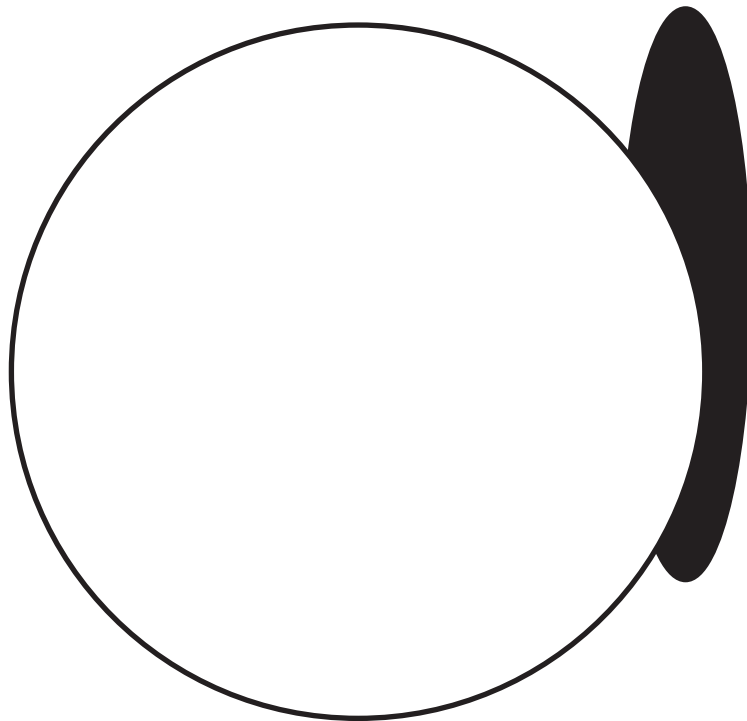
**Triangular  
Prism**



3-D Shape Cards, page 3 of 3



**Cylinder**



**Sphere**



# Set C1 ★ Activity 3



## ACTIVITY

### 3-D Shape Walk

#### Overview

Students hunt for 3-dimensional shapes in the gym, library, or on a walk around the school, keeping a record of their discoveries as they go.

#### Skills & Concepts

- ★ identify, name, describe, and sort basic three-dimensional shapes
- ★ recognize three-dimensional shapes in the environment

#### Recommended Timing

Anytime after Set C1 Activity 2

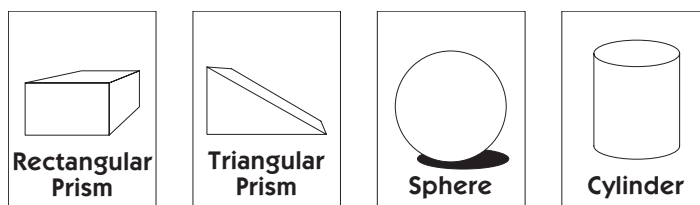
#### You'll need

- ★ 3-D Shape Walk Record Sheet (page C1.14, class set)
- ★ 3-D Shape Cards (pages C1.7–C1.9)
- ★ clipboards (optional, class set)
- ★ camera (optional)
- ★ *Cubes, Cones, Cylinders, & Spheres* by Tana Hoban (optional)

**Advance Preparation** Walk around your school before you conduct this activity to find a good variety of 3-dimensional shapes. One of the best locations we've found is the gym, set up for obstacle course day, but this varies from one school to another. Children will get more out of the experience if they are able to talk with an adult, so you'll want to invite several parent volunteers or other adults along with you, and you may even want to divide your students into small groups before you leave the classroom.

#### Instructions for 3-D Shape Walk

1. Gather children to your discussion circle and show the shape cards that illustrate the rectangular prism, the triangular prism, the sphere, and the cylinder.



2. Review the names of these shapes and explain to children that you're going to take a walk around the school (or whatever location you've decided is best) to look for these shapes. Do they think they can find examples of each of these shapes on your walk?

*Alana* It's good that we're going to the gym. There are lots of balls in there that are round like that one shape on your card.

**Activity 3** 3-D Shape Walk (cont.)

**Teacher** *The sphere? Yes, you're right that we should find plenty of those in the gym. Does anyone see another shape we might find on our walk?*

**Maria** *Maybe that little slide will be out—you know, the one that the little kids use? It looks like that triangle shape on your card.*

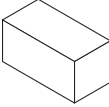
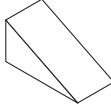


**Teacher** *Oh, the triangular prism. Yes, we may have to look really hard to find those.*

**DeShawn** *I think we can find lots of those box shapes.*

**Teacher** *Rectangular prisms do look like boxes. Where do you think we'll find them?*

**Jenna** *Everywhere! Even our whole school is shaped like a big box.*

3. Give each student a copy of the Shape Walk Record Sheet, along with a pencil and a clipboard (if you have clipboards). Ask children to write their name on their sheet, and explain that they'll get to use pictures, numbers, and/or words to record some of their discoveries along the way. Some of them, for instance, might want to keep a tally of how many times they see a cylinder on the walk. Others might prefer to draw pictures of some of the things they see under the matching shapes and use their best-guess spelling to label their sketches.

Set C1 Geometry: 3-D Shapes Blackline Run a class set.	
Name _____	Date _____
<b>Shape Walk Record Sheet</b>	
Rectangular Prism	Triangular Prism
	
Cylinder	Sphere
	

4. Depending on the number of adult helpers you've been able to recruit, organize the students into small groups and set out on your walk. If you have a digital camera, you might want to serve as a roaming photographer, or ask one of the other adults to do so instead of supervising a group.

### Activity 3 3-D Shape Walk (cont.)

5. When you return to the classroom, spend a few minutes talking about the things you saw. Which shapes were easiest to find? Which were most challenging? Did students see any 3-dimensional shapes that weren't on their record sheets, like cubes or pyramids? Let students take their record sheets home to share with their families.

#### Extensions

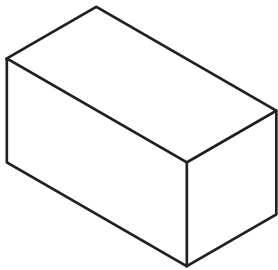
- Make a class chart or book showing some of the things students saw on the walk. Either could be illustrated with photos if you had a camera along with you. You might even post some to your class web site for families to view, along with text composed by the class.
- Share *Cubes, Cones, Cylinders, & Spheres* with your class either before or after you take your shape walk. In this wordless book, photographer Tana Hoban identifies four 3-D shapes before showing each in contexts that may be familiar to most children (alphabet blocks, ice cream cones) as well as ones a child might encounter on a trip to the city, country or even Fantasy Land (traffic cones, bales of hay, a castle).

NAME \_\_\_\_\_

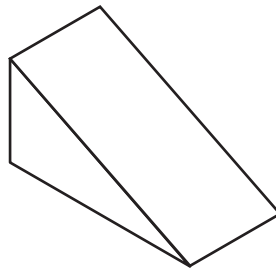
DATE \_\_\_\_\_

# 3-D Shape Walk Record Sheet

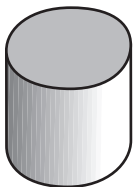
**Rectangular Prism**



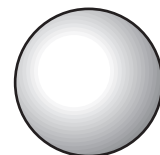
**Triangular Prism**



**Cylinder**



**Sphere**





# KINDERGARTEN SUPPLEMENT

---

## Set C2 Geometry: Locations

### Includes

Activity 1: The Bear in the Box	C2.1
Activity 2: Left & Right	C2.5
Activity 3: Little Frog's Playground	C2.7

### Skills & Concepts

- ★ describe the location of one object relative to another object using words such as *in, out, over, under, above, below, beside, between, next to, across from, behind, in front of, near, and far*
- ★ identify the given information that can be used to solve a problem
- ★ recognize when additional information is required to solve a problem
- ★ use the directional words *left* and *right* to describe movement

**Bridges in Mathematics Kindergarten Supplement**

**Set C2** Geometry: Locations

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2009 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0709

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).



# Set C2 ★ Activity 1



## ACTIVITY

### The Bear in the Box

#### Overview

Students learn to describe the location of one object relative to another by following and giving directions using positional terms such as *in*, *out*, *over*, *under*, *above*, *below*, and so on.

#### Skills & Concepts

- ★ describe the location of one object relative to another object using words such as *in*, *out*, *over*, *under*, *above*, *below*, *beside*, *between*, *next to*, *across from*, *behind*, *in front of*, *near*, and *far*
- ★ identify the given information that can be used to solve a problem
- ★ recognize when additional information is required to solve a problem

#### You'll need

- ★ a teddy bear or other stuffed animal (see Advance Preparation)
- ★ a cardboard carton with a lid (see Advance Preparation)
- ★ 15 Unifix cubes (see Advance Preparation)
- ★ chart paper and marking pens
- ★ helper jar
- ★ a piece of drawing paper for each student (optional)
- ★ crayons (optional)
- ★ All about Where, by Tana Hoban (optional)

**Advance Preparation** Find a cardboard carton large enough to hold the teddy bear. An empty 10-ream paper box with a lid is ideal. Place the teddy bear inside the box, put the lid on the box, and tape it lightly in place. Make three stacks of 5 Unifix cubes, each stack a single color different from the other two.

#### Instructions for The Bear in the Box

1. Place the sealed cardboard carton in the middle of your discussion area. Gather children to your discussion circle. When everyone is settled and can see the chart paper you've posted, explain that you have hidden something in the box. In order to find out what's in the box, they will have to ask you questions, but only questions you can answer with a "yes" or a "no".
2. Encourage your students to discuss the possibilities with one another. What are some of the things that could be in the box? Can they think of anything it couldn't be, just by looking at the box?

**Students** *It probably can't be really, really big like a tree or a bike because it couldn't fit in there. It could be a toy tree or a little bike.  
Is it something to eat?  
Is it a birthday cake?*

3. Show students the three stacks of Unifix cubes you've prepared. Count the cubes with the children and explain that you will remove a cube from one of the stacks for each question they ask. When all 15 cubes are gone, you will give them more clues if they haven't already figured out what's in the box. Can one of them ask a question you can answer "yes" or "no" to get a clue right now? Guide the questioning a

**Activity 1** The Bear in the Box (cont.)

bit if necessary to steer children away from naming specific items and toward getting descriptive information.

**Eloise** Do we get to eat it?

**Teacher** No.

**Marco** Is it something to play with?

**Teacher** Yes.

**Sara** Is it a doll house?

**Teacher** How could you find out if it's a doll house? Talk to the person next to you, and then I'll call on someone with a hand up.

**David** Is it a place for dolls to live?

**Teacher** No.

**Hiroko** I know! It's a toy car. Is it a toy car?

4. If students persist in naming specific items, brainstorm with them some of the information that might help them figure out what's in the box, such as color, shape, size, what people do with it, weight, texture, what it's made of, and so on. Then have them ask more questions. As you answer each question, record the information on your chart paper. Count the remaining cubes with the class periodically to help children determine how many questions they have asked and how many they have left.

What's in the box?	
Yes	No
can play with it	cannot eat it
brown	not a place for dolls
bigger than a block	not a vehicle
made of cloth	not made of plastic
soft	not red
	not blue
	not hard

5. Continue in this way until the children have gathered 15 clues. If your class isn't close to figuring out what is in the box at that time, offer them 5 more questions and provide a clue or two to get them on track. Finally, take the lid off the box and hold up the bear for everyone to see.

6. Explain that this bear has come to class to play a game with the children. Ask students to rearrange themselves so everyone is sitting in a semi-circle facing the box. Place the bear in front of the box, behind the box, in the box, near the box, far from the box, and beside the box. Turn the box over. Put the

**Activity 1** The Bear in the Box (cont.)

bear under the box. Each time you change the bear's location, tell the students what you are doing, for instance, "I am putting Little Bear in front of the box," "I am putting Little Bear near the box," and so on.

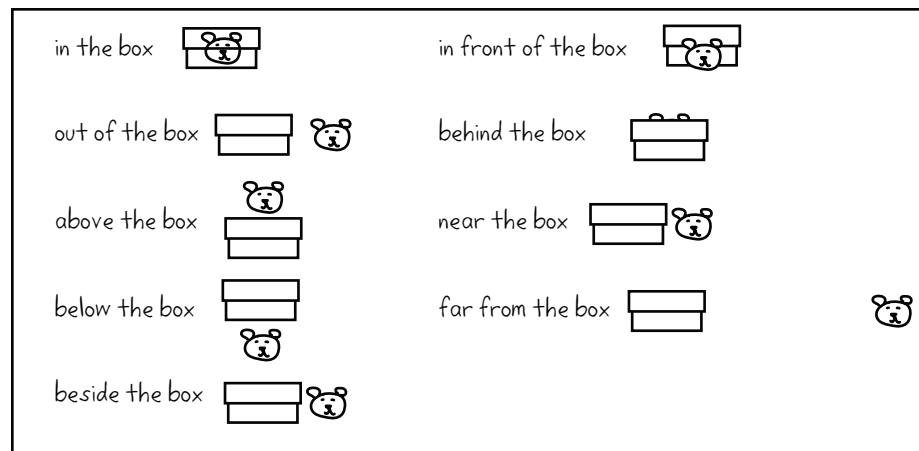
7. Next, pull children's names out of your helper jar one at a time to change the bear's location as you give directions such as:

- Put Little Bear between me and the box.
- Put Little Bear on top of the box.
- Put Little Bear across from the box.
- Hold Little Bear above the box.

8. Finally, place the bear in the box. Ask students to tell you where the bear is. Change the bear's location several more times, placing it in front of the box, behind the box, above the box, and under the box. Each time, have students tell you where the bear is.

**Extensions**

- Later in the day, or the next day ask students to each draw a picture of a stuffed bear, or another favorite stuffed animal and a box. Before you give out the drawing paper, have the class brainstorm a list of possible locations. Where could they put the stuffed animal relative to the box in their drawings? List their ideas on the board with simple illustrations. Circulate as students are working to discuss their drawings with them. Ask them to describe the location of the stuffed animal, and work with them to record a sentence that includes the animal's position relative to the box, e.g., "My duck is hiding behind the box". Display the labeled drawings in the classroom or the hallway.



- Review some of the terms you introduced during this activity by reading *All about Where*, by Tana Hoban, to the class. Other good books for reinforcing positional language include *Over, Under, and Through*, by Tana Hoban and *Becca Backward, Becca Forward*, by Bruce McMillan (optional).



# Set C2 ★ Activity 2



## ACTIVITY

### Left & Right

#### Overview

Students use their hands to learn about *right* and *left*, and practice the language of location and direction.

#### Skills & Concepts

- ★ use the directional words *left* and *right* to describe movement
- ★ describe the location of one object relative to another object using words such as *in*, *out*, *over*, *under*, *above*, *below*, *beside*, *between*, *next to*, *across from*, *behind*, *in front of*, *near*, and *far*

#### You'll need

- ★  $\frac{3}{4}$ " red adhesive dots OR a non-toxic red marking pen
- ★ a piece of 12" x 18" drawing paper for each student (optional)
- ★ pencils and crayons (optional)
- ★ *Left Hand, Right Hand*, by Janet Allison Brown (optional)

#### Instructions for Left & Right

1. On the day you conduct this activity, label the back of each student's right hand with a small red dot. Use either a red adhesive dot or a non-toxic red marking pen to do this. As you do so, explain that the hand with the red dot is their right hand, and the hand with no dot is their left hand.
2. Once every student has a dot on his or her right hand, gather the children to your discussion area. Seat them in rows all facing the same way for this activity. Ask them to raise their right hand over their head. Then ask them to raise their left hand. How do they know which one is right, and which one is left?

**Students** *You gave us a red dot on our right hand.*

*Red for right!*

*How come we didn't get a dot on our other hand?*

*So we can tell which one is right, and which one isn't.*

*That other one is the left one.*

3. Now have students place their right hand in different locations relative to their body, such as:
  - *in* their lap
  - *on* their right knee, *on* their left knee
  - *beside* their right leg, *beside* their left leg
  - *above* or *over* their head
  - *below* their waist
  - *under* their right foot, *under* their left foot
  - *behind* their back
  - *in front of* their chest
  - *near* their right ear, *near* their left ear
  - *far away* from their mouth
  - *between* their knees

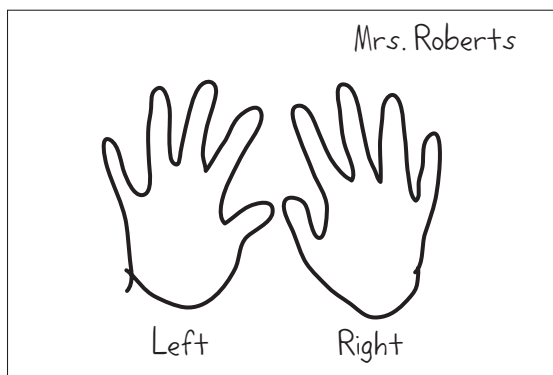
**Activity 2** Left & Right (cont.)

4. Have students repeat some of these actions with their left hand. Then have them stand up in place. Stand in front of the class with your back turned to the children for a second. Extend your right arm to the side and point to the right. Ask students to do the same, moving slowly and carefully so they don't bump into one another. Which direction are you all pointing? How do they know? With the class, take 3 side-steps to the right. Then put your right arm down, extend your left arm to the side, and take 3 side-steps to the left.

5. Through the remainder of the day, talk with students about their right and left hands. Which hand do they color with, write with, eat with? In which hand do they hold a pair of scissors, a crayon, a pencil? If they are right-handed, how does their left hand help them at different times? When you leave the room to go to the playground, the gym, or the library, do you have to turn right or left? How can they use their hands to help find out? As you walk down the corridor with your class, ask them to identify the direction of any turns you have to make.

**Extensions**

- Repeat some of the activities described above on other days so students begin to internalize right and left, in terms of their own bodies and the directions they move throughout the day.
- Over a period of several days, trace each student's right and left hand on a piece of 12" x 18" drawing paper, and have the student label the paper with his or her name. Make a tracing of your own hands as well. When you have a tracing for each student, return the papers to their owners, and post yours on the board. Place your hands in the tracings at the board as students do so at their tables. Which is the right hand? Which is the left? Can they remember and help one another?



Label your own hand tracings with the letters “R” and “L” or the words “right” and “left”, and ask students to do the same on their papers. Ask students to make a red dot on the tracing of their right hand. After that, you might have students color their hands to match their skin tone and add bracelets, rings, thunderbolts, and various other decorations. Circulate and talk with students as they work to reinforce the terms “right” and “left”.

- If you have access to *Left Hand, Right Hand: A “Hands-On Book about Left and Right*, by Janet Allison Brown, read the book with your class. Another cute book that addresses the topic of left and right is *Bear’s Left & Right*, by Keith Faulkner.
- When you’re in the gym with students or during organized games on the playground, make it a point to reinforce directional words by having students move (walk, hop, jump, slide, and so on) forward, backward, to the right, and to the left. You can also have them stand or hop on their right foot or their left foot, and move their right and left hands or arms in a variety of ways.

# Set C2 ★ Activity 3



## ACTIVITY

### Little Frog's Playground

#### Overview

Students share observations about the names and locations of 5 shapes on Little Frog's Playground. Then they each color a sheet and move a small plastic frog around the playground in response to directions from you and classmates.

#### Skills & Concepts

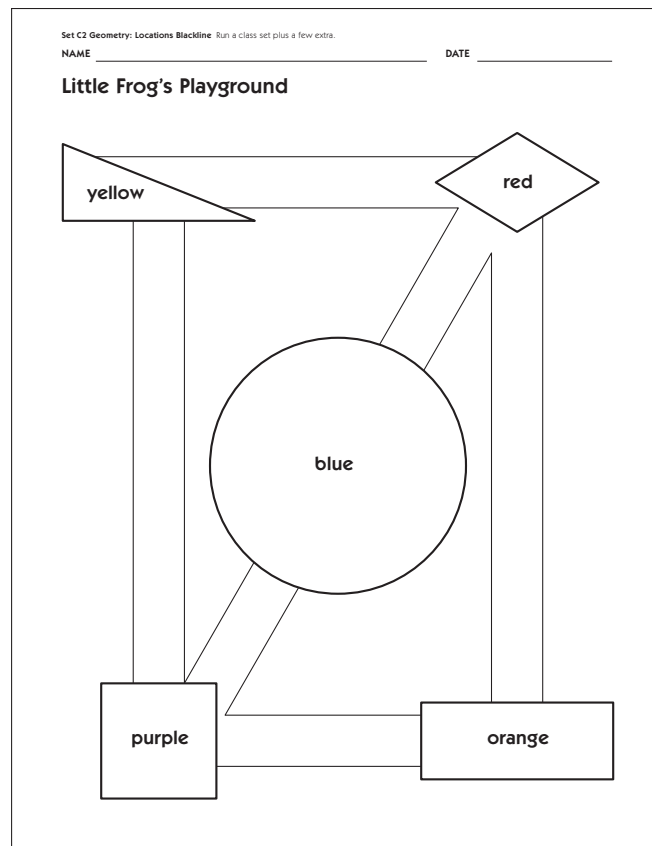
- ★ use the directional words *left* and *right* to describe movement
- ★ describe the location of one object relative to another object using words such as *in*, *out*, *over*, *under*, *above*, *below*, *beside*, *between*, *next to*, *across from*, *behind*, *in front of*, *near*, and *far*

#### You'll need

- ★ Little Frog's Playground (page C2.11, run a class set plus a few extra)
- ★ a plastic frog for each student from your bucket of frogs
- ★ crayons
- ★ helper jar

#### Instructions for Little Frog's Playground

1. Post a copy of Little Frog's Playground on an easel or the whiteboard near your discussion area.



**Activity 3** Little Frog's Playground (cont.)

2. Then gather the students and seat them so they can all see the sheet. Show them one of the plastic frogs and explain that today, they're each going to color in a playground for a little frog. Once they've done that, they'll hear and tell some stories about Little Frog's adventures on the playground.

3. Ask students to pair-share observations about the sheet. Then call on volunteers to share their ideas with the class.

**Students** *There's a big circle in the middle.*

*Maybe that's like a pond for the frog.*

*I see a square.*

*There's a triangle at the top.*

*There are things like roads on that paper.*

4. Name the five different shapes on the sheet with the class: rhombus, rectangle, square, triangle, and circle. Then ask students to name the shape as you point to each of the following locations on the sheet:

- top right hand corner (rhombus)
- bottom right hand corner (rectangle)
- bottom left hand corner (square)
- top left hand corner (triangle)
- middle (circle)

5. Next, pull a name from your helper jar, and have that student to come up and point to one of the 5 shapes on the sheet. Ask the rest of the children to name the shape and identify its location (i.e., rhombus, top right-hand corner). Call on a different student to point to a second shape while the class identifies it by name and location. Repeat until the class has identified all 5 shapes by name and location.

6. Then read the color names on each shape, and explain that in a minute, you're going to give students each their own sheet to color according to the labels. What colors will they use for the two shapes on the right-hand side of the sheet? (red and orange) What colors will they use for the two shapes on the left-hand side of the sheet? (yellow and purple) What about the shape in the middle? (blue). Let them know that they can color the paths between the shapes any color they want. When students understand what to do, hand out the sheets and let them go to work.

7. When most students have finished coloring their sheets, ask them to return to the discussion area. Have them bring their sheets along, and give them each a plastic frog. When everyone is seated, tell a story similar to the one below as students move their frog around the sheet in response to your directions.

*One day, Little Frog went to the playground. None of her friends was there, so she decided to stay and play by herself. First, she sat on the shape below the pond to the left. Which shape is that? You're right. It's the purple square.*

*Then she ran up the path between the purple and the yellow shape, and stopped on the yellow shape. Which shape is that? Right, it's the triangle.*

*Then she took a big hop and landed right in the middle of the blue circle. When she landed, she found out it was actually a pond! The water was freezing cold, so she jumped back out as fast as she could.*

*She sat beside the pond to dry off for a minute.*



**Activity 3** Little Frog's Playground (cont.)

*Then she took another giant hop and flew right over the red rhombus. She landed in the top right hand corner of the playground, above the rhombus.*

*She was still a little cold, so she crawled under the paper for a minute to get warm. Then she got back onto the paper and sat on the shape at the top of the sheet across from the triangle. Which shape is that? Yep, it's the red rhombus.*

8. Finish your story by asking the students to pair-share ideas about how Little Frog might get from one location to another on the sheet without going near the pond. Let students know that Frog has to stay on the paths. After they've had a minute to talk, call on volunteers to share their ideas with the group.

*Now Little Frog wants to get back to the purple square, but she doesn't want to get near the pond. How can she get from the red rhombus to the purple square without going through the pond and still stay on the paths?*

As students share their ideas, encourage them to use directional language. After each idea is shared, have the children test it.

**Johnny** *She can go to the triangle, and then go down to the square.*

**Teacher** *What direction will she have to go to get from the rhombus to the triangle?*

**Students** *Straight.*

*Across!*

*That way!*

**Teacher** *Will she have to go right or left across the sheet?*

**Shanti** *She has to go left to get to the triangle. Then she has to go down to get to the square.*

**Teacher** *Let's all try that out with our frogs. Did it work? Okay, let's put Little Frog back on the red rhombus. Can someone tell us a different way she can get from the rhombus to the square without going across the pond?*

9. If student interest holds and time allows, pull a few names from your helper jar and have those students continue your story as their classmates move their plastic frogs in response. If not, collect the sheets for use again another day.

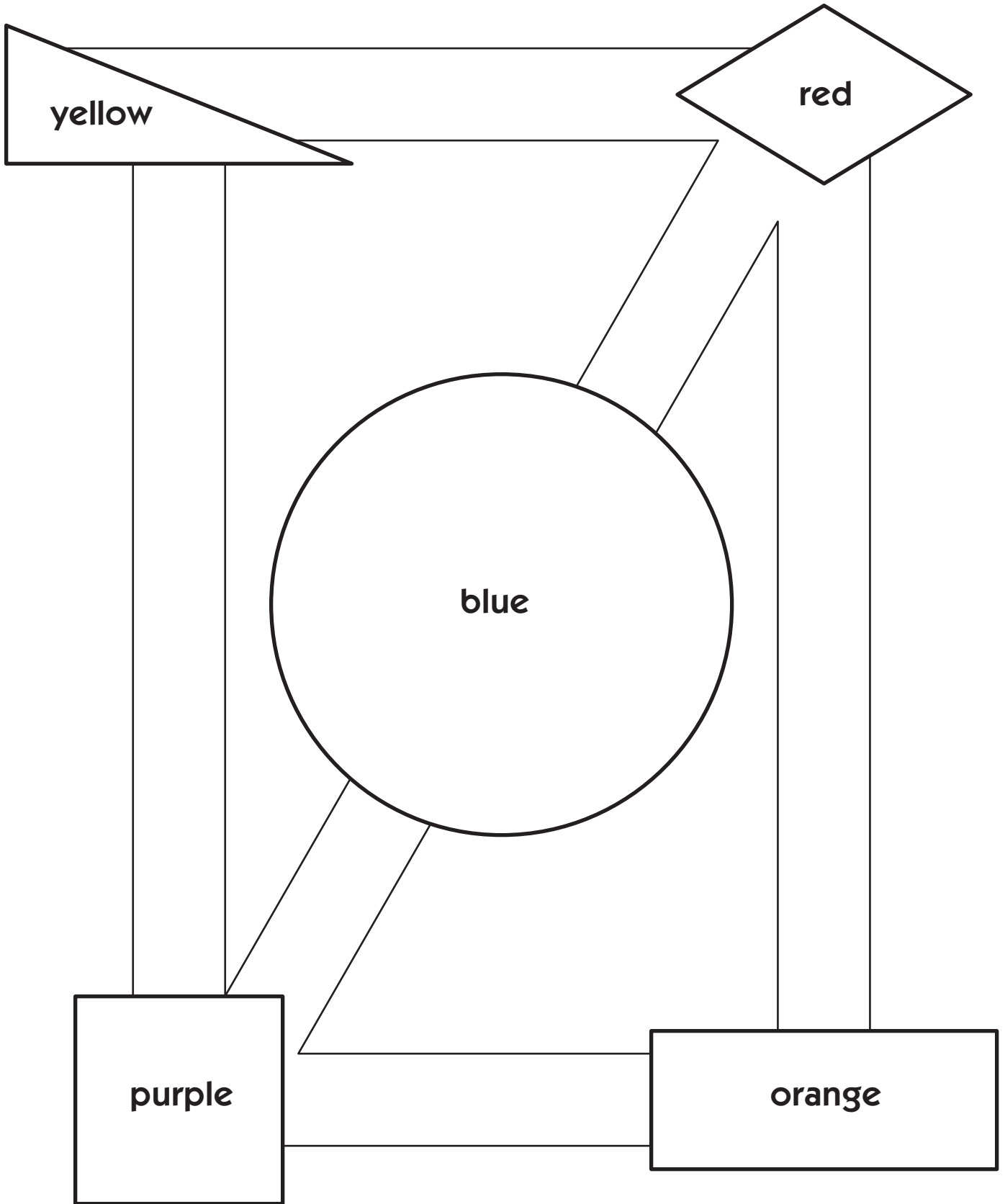
**Extensions**

- During another session, display your copy of Little Frog's playground. Work with students to list some of the words they might use to place the frog in various locations or help Little Frog move from one location to another: in, out, over, under, below, above, beside, between, next to, across from, behind, in front of, near, far, left, and right. Give students their playground sheets and plastic frogs. Pull names from your helper jar and have those students tell their classmates where to place their frogs on the sheet and how to move them from one location to another.
- Send the sheets home with students, along with a note about the activity. Ask families to continue telling Little Frog stories at home with their children.
- If you have a computer in your classroom with Internet access, some of your kindergartners may enjoy two of the applets found on the Utah State National Library of Virtual Manipulatives web site:

### Activity 3 Little Frog's Playground (cont.)

Ladybug Leaf and Ladybug Mazes. The web site is free to all, and can be accessed at <http://nlvm.usu.edu/>. Follow the links to the Pre-K through 2 geometry section, where you'll find a variety of applets including Ladybug Leaf and Ladybug Mazes. Both of these activities involve programming a ladybug around the screen to either hide behind a leaf (easier) or move through a maze (more challenging). Both provide good spatial problem-solving challenges, as well as practice with directional language and skills (forward, backward, right, left). Instructions are included with each applet on the web site, along with suggestions for parents and teachers.

# Little Frog's Playground







# KINDERGARTEN SUPPLEMENT

---

## Set C3 Geometry: Flying Butterflies Calendar Pattern

### Includes

November Calendar Pattern

C3.1

### Skills & Concepts

- ★ model and use words indicating relative position, direction, and distance
- ★ use the directional words *left* and *right* to describe movement
- ★ identify, describe, and extend simple repeating patterns

**Bridges in Mathematics Kindergarten Supplement**

**Set C3** Geometry: Flying Butterflies Calendar Pattern

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2010 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0510

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).

# Set C3 ★ November Calendar Pattern



## CALENDAR GRID

### Flying Butterflies

#### Overview

This set of Calendar Grid markers replaces the student-made markers in the month of November, and provides opportunities for kindergartners to use and model words that indicate direction: *up*, *down*, *to the right*, and *to the left*.

#### Skills & Concepts

- ★ model and use words indicating relative position, direction, and distance
- ★ use the directional words *left* and *right* to describe movement
- ★ identify, describe, and extend simple repeating patterns

#### You'll need

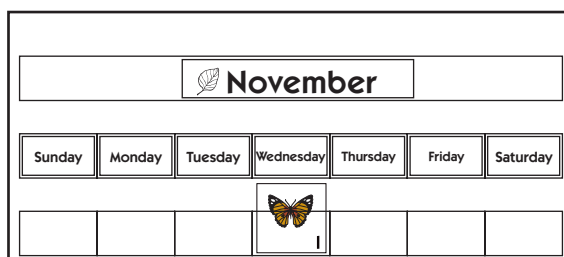
- ★ Calendar Grid pocket chart
- ★ Day, Month, and Year Calendar Grid cards
- ★ November Flying Butterflies Calendar Markers (available at <http://gotomlc.org/calmarkers>) Print 1 copy of the calendar marker sheets, preferably in color, single-sided, on white cardstock. Cut the calendar markers apart and laminate if desired.
- ★ The Monarch Poem (pages C3.7–C3.10, see Advance Preparation)
- ★ 4 pieces of 6" × 9" yellow construction paper (see Advance Preparation)
- ★ helper jar containing a popsicle stick for each child with his/her name on it

**Advance Preparation** Use pages C3.7–C3.10 to create a wall chart or book of the Monarch Poem to share with your students during the month. (You can also find this poem in larger format in the Poems and Songs Portfolio that came with your Number Corner kit.) Finally, write the words *up*, *down*, *to the right*, and *to the left* on the pieces of yellow construction paper, as shown below.



#### Introducing the Flying Butterflies Calendar Markers: Day 1

Open your first Number Corner lesson in November by directing students' attention to the calendar grid. Explain that you will put up a new calendar marker as each day of the month passes. Place the first marker in the correct pocket, and ask children to pair-share observations.



## November Calendar Pattern (cont.)

What do they notice about this marker? After a few moments, pull popsicle sticks from your helper jar to call on children to share their observations with the class.

**Students** *It's a butterfly!  
There's a number 1 on that card, too.  
It has big wings!*

Then ask children to predict what they might see on the marker for the following day.

**Students** *Maybe another butterfly?  
Or maybe a ladybug.  
Some kind of bug, probably.*

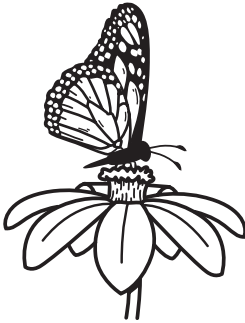
### Introducing the Flying Butterflies Calendar Markers: Day 2

Before you post the calendar marker the following day, explain that the butterfly on the first marker is a monarch. Then take a few minutes to read and discuss The Monarch Poem with your class. Here are some questions you might pose to the children after you have read the poem through two or three times:

- What happened first?
- After the egg hatched into a caterpillar, then what happened?
- Once the butterfly came out of the chrysalis, what did it do?
- Where do you think the butterfly will go now?

Set C3 Geometry: Flying Butterflies Calendar Pattern Blackline Create a wall chart or book.

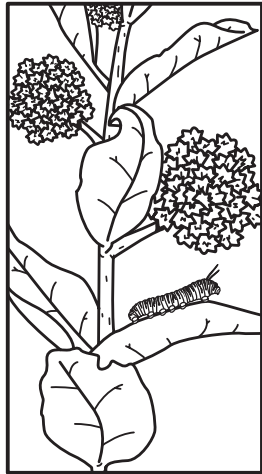
**The Monarch Poem page 1 of 4**



**The Monarch**  
by Donna Burk  
illustrated by Tyson Smith

Set C3 Geometry: Flying Butterflies Calendar Pattern Blackline Create a wall chart or book.

**The Monarch Poem page 2 of 4**

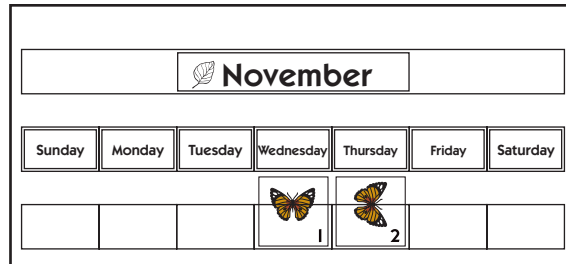


A little egg on some  
Milkweed green,  
Became a caterpillar,  
Tiny and lean.

Next, post the second calendar marker, and invite students to make observations. What is the difference between the butterfly on this marker and the one on the first marker?



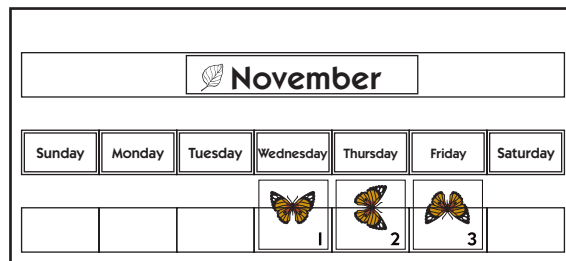
November Calendar Pattern (cont.)



**Students** *It looks like the first one, but it's going a different way!  
 It's going kind of sideways instead of straight.  
 It's like the first one, but it's turned a different way.  
 I think it's going to find some flowers, like that butterfly in the poem.*

**Introducing the Flying Butterflies Calendar Markers: Day 3**

The next day, post the third marker and invite students to pair-share observations. After a few moments, pull sticks from your helper jar to call on children to share their observations with the class.



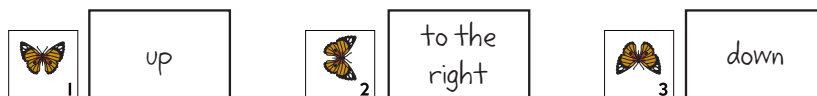
**Students** *It's the butterfly again, but this time, he's going upside down!  
 Maybe he got mixed up about which way to fly!  
 First it went up, then sideways, and now down.  
 It goes different every time!*

Next, show children the word cards you have prepared.



Read the cards one by one with the class. Explain that these are *direction words*, words people use to tell which way something is going.

Pull the calendar markers out of the pocket chart and set them on your chalk ledge. Ask the children to help you find the card that best describes the direction each butterfly is headed, and place the card beside that marker.



## November Calendar Pattern (cont.)

Then ask children to predict what they might see on the marker for the following day.

**Students** *It's probably going to be up again.*

*Maybe it'll be a different bug, like a grasshopper or a ladybug.*

*Maybe it will be a butterfly going the way that other card says!*

### Continuing through November with the Calendar Grid

Post the word cards beside the calendar grid pocket chart for reference throughout the month. Each day, have a helper point to the markers that have been posted so far as the class names the butterflies' directions. Encourage the children to point up, to the right, down, and to the left with their fingers as they go. Then ask students to predict what the next marker will show before you place it on the chart.

November						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7				

up

to the right

down

to the left

**Teacher** *Amy, will you please come up and point to the markers we have posted so far, while we tell which direction the butterfly is flying on each marker? Let's point with our fingers to show the directions, too.*

**Students** *Up, to the right, down, to the left; up, to the right, down....*

*The next guy is going to be flying up!*

*No, to the left!*

*I think it goes up, sideways, down, and then sideways the other way.*

**Teacher** *Can you use your finger to point in the direction you think the next butterfly will be going? Hmmmmmm, I see a lot of children pointing to the left. Let's check to see. Sam, will you please put the next marker into the pocket chart?*

November						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8			

## November Calendar Pattern (cont.)

**Students** *I knew it! That butterfly is going over to the left!  
I think he's going to turn and fly up on the next marker.*

As the markers are posted, one each day, ask students to share their observations and predictions about the pattern. Here are some questions and prompts to use through the month:

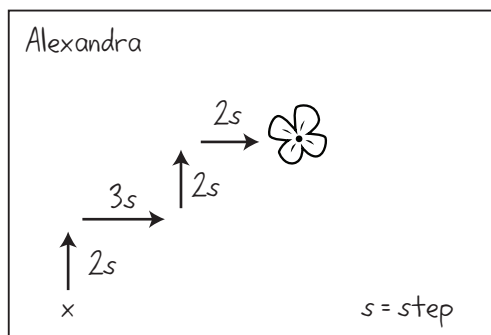
- Which way do you think the next butterfly will be going? Why?
- What about the butterfly on the marker for the day after tomorrow?
- How many butterflies are flying up (down, to the right, to the left) so far?
- What number marker do you think will show the next butterfly going up (down, to the right, to the left)? Why?

**Extensions**

- Have children enact the pattern by gesturing with their hands as you point to the markers on the calendar in sequence. You might even work with the class to make up a chant to accompany the motions (e.g., *Butterfly up, up; Butterfly to the right; Butterfly down, down; Butterfly to the left*, and so on).
- Have students stand up and “dance” the pattern, moving 2 or 3 steps in each direction as a helper points to the markers. (You might want to introduce and use the words *forwards* and *backwards* in place of *up* and *down* if you choose to do this extension with your group.)
- Have children pretend to be butterflies, and give them simple flight directions such as, “Fly 2 steps forward. Now fly 3 steps to the right. Now fly 1 step backward.”

**CHALLENGE**

Mark an x on the floor with blue masking tape somewhere in your classroom. Place a real, paper, or plastic flower elsewhere in the room. Challenge interested students to figure out how to get from the x to the flower, stepping only forwards, to the right, backwards, and/or to the left. Encourage them to develop different routes and find some way to record their sets of directions using symbols and/or simple sketch maps.



































If some of your students are particularly interested in maps, you might share one or more of the books listed below with the class, or pass the titles along to families who want to support their budding cartographers.

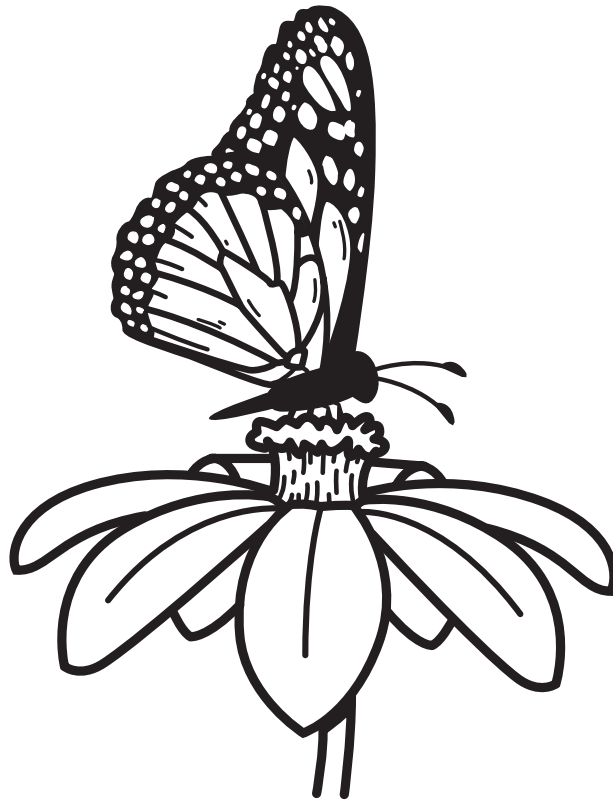
- *Me on the Map* by Joan Sweeny
- *Where Do I Live?* by Neil Chesnow
- *As the Crow Flies: A First Book of Maps* by Gail Hartman

## November Calendar Pattern (cont.)

**NOTE** Below is a representation of the November calendar grid. The full-size calendar markers are available at <http://gotomlc.org/calmarkers>.

 <b>November</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			 1	 2	 3	 4
 5	 6	 7	 8	 9	 10	 11
 12	 13	 14	 15	 16	 17	 18
 19	 20	 21	 22	 23	 24	 25
 26	 27	 28	 29	 30	 31	

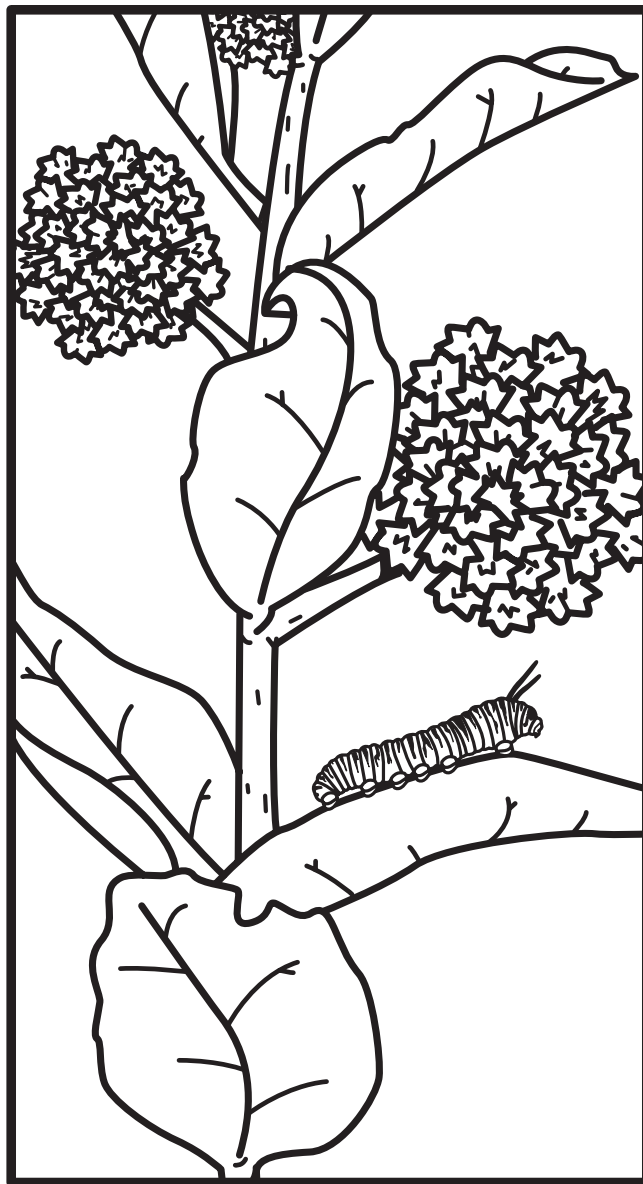
# The Monarch Poem page 1 of 4



## The Monarch

by Donna Burk  
illustrated by Tyson Smith

## The Monarch Poem page 2 of 4



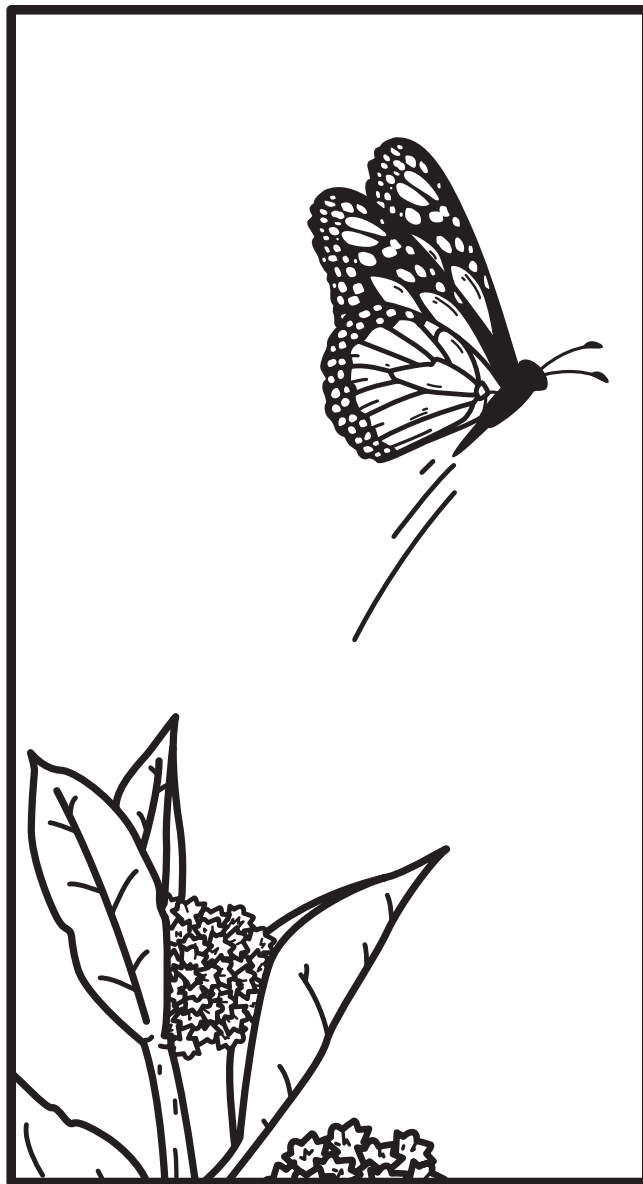
A little egg on some  
Milkweed green,  
Became a caterpillar,  
Tiny and lean.

## The Monarch Poem page 3 of 4



It ate and ate  
Both day and night,  
Then made a chrysalis,  
Oh so bright.

## The Monarch Poem page 4 of 4



It stayed very still,  
The time seemed long,  
But now it's a butterfly.  
Good-bye, so long!





# KINDERGARTEN SUPPLEMENT

---

## Set C4 Geometry: Teddy Bear & Box Calendar Pattern

### Includes

December Calendar Pattern

C4.1

### Skills & Concepts

- ★ describe the location of one object relative to another object using words such as *inside*, *outside*, *behind*, *in front of*, *to the left of*, *to the right of*, *above*, and *below*
- ★ place an object in a specified position
- ★ identify, describe, and extend simple repeating patterns
- ★ read numerals and identify ordinal positions

**Bridges in Mathematics Grade K Supplement**

**Set C4** Geometry: Teddy Bear & Box Calendar Pattern

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2010 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0510

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).

# Set C4 ★ December Calendar Pattern



## CALENDAR GRID

### Teddy Bear & Box

#### Overview

This set of Calendar Grid markers replaces the student-made markers in the month of December, and provides opportunities for kindergartners to practice using key prepositions and prepositional phrases as they describe and discuss the position of a teddy bear relative to a box on each marker.

#### Skills & Concepts

- ★ describe the location of one object relative to another object using words such as *inside*, *outside*, *behind*, *in front of*, *to the left of*, *to the right of*, *above*, and *below*
- ★ place an object in a specified position
- ★ identify, describe, and extend simple repeating patterns
- ★ read numerals and identify ordinal positions

#### You'll need

- ★ Calendar Grid pocket chart
- ★ Day, Month, and Year Calendar Grid cards
- ★ Teddy Bear & Box Calendar Markers (available at <http://gotomlc.org/calmarkers>) Print 1 copy of the calendar marker sheets, preferably in color, single-sided, on white cardstock. Cut the calendar markers apart and laminate if desired.
- ★ Preposition Word Resource Cards (pages C4.7–C4.10, see Advance Preparation)
- ★ a teddy bear
- ★ a cardboard box large enough to hold the bear
- ★ helper jar containing a popsicle stick for each child with his/her name on it
- ★ *All About Where* by Tana Hoban (optional)

.....

**Advance Preparation** Run 1 copy of pages C4.7–C4.10 on cardstock. Cut apart the Preposition Word Resource cards; laminate if desired. Post the 8 cards on the wall to the left of your calendar grid pocket chart.

.....

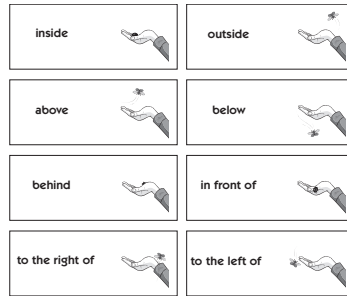
#### Introducing the Teddy Bear & Box Calendar Markers

Ask children to join you near the Number Corner display in your classroom. Show them your teddy bear and the cardboard box. Explain that the bear has come to school today to introduce the new calendar markers for the month.

Ask students to arrange themselves so everyone is sitting in a semi-circle facing the box. Place the bear in front of the box and then behind the box. Hold the bear above the box, and then put it under the box. Put the bear inside the box, and then take it back out of the box. Each time you change the bear's location, tell the students what you are doing, for instance, "I am putting the teddy bear *in front of* the box," "I am putting the bear *behind* the box," and so on.

Next, draw children's attention to the word cards you have posted to the left side of the calendar grid pocket chart. Read the cards to the students, and explain that these are some of the words people use to tell where things are.

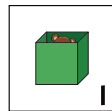
## December Calendar Pattern (cont.)



Now point to each word or phrase and read it to the class again. As you do so, pull a stick out of the helper jar to choose a student to place the teddy bear accordingly.

**Teacher** *The word on this card says above. Sydney, will you please come hold the bear above the box?*

After you have reviewed all the cards, set the bear and the box aside, and post the first calendar marker in the correct pocket. Ask children to pair-share observations. What do they notice about this marker? After a few moments, pull sticks from your helper jar to call on children to share their observations with the class.



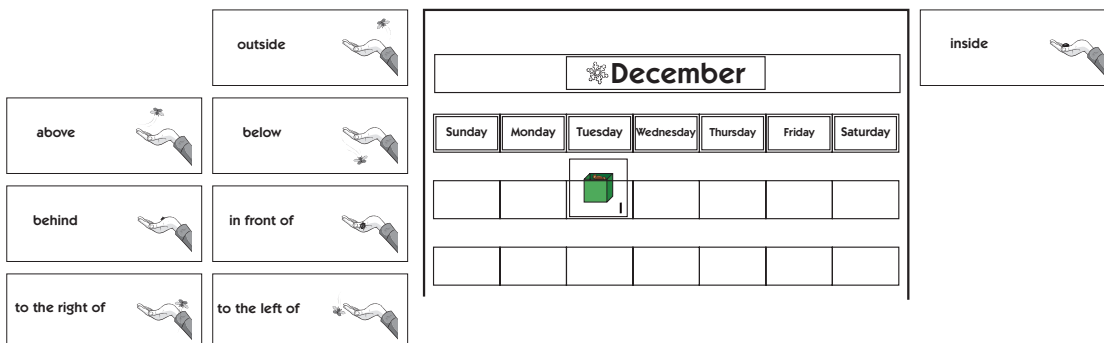
**Students** *It's a teddy bear!*

*He's sitting in the box, like it's a little house for him.*

*That bear is in the box.*

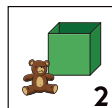
*He looks kind of like Teacher's teddy bear!*

Finally, read the preposition cards to the class again, and ask students to choose the word or phrase that best describes the location of the teddy bear relative to the box on the first marker. Post that card to the right of the calendar grid pocket chart, but leave the others where they are for now.



The following day, post the second marker on the calendar grid. Have children pair-share observations, and then call on volunteers to share their ideas with the group. As students share, ask them to describe the location of the teddy bear relative to the box.

## December Calendar Pattern (cont.)



**Students** *It's a teddy bear again.  
And there's a box, too.*

**Teacher** *Is the bear still inside the box?*

**Students** *No! He's out of the box.  
He's sitting outside.  
He's really close to the box.  
He's kind of in front of the box.*

After students have volunteered several different descriptions, review the unused preposition cards one by one. Which of the words or phrases describe the bear's location? Which do not?

**Teacher** *Let's look at our word cards together and find the ones that tell where the bear is today.  
The word on the first card says above. Can you put your hands above your head? Good! Is the bear above the box?*

**Students** *No!*

**Teacher** *The word on the next card says below. Can you put your hands below your knees? Okay!  
Is the bear below the box?*

Continue until you have gone through all of the cards. Chances are, children will identify more than one card that describes the bear's location on the second marker, including *outside*, *in front of*, and *to the right of*. Post all of these to the right of the pocket chart for now, and then ask students to choose the one that is *the opposite* of the first. Move the other cards back to their original location, and explain that you will need them in the days to come.

above	below	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
behind	in front of							
to the right of	to the left of							

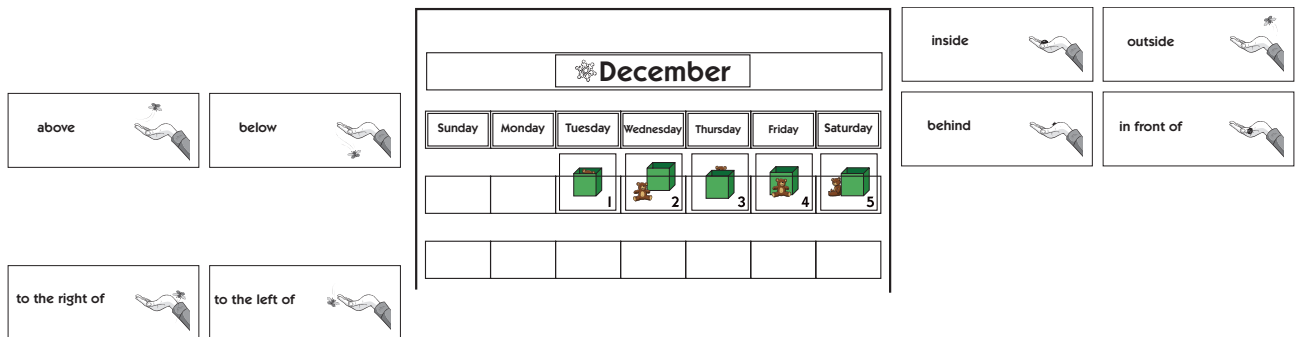
### Continuing through December with the Calendar Grid

Each day, have a helper point to the calendar markers that have been posted so far as the class names the location of each teddy bear in the sequence. Have children predict what the next marker will show before you place it on the chart.

Once the new marker has been posted, ask students to share their observations. Encourage them to use any words and phrases they can to describe the position of the teddy bear each day. Some of the pic-

## December Calendar Pattern (cont.)

tures will elicit more responses than others. When they see the fifth marker, for instance, children may say that the bear is beside the box, near the box, next to the box, or in front of the box. Acknowledge all of these descriptions, and then work with the children to select the card from the collection remaining on the left that best describes the bear's location (to the left of).



**Teacher** You have so many different ways to tell where the bear is on the marker for last Saturday! Jorge said the bear is in front of the box. Sari said the bear is next to the box. James said the bear is beside the box. We only have 4 cards left in our collection, though. Let's read them together and see if any of them work.

By the time you have reached the eighth day, all the word cards should be posted to the right of the calendar grid. Before you teach Number Corner the next day, remove all the cards, mix them thoroughly, and post them on the left-hand side of the calendar grid again. Each day, from the 9<sup>th</sup> through the 16<sup>th</sup> of the month, ask the children to choose a card from the set in order to predict the location of the bear. You can also ask students to use the teddy bear and the cardboard box to show their prediction before you post the marker for the day.

Begin the process again on the 17<sup>th</sup>, and continue through the last day of school before Winter Break. Here are some questions and prompts to use through the month:

- Let's name the position of each teddy bear as our helper points to the markers.
- Where do you think the teddy bear will be on the next marker? Why?
- Where is the bear on the 3<sup>rd</sup> (7<sup>th</sup>, 12<sup>th</sup>, 18<sup>th</sup>) marker?
- I see a teddy bear *behind* a box. Which marker(s) am I looking at?
- I see a teddy bear *below* a box. Which marker(s) am I looking at?

### Extensions

Reinforce the language of position and location by reading *All About Where* by photographer Tana Hoban. This concept book is uniquely rich and open-ended by virtue of the fact that Hoban has listed 15 prepositions on the first and last page of the book, and encouraged children to use as many of them as possible to describe each photograph.

### CHALLENGE











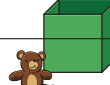





















## December Calendar Pattern (cont.)



If you have a computer in your classroom with Internet access, some of your kindergartners may enjoy two of the applets found on the Utah State National Library of Virtual Manipulatives web site: Ladybug Leaf and Ladybug Mazes. The web site is free and can be accessed at <http://nlvm.usu.edu/>. Follow the links to the Pre-K through 2 geometry section, where you'll find a variety of applets including Ladybug Leaf and Ladybug Mazes. In both of these activities, children program a ladybug around the screen to either hide behind a leaf (easier) or move through a maze (more challenging). Both provide good spatial problem-solving challenges, as well as practice with directional language and skills (forward, backward, right, left). Instructions are included with each applet on the web site, along with suggestions for parents and teachers. Another applet some students may enjoy is Turtle Geometry, also found on the National Library of Virtual Manipulatives web site.

December Calendar Pattern (cont.)

**NOTE** Below is a representation of the December calendar grid. The full-size calendar markers are available at <http://gotomlc.org/calmarkers>.

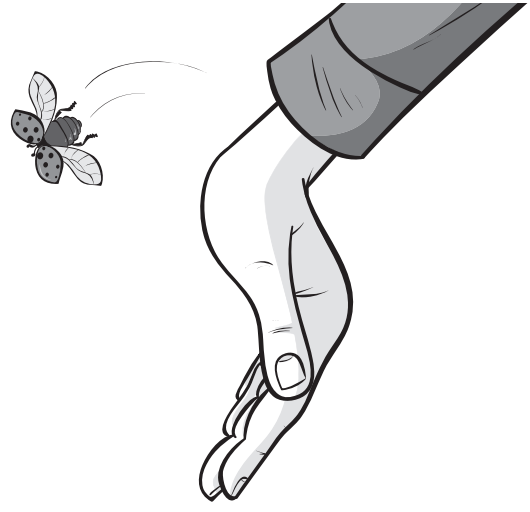
<div style="border: 1px solid black; padding: 5px; text-align: center;">  <span style="font-size: 24pt; font-weight: bold;">December</span> </div>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		 <span style="font-size: 24pt; font-weight: bold;">1</span>	 <span style="font-size: 24pt; font-weight: bold;">2</span>	 <span style="font-size: 24pt; font-weight: bold;">3</span>	 <span style="font-size: 24pt; font-weight: bold;">4</span>	 <span style="font-size: 24pt; font-weight: bold;">5</span>
 <span style="font-size: 24pt; font-weight: bold;">6</span>	 <span style="font-size: 24pt; font-weight: bold;">7</span>	 <span style="font-size: 24pt; font-weight: bold;">8</span>	 <span style="font-size: 24pt; font-weight: bold;">9</span>	 <span style="font-size: 24pt; font-weight: bold;">10</span>	 <span style="font-size: 24pt; font-weight: bold;">11</span>	 <span style="font-size: 24pt; font-weight: bold;">12</span>
 <span style="font-size: 24pt; font-weight: bold;">13</span>	 <span style="font-size: 24pt; font-weight: bold;">14</span>	 <span style="font-size: 24pt; font-weight: bold;">15</span>	 <span style="font-size: 24pt; font-weight: bold;">16</span>	 <span style="font-size: 24pt; font-weight: bold;">17</span>	 <span style="font-size: 24pt; font-weight: bold;">18</span>	 <span style="font-size: 24pt; font-weight: bold;">19</span>
 <span style="font-size: 24pt; font-weight: bold;">20</span>	 <span style="font-size: 24pt; font-weight: bold;">21</span>	 <span style="font-size: 24pt; font-weight: bold;">22</span>	 <span style="font-size: 24pt; font-weight: bold;">23</span>	 <span style="font-size: 24pt; font-weight: bold;">24</span>	 <span style="font-size: 24pt; font-weight: bold;">25</span>	 <span style="font-size: 24pt; font-weight: bold;">26</span>
 <span style="font-size: 24pt; font-weight: bold;">27</span>	 <span style="font-size: 24pt; font-weight: bold;">28</span>	 <span style="font-size: 24pt; font-weight: bold;">29</span>	 <span style="font-size: 24pt; font-weight: bold;">30</span>	 <span style="font-size: 24pt; font-weight: bold;">31</span>		



# Preposition Word Resource Cards page 1 of 4



**inside**



**outside**

# Preposition Word Resource Cards page 2 of 4

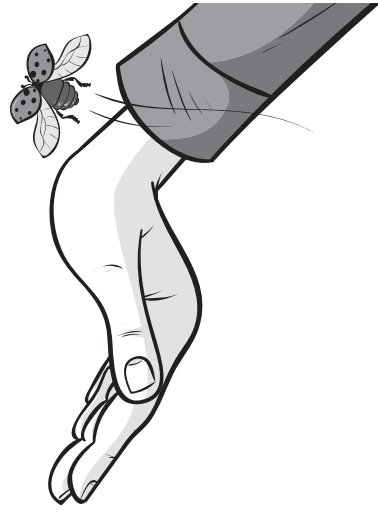
**behind**



**in front of**



# Preposition Word Resource Cards page 3 of 4



**to the right of**



**to the left of**

# Preposition Word Resource Cards page 4 of 4



**above**



**below**



# KINDERGARTEN SUPPLEMENT

---

## Set C5 Geometry: Growing Shapes Calendar Pattern

### Includes

January Calendar Pattern

C5.1

### Skills & Concepts

- ★ identify, describe, and compare triangles, rhombuses, trapezoids, and hexagons
- ★ combine shapes to create two-dimensional objects
- ★ describe simple growing patterns with shapes
- ★ analyze simple repeating and growing relationships to extend patterns
- ★ use cardinal and ordinal numbers

**Bridges in Mathematics Grade K Supplement**

**Set C5** Geometry: Growing Shapes Calendar Pattern

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2010 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0510

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).

# Set C5 ★ January Calendar Pattern



## CALENDAR GRID

### Growing Shapes

#### Overview

This set of Calendar Grid markers replaces the student-made markers in the month of January. The first marker in the sequence shows a green triangle pattern block. The second shows a blue rhombus. The third shows a red trapezoid. The fourth shows a red trapezoid and a green triangle. The fifth shows a red trapezoid and a blue rhombus, and the sixth a hexagon. The figures grow larger from one marker to the next, but the sequence does not stop and then start over again. It just keeps growing. This may puzzle kindergartners, because up until now, much of our instruction has focused on repeating patterns, patterns composed of a basic unit or “core,” such as AB or ABC, or ABBC, that repeats over and over again. The markers this month are designed to help children understand that a pattern can also be a sequence of shapes or numbers that *grows* or *increases* in a predictable way.

#### Skills & Concepts

- ★ identify, describe, and compare triangles, rhombuses, trapezoids, and hexagons
- ★ combine shapes to create two-dimensional objects
- ★ describe simple growing patterns with shapes
- ★ analyze simple repeating and growing relationships to extend patterns
- ★ use cardinal and ordinal numbers

#### You'll need

- ★ Calendar Grid pocket chart
- ★ Day, Month, and Year Calendar Grid cards
- ★ Growing Shapes Calendar Markers (available at <http://gotomlc.org/calmarkers>) Print 1 copy of the calendar marker sheets in color, single-sided, on white cardstock. Cut the calendar markers apart and laminate if desired.
- ★ pattern blocks
- ★ 2 pieces of lined chart paper (see Advance Preparation)
- ★ helper jar containing a popsicle stick for each child with his/her name on it

**Advance Preparation** Draw 3 columns on both sheets of lined chart paper, as shown below. Add a title and column labels to the first sheet, and post the sheet next to your Calendar Grid pocket chart. Keep the second sheet in reserve until the middle of the month, and then attach it to the first so you can continue to record observations through the entire month.

Growing Shapes Pattern		
Date	Shapes	? ▲'s

#### Introducing the Growing Shapes Calendar Markers

Open your first Number Corner lesson in January by directing students' attention to the calendar grid. Explain that you will put up a new calendar marker as each day of the month passes. Place the first marker in the correct pocket, and ask children to pair-share observations.



**January Calendar Pattern** (cont.)

What do they notice about this marker? After a few moments, pull sticks from your helper jar to call on children to share their observations with the class. As students share their observations, ask them to identify the shape by name and explain how they know that it is a triangle.

**Students** *It looks like one of those green pattern blocks.*  
*It looks like a shark tooth!*  
*It's really little.*

**Teacher** *Sari mentioned that the shape on our calendar marker looks like one of our pattern blocks. Sari, could you go over to the tub of pattern blocks and bring back the one you're thinking of?*

**Sari** *It's the same as this one, see?*


**Tomas** *That's a triangle!*

**Teacher** *Tomas says the shape is a triangle. Do you agree? How do you know it's a triangle, not a circle or a square? Talk with the person next to you, and then we'll have some folks share their ideas with the class.*

**Students** *It's not a circle because it isn't round!*  
*It's a triangle because it looks like a mountain.*  
*But it's upside down!*  
*It has 3 points on it, so it must be a triangle.*

Summarize students' observations. Then record the date and the name of the shape on the chart. Leave the third column blank for now.

**Teacher** *We seem to agree that this shape is a triangle. It looks like the green triangle in our pattern blocks. It has 3 sides and 3 corners. Let's record the date and the name of the shape on our calendar chart.*

 <b>January</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	▼					

Growing Shapes Pattern		
Date	Shapes	? ▲'s
1st	1 triangle	

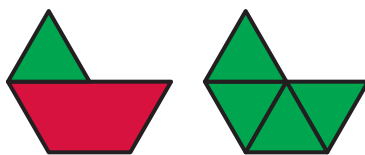
Repeat the process described above on the second and third day of the month. Unless children are very familiar with the names of the pattern block shapes, you will probably have to introduce the shape names *rhombus* and *trapezoid*. On the fourth day, children will notice that there are two shapes instead of one on the marker. Discuss and record both on your chart.

Then ask the children if they think it would be possible to build a figure the same size and shape as the one on the fourth marker using only green triangle pattern blocks. If so, how many green triangles would it take? Discuss these questions with the class. Then ask a volunteer to replicate the figure on







## January Calendar Pattern (cont.)






marker 4 with pattern blocks, and have a second child build the figure again using just green triangle blocks. If necessary, have the second child build directly on top of the first figure, and then move the new figure to the right. Unless your class is very small, you might want to have the children build at the document camera so everyone can clearly see their work.



**Maya** See, I just put 3 triangles together like this for the bottom part, and then 1 on top. It looks the same as the one Justin made, but mine is made out of all triangles.

Record the results of this investigation on the chart. Then work backward with the class to determine how many green triangles it would take to build each of the figures that have appeared so far: the trapezoid, the rhombus, and the triangle. Record each of these numbers on your chart as well.

January						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	 1	 2	 3	 4		

Growing Shapes Pattern		
Date	Shapes	?  's
1st	1 triangle	1  's
2nd	1 rhombus	2  's
3rd	1 trapezoid	3  's
4th	1 trapezoid, 1 triangle	4  's

## Continuing through January with the Calendar Grid

Each day, have a helper point to the markers that have been posted in the pocket chart as the class names the shapes they see. Have children predict what the next marker will show before you place it on the chart. As they share their predictions, press them to explain their thinking.

**Teacher** Today is Friday, January 5th. What do you think we'll see on today's calendar marker? Talk it over with the person next to you, and then I'll use the sticks to choose children to share their ideas with the class.

**Marcus** I think maybe it will be one little green triangle.

**Teacher** Why?

**Marcus** Because maybe it will start over again.

**Teacher** Oh, so we've had a triangle, a rhombus, a trapezoid, and then a trapezoid plus a triangle, and today, you think maybe the whole pattern will start over again?

**Marcus** Yep.

**Teacher** Any other predictions?

## January Calendar Pattern (cont.)

**Students** I think it might be one of those yellow hexagons because the shapes keep getting bigger and bigger.

Maybe it will be a trapezoid with a blue one on top, because yesterday it had a green one on top.

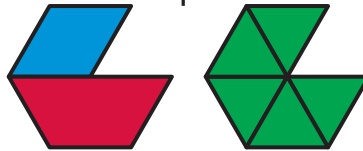
Maybe it will be one of those orange squares with a little triangle on top, like a house.

Ooohhh, maybe a red one and two green ones on top!

Once the new marker has been posted, ask students to share their observations, and work with the class to find out how many green triangles it takes to build the new shape. Record the information on the chart paper.

January						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	▼ 1	▱ 2	▱ 3	▱ 4	▱ 5	

Growing Shapes Pattern		
Date	Shapes	? ▲'s
1st	1 triangle	1 ▲
2nd	1 rhombus	2 ▲'s
3rd	1 trapezoid	3 ▲'s
4th	1 trapezoid, 1 triangle	4 ▲'s
5th	1 trapezoid, 1 rhombus	5 ▲'s




















**Students** Maybe it will take 6 triangles to make the next shape!



















Yeah, maybe it'll be like the hexagon from the pattern blocks.

On the next page, you'll find the calendar grid and chart filled in through the 17th of the month. As you study it, what patterns can you find? Here are some questions to consider:

- How do the figures change from one marker to the next?
- How many triangles does it take to build each figure?
- How does the number of triangles required to build each figure relate to the date on the marker?
- Are there any repeating patterns to be found?
- What will the 18th marker in the sequence show? How do you know?

## January Calendar Pattern (cont.)

January						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	 1	 2	 3	 4	 5	 6
 7	 8	 9	 10	 11	 12	 13
 14	 15	 16	 17			

Growing Shapes Pattern		
Date	Shapes	?  's
1st	1 triangle	1 
2nd	1 rhombus	2 
3rd	1 trapezoid	3 
4th	1 trapezoid, 1 triangle	4 
5th	1 trapezoid, 1 rhombus	5 
6th	1 hexagon	6 
7th	1 hexagon, 1 triangle	7 
8th	1 hexagon, 1 rhombus	8 
9th	1 hexagon, 1 trapezoid	9 
10th	1 hexagon, 1 trapezoid, 1 triangle	10 
11th	1 hexagon, 1 trapezoid, 1 rhombus	11 
12th	2 hexagons	12 
13th	2 hexagons, 1 triangle	13 
14th	2 hexagons, 1 rhombus	14 
15th	2 hexagons, 1 trapezoid	15 
16th	2 hexagons, 1 trapezoid, 1 triangle	16 
17th	2 hexagons, 1 trapezoid, 1 rhombus	17 

If you predicted that 3 hexagons will appear on the 18th marker, you are correct. What enabled you to make that prediction accurately? On which other days are the figures on the markers built entirely of hexagons? How many more times will this happen before the end of the month? Why?

Here are some additional questions and prompts you might use to help your students investigate this pattern through the month:

- Let's say the names of the shapes on each marker so far.
- How many triangles did it take to build the figure on yesterday's marker? How many triangles do you think it will take to build the figure on today's marker?
- Which shapes do you think we'll see on the next marker? Why?
- Can you find any patterns in the markers so far? Are there any patterns you can see?
- Which of the markers so far have only hexagons on them?
- Can you show or tell the date for the next marker that will show only hexagons?
- If we mark one of the diagonals on our grid by placing a yardstick over markers 4, 10, and 16, do you notice any patterns? What if we look at the diagonal formed by markers 5, 11, and 17?

Despite the fact that there are both repeating and growing patterns to be found in the sequence of markers this month, don't be too surprised if some of your students can't see them, or remain unconvinced that there are any patterns at all. The leap from repeating to growing patterns is a big one, and students will have other opportunities this year and next to build new understandings.

### Extensions

- Each day from the middle of the month on, challenge interested students to build with pattern blocks what they believe the next figure in the sequence will be. Invite them to leave the figures they create

## January Calendar Pattern (cont.)

near the calendar so they can confirm their ideas the next day. Some children may be interested in building several figures forward.

- At the end of the month, you might ask students to imagine what the markers would look like if the pattern continued beyond the 31st. Invite them to build the figures they think they would see on markers 32, 33, and 34.

**CHALLENGE**

- A few of your students may be interested in investigating the number of pattern blocks there are in each figure. For instance, the first three figures are built with 1 pattern block each. The next two figures are each comprised of 2 pattern blocks. The sixth figure only takes 1 pattern block. If you list the number of pattern blocks per figure in a long column and circle the numbers that are the same, you and the students may discover some interesting patterns as the month progresses. (It's okay if there is only 1 number in a circle; the key is to loop the identical numbers.)

How many pattern blocks are there in each figure?

































1  
 1  
 1  
 2  
 2  
 1  
 2  
 2  
 2  
 3  
 3  
 2

↓

- Challenge your students to build their own growing patterns with pattern blocks or Unifix cubes. Can they make a series of designs or trains that grows in a predictable manner from one arrangement to the next?

## January Calendar Pattern (cont.)

**NOTE** Below is a representation of the January calendar grid. The full-size calendar markers are available at <http://gotomlc.org/calmarkers>.

 <b>January</b>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	 1	 2	 3	 4	 5	 6
 7	 8	 9	 10	 11	 12	 13
 14	 15	 16	 17	 18	 19	 20
 21	 22	 23	 24	 25	 26	 27
 28	 29	 30	 31			





# KINDERGARTEN SUPPLEMENT

---

## Set C6 Geometry: 3-D Shapes in the World Calendar Pattern

### Includes

February Calendar Pattern

C6.1

### Skills & Concepts

- ★ identify and name cubes, cones, cylinders, and spheres
- ★ describe and compare 3-D objects in the environment
- ★ identify, describe, and extend repeating patterns
- ★ read aloud numerals from 0 to 31
- ★ identify ordinal positions through the 31st

**Bridges in Mathematics Grade K Supplement**

**Set C6** Geometry: 3-D Shapes in the World Calendar Pattern

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2010 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0510

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).



# Set C6 ★ February Calendar Pattern



## CALENDAR GRID

### 3-D Shapes in the World

#### Overview

This set of Calendar Grid markers replaces the student-made markers in the month of February, and provides opportunities for kindergartners to recognize, name, describe, and compare spheres, cylinders, cubes, and cones as they appear in the world around us.

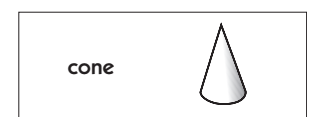
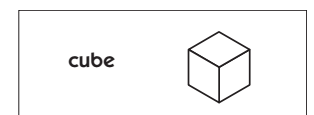
#### Skills & Concepts

- ★ identify and name spheres, cylinders, cubes, and cones
- ★ describe and compare 3-D objects in the environment
- ★ identify, describe, and extend repeating patterns
- ★ read aloud numerals from 0 to 31
- ★ identify ordinal positions through the 31st

#### You'll need

- ★ Calendar Grid pocket chart
- ★ Month and Year Calendar Grid cards
- ★ February 3-D Shapes in the World Calendar Markers (available at <http://gotomlc.org/calmarkers>) Print 1 copy of the calendar marker sheets, preferably in color, single-sided, on white cardstock. Cut the calendar markers apart and laminate if desired.
- ★ 3-D Shapes Labels (pages C6.6 & C6.7, see Advance Preparation)
- ★ 4 pieces of 18" × 24" chart paper (see Advance Preparation)
- ★ helper jar containing a popsicle stick for each child with his/her name on it
- ★ square and triangular polydrons
- ★ *Cubes, Cones, Cylinders & Spheres* by Tana Hoban (optional)

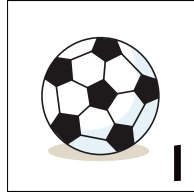
**Advance Preparation** Run 1 copy of the shapes labels. Cut them apart, and glue each one to the top of a piece of 18" × 24" chart paper. Post the 4 charts near your calendar display area.



#### Introducing the 3-D Shapes in the World Calendar Grid Pattern

Open your first Number Corner lesson in February by directing students' attention to the calendar grid. Place the first marker in the correct pocket, and ask children to pair-share observations.

February Calendar Pattern (cont.)



What do they notice about this marker? After a few moments, pull sticks from your helper jar to call on children to share their observations with the class.

**Students** *A soccer ball! I have one like that!*

*Me too!*

*I'm really good at soccer—it's my favorite!*

**Teacher** *What shape is the soccer ball?*

**Students** *It's round, like a circle!*

*It can roll.*

*A real soccer ball is round all the way around, so it can roll.*

After the children have had a chance to share some of their observations, explain that the calendar markers this month will feature several different 3-dimensional shapes. Have students look at the shapes charts you have prepared. Read the name of each shape to the class, and ask students to identify the one that matches the shape of the object on the first marker.

**Students** *It's a sphere! The picture on Marker 1 is a sphere!*

*It's a soccer ball, and it looks like a circle.*

*A sphere is kind of the same as a circle.*

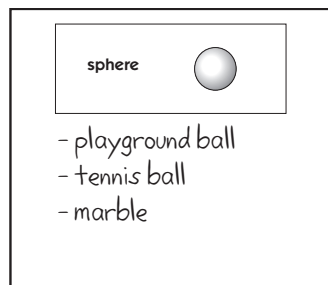
Now ask students to look around the room very quietly. Can they see other examples of spheres from where they are sitting? Ask them to raise a hand as soon as they spot something they think is a sphere. After a few moments, pull sticks from your helper jar to choose a few children to share their ideas with the class. As you call on each student, ask him or her to walk over to the object, point to it or bring it back to the discussion area if it is small, and explain how he or she knows that the object is a sphere.

**Students** *Here's our playground ball. It's round like the soccer ball.*

*I got a tennis ball from the recess basket. It's a sphere because it's round.*





*We have lots of those at my house.*

*This marble is from the marble roll set. It's a little sphere because it's round.*



## February Calendar Pattern (cont.)













Repeat the process described above as you post the markers on the second, third, and fourth days of the month. Each of these markers features a different shape: a cylinder on the second, a cube on the third, and a cone on the fourth day. Take time to have students find examples of each of these shapes as each new marker is posted, and record their discoveries on the shapes charts.

<p>sphere </p> <ul style="list-style-type: none"> <li>- playground ball</li> <li>- tennis ball</li> <li>- marble</li> </ul>	<p>cylinder </p> <ul style="list-style-type: none"> <li>- water bottle</li> <li>- teacher's cup</li> <li>- marker pen</li> <li>- building block</li> </ul>	<p>cube </p> <ul style="list-style-type: none"> <li>- wood cube</li> <li>- building block</li> <li>- toy box</li> <li>- Jay's polydron cube</li> </ul>	<p>cone </p> <ul style="list-style-type: none"> <li>- toy clown's hat</li> <li>- water cup</li> <li>- cone from the gym</li> <li>- tip of Sara's pencil</li> </ul>
--	---	---	---

### Continuing through February with the Calendar Grid

Each day, have a helper point to the markers that have been posted in the pocket chart as the class names the shape of each object. Have children predict what the next marker will show before you place it on the chart. Once the new marker has been posted, ask students to share their observations.

**Teacher** *Let's say the shape of the object on each marker we've posted so far, and then make some predictions about what we'll see on the markers for Saturday, Sunday, and Monday. Brianna, will you point to the markers as we name the shape of each object?*

February						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	 1	 2	 3	 4	 5	 6
 7	 8	 9	 10	 11	 12	





**Students** *Sphere, cylinder, cube, cone; sphere, cylinder, cube, cone; sphere, cylinder, cube, cone... Ball next—it has to be! Maybe it'll be a baseball. My cousin plays baseball with me sometimes!*

**Teacher** *Talk with the person next to you about what shape we might see on the marker for Saturday. Put your thumbs up when you have an idea, and I'll pull sticks from the jar to pick children to share with the class.*

**Students** *It's going to be round. It's going to be one of those spheres. It should be a snowball 'cause of all the snow outside!*

As the month progresses, work with the class to list additional examples of each shape on your charts. Summarize students' descriptions of each shape as well.

## February Calendar Pattern (cont.)

<p style="text-align: center;">sphere </p> <ul style="list-style-type: none"> <li>- playground ball</li> <li>- tennis ball</li> <li>- marble</li> <li>- basketball</li> <li>- golf ball</li> <li>- a purple grape</li> </ul> <p>A sphere is round all the way around. It's like a ball. It rolls.</p>	<p style="text-align: center;">cylinder </p> <ul style="list-style-type: none"> <li>- water bottle</li> <li>- teacher's cup</li> <li>- marker pen</li> <li>- building block</li> <li>- a jar</li> <li>- a pencil can</li> </ul> <p>A cylinder is round in the middle. It is flat on the top and bottom.</p>	<p style="text-align: center;">cube </p> <ul style="list-style-type: none"> <li>- wood cube</li> <li>- building block</li> <li>- toy box</li> <li>- Jay's polydron cube</li> <li>- a tissue box</li> <li>- Jack-in-the-box</li> </ul> <p>A cube is square everywhere. It has 6 sides. It can't roll.</p>	<p style="text-align: center;">cone </p> <ul style="list-style-type: none"> <li>- toy clown's hat</li> <li>- water cup</li> <li>- cone from the gym</li> <li>- tip of Sara's pencil</li> <li>- tip of a crayon</li> <li>- closed up umbrella</li> </ul> <p>A cone is pointy at the top. It has a circle on the bottom. It rolls funny.</p>
--	--	--	---

Here is a summary of the questions and prompts mentioned so far, as well as some others you might use through the month:




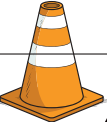
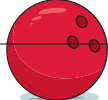

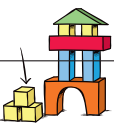



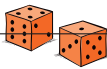

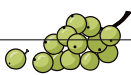
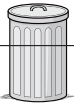

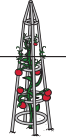

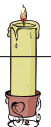





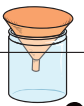


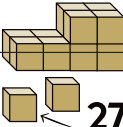



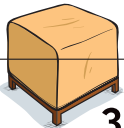
- Let's name the shape of the object on each marker.
- What shape do you think we'll see on the next marker? Why?
- Can you find objects around the room that are spheres (cylinders, cubes, cones)?
- How can you tell if something is a sphere (cylinder, cube, cone)?
- What is the difference between a cylinder and a sphere (a sphere and a cube, a cone and a cylinder)?
- What shape do you see on the 4th (9th, 15th, 25th) marker?
- I see a marker on the calendar grid that has a picture of something shaped like a sphere. This sphere is orange, and it's something you play a game with. Which marker am I thinking of?
- What shape do you predict we'll see on the 23rd (25th, 28th, 30th) marker? How do you know?
- Is there a pattern in the markers this month? If so, what is it? How do you know it's a pattern?

### Extensions

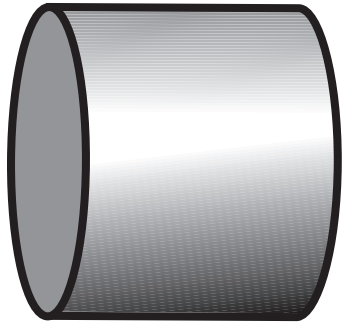
- Work with the class to create a display for each of this month's featured shapes by gathering objects from around the classroom and bringing examples from home.
- Choose one shape each week as the focus of a school-wide shape search. Encourage students to look for examples of the shape on the playground, the gym, the library, the cafeteria, and so on. Consider snapping photos of some of the better examples to add to your shapes charts in class.
- Challenge children to build each of the shapes featured this month with polydrons, blocks, or other construction materials (e.g., legos, construx, tinkertoys, and so on). Is it possible to build a sphere, a cylinder, or a cone with polydrons? Why or why not? What about a cube? What is the largest cube students can build with the collection of polydrons in your classroom?
- Share *Cubes, Cones, Cylinders, & Spheres* with your class sometime during the month. In this wordless book, photographer Tana Hoban identifies four 3-D shapes before showing each in contexts that are familiar to many children (alphabet blocks, ice cream cones) as well as contexts a child might encounter on a trip to the city, country or even Fantasy Land (traffic cones, bales of hay, a castle).

February Calendar Pattern (cont.)

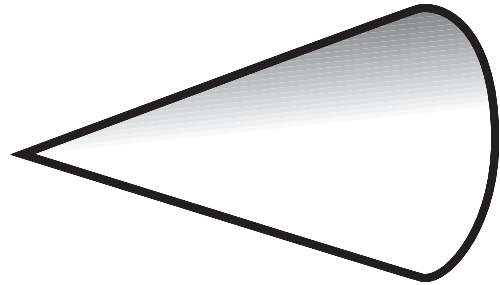
**NOTE** Below is a representation of the February calendar grid. The full-size calendar markers are available at <http://gotomlc.org/calmarkers>.

February						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	 1	 2	 3	 4	 5	 6
 7	 8	 9	 10	 11	 12	 13
 14	 15	 16	 17	 18	 19	 20
 21	 22	 23	 24	 25	 26	 27
 28	 29	 30	 31			

## 3-D Shape Labels page 1 of 2

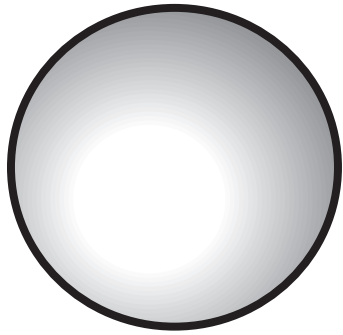


**cylinder**

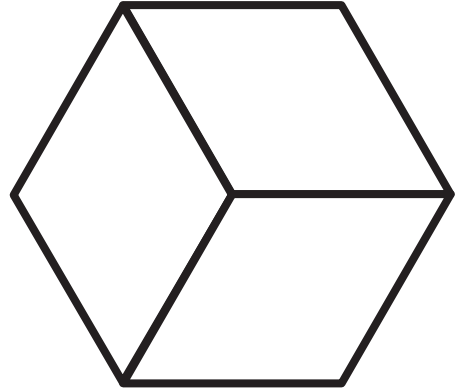


**cone**

# 3-D Shape Labels page 2 of 2



**sphere**



**cube**







# KINDERGARTEN SUPPLEMENT

---

## Set D1 Measurement: Length

### Includes

Activity 1: Longer, Shorter, or the Same?	D1.1
Activity 2: How Long is the Teacher's Necklace or Necktie?	D1.3
Activity 3: Compare, Spin, & Win	D1.5

### Skills & Concepts

- ★ compare and order two or more objects according to length

## **Bridges in Mathematics Kindergarten Supplement**

### **Set D1** Measurement: Length

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2009 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0709

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).

# Set D1 ★ Activity 1



## ACTIVITY

### Longer, Shorter, or the Same?

#### Overview

Students compare the lengths of different pieces of ribbon, yarn, or string.

#### Skills & Concepts

- ★ compare and order two or more objects according to length

#### You'll need

- ★ ribbon or rug yarn in 4–6 different colors (see Advance Preparation)
- ★ lunch sack or small gift bag
- ★ 12 index cards or 3" × 5" pieces of light-colored construction paper
- ★ wide-tipped felt marker

**Advance Preparation** Cut 6 different lengths of ribbon or rug yarn, none shorter than 5" and none longer than 18". Use a variety of colors. Then cut two 8" and two 12" lengths, using a different color for each of the 4 lengths. Place all the pieces in the sack or bag except the two 8" lengths.

#### Instructions for Longer, Shorter, or the Same?

1. Gather children to your discussion circle. Drop the two pieces of 8-inch ribbon or yarn in the middle of the circle. Ask students to predict which is longer. Then ask them to help you find out for sure. What do you need to do to compare these 2 lengths?

**Students** *Hold them up together.*

*Put them down on the rug right together so you can see.*

*I can just tell. It's the white one!*

2. Use their suggestions to compare the 2 lengths. Don't match them at the ends unless the children tell you to do so. If they don't correct you, press the issue.

**Teacher** *You told me to put the ribbons side by side on the rug. Can we tell which is longer now?*



**Students** *The white one!*

*No, the blue one! You can see it's longer because it sticks out more!*

*You have to make them the same at the end or you can't tell.*

3. Match the two ends of the ribbon or yarn and ask students to compare the length now. Which is longer? Write a label on an index card and place it beside the pair of lengths.

**Activity 1** Longer, Shorter, or the Same? (cont.)



**Students** *They're the same!*

*You can see now for sure because you put them together at the end.*

4. Now show students the bag of ribbon or yarn lengths you've prepared. Invite a helper to pull one from the bag and stretch it out in the middle of the circle.

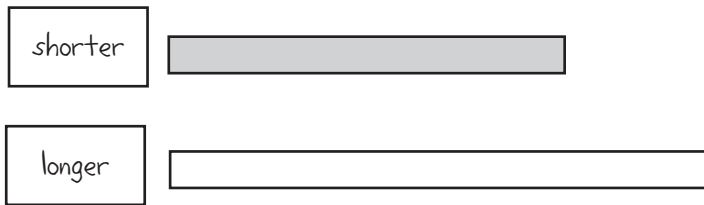
5. Ask a different helper to pull a second length from the bag and hold it up. Have students predict whether it's longer than, shorter than, or the same as the one on the rug. How can they find out for sure?

**Students** *Put them together on the rug.*

*Make sure they're the same at the end!*

*I can already tell that the red one is longer.*

6. After the 2 lengths have been compared, write a label for each on an index card and have 2 helpers set the labels where they belong.



7. Repeat steps 4–6 until the class has compared and labeled all the lengths of ribbon or yarn in the bag.

8. Gather up all the lengths and put them back in the bag as helpers gather the labels for you. Ask 3 different helpers to pull a length from the bag, and then work with input from the class to order and label them from shortest to longest.



**Extensions**

- Make the bag of ribbon or yarn lengths and the labels available during Work Places so pairs of students can play the game on their own. (You'll want to add another "same as" label to the collection in case students pull out both pairs of equal lengths.)
- Invite students to place 4, 5, 6, or perhaps all of the strips in order from longest to shortest.

# Set D1 ★ Activity 2



## ACTIVITY

### How Long is the Teacher's Necklace or Necktie?

#### Overview

Students each cut a piece of string to approximate the length of your necklace or necktie, compare it to find out, and post it on a chart to show the results.

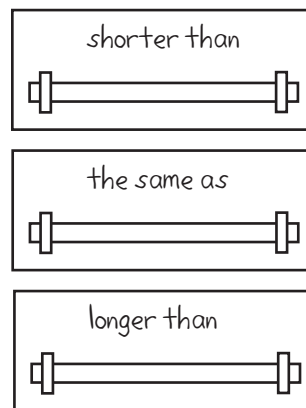
#### Skills & Concepts

- ★ compare and order objects according to length

#### You'll need

- ★ a necklace or a necktie (see Advance Preparation)
- ★ a ball of string for each group of 4 children
- ★ scissors (class set)
- ★ 3 pieces of 6" x 12" construction paper (see Advance Preparation)
- ★ masking tape (see Advance Preparation)

**Advance Preparation** Label each piece of construction paper as shown below. Then run a length of masking tape, *sticky side out*, along the bottom of each sheet and fasten the ends with short strips of tape. Post these on the whiteboard where the children can reach them easily. Wear a necklace or necktie to class the day you conduct this activity.



#### Instructions for How Long is the Teacher's Necklace or Necktie?

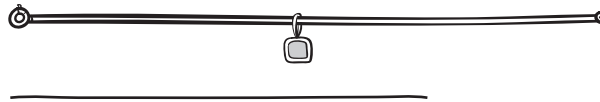
1. Gather children to your discussion circle. Draw their attention to your necklace or necktie. Ask them to use their arms to show how long they think it is.
2. Then remove the necklace or tie from your neck and stretch it out in the center of the circle where everyone can see it. Invite the children to make new estimates, again using their arms to show how long they think it is.

**Activity 2** How Long is the Teacher's Necklace or Necktie? (cont.)

3. Show the children a ball of string and a pair of scissors. Explain that each of them is going to cut a piece of string they think matches the length of your necklace or tie. After they've cut their string, they're going to compare it to your necklace or tie and fasten it to one of the three charts you've posted at the whiteboard.

4. Demonstrate the process yourself by cutting a piece of string you estimate to be about the same length as your necklace or tie. Then work with input from the class to compare the two.

**Teacher** *Is my string shorter than, longer than, or the same as my necklace?*

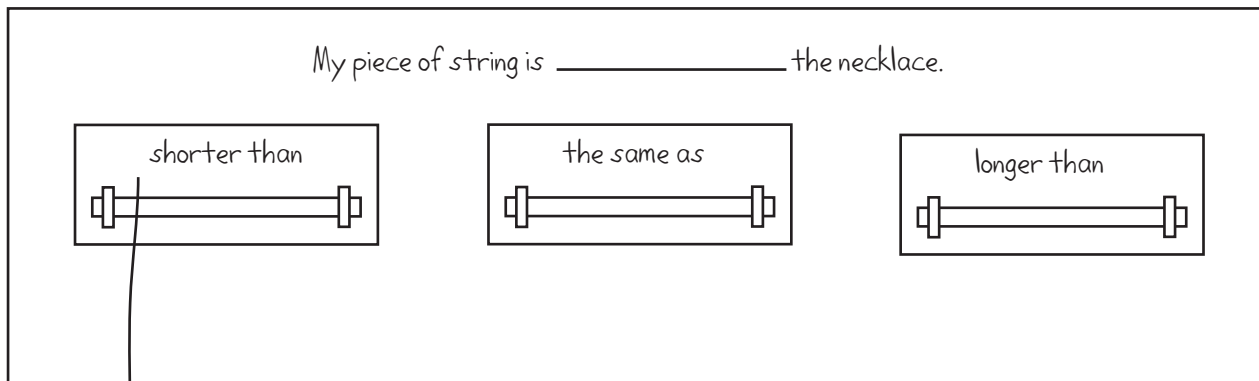


**Students** *It's shorter!*

*Try it again!*

*Can I try?*

5. Work with students' help to caption the charts at the whiteboard, as shown below. Then fasten your string to the appropriate chart by pressing it against the sticky-sided masking tape.



6. When students understand what to do, have them go back to their tables and help one another each cut a length of string they think will match the length of your necklace or tie. As they finish, have them hang the string they've cut around the back of their neck, just as a tailor might wear a measuring tape, and go to one of the Work Places. Invite them a few at a time to compare their string to your necklace or tie and hang the string on the appropriate chart.

7. Discuss the results with the class at a later time. How many students cut strings that were shorter than, the same as, or longer than your necklace or tie? Which chart has the most strings? How can they tell for sure?

**Extension**

- Repeat this activity later in the year with something else that might appeal to your students. (Anything you wear or own is almost sure to interest them. You may even have a parent who's willing to bring a pre-crawling baby to class to be measured. If you use blue masking tape to mark the length of the baby on the floor, students can cut string to approximate the length of the baby.)

# Set D1 ★ Activity 3



## ACTIVITY

### Compare, Spin & Win

#### Overview

The teacher plays a whole-group game with the class to give children more practice comparing lengths.

#### Skills & Concepts

- ★ compare and order two or more objects according to length

#### Recommended Timing

Anytime after Set D1 Activity 1

#### You'll need

- ★ Length Comparison Spinner (page D1.7, see Advance Preparation)
- ★ the lengths of ribbon or rug yarn from Set D1 Activity 1
- ★ lunch sack or small gift bag

.....  
**Advance Preparation** Follow the instructions on the blackline on page D1.7 to prepare a spinner for this game.  
 .....

#### Instructions for Compare, Spin & Win

1. Gather children to your discussion circle. Show them the bag containing lengths of ribbon or yarn, and explain that you're going to use them to play a game today. Pull one of the lengths out of the bag and stretch it out in the middle of the circle. This is your string.
2. Ask a helper to pull a second piece of ribbon or yarn out of the bag for the class. Have students predict whether their piece is longer than, shorter than, or the same as yours. Then ask the helper to lay the students' piece beside yours and have the class compare the two.



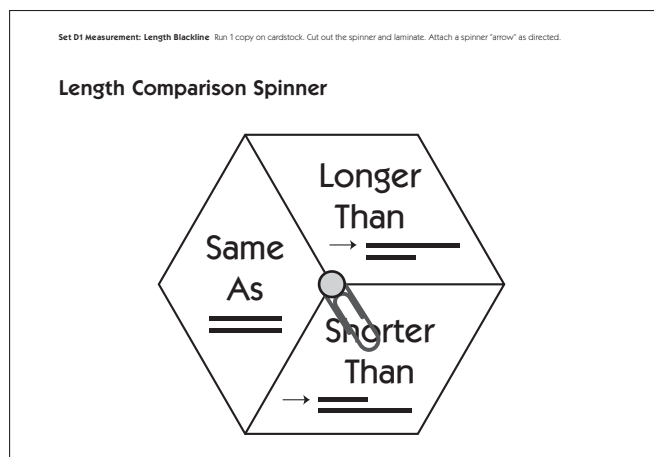
**Students** *Ours is longer than yours.*

*It's lots longer.*

*Yours is way shorter.*

3. Now spin the spinner. If it lands on "longer than" the class (in the example shown above) gets both lengths of ribbon or yarn. Give them to one of the students to hold. If it lands on "shorter than", you get both lengths. Pick them up and hold onto them. If it lands on "same as", both lengths go back in the bag.

## Activity 3 Compare, Spin &amp; Win (cont.)



**Students** *It landed on shorter!*  
*Teacher gets to have both ribbons.*  
*Let's do it again!*

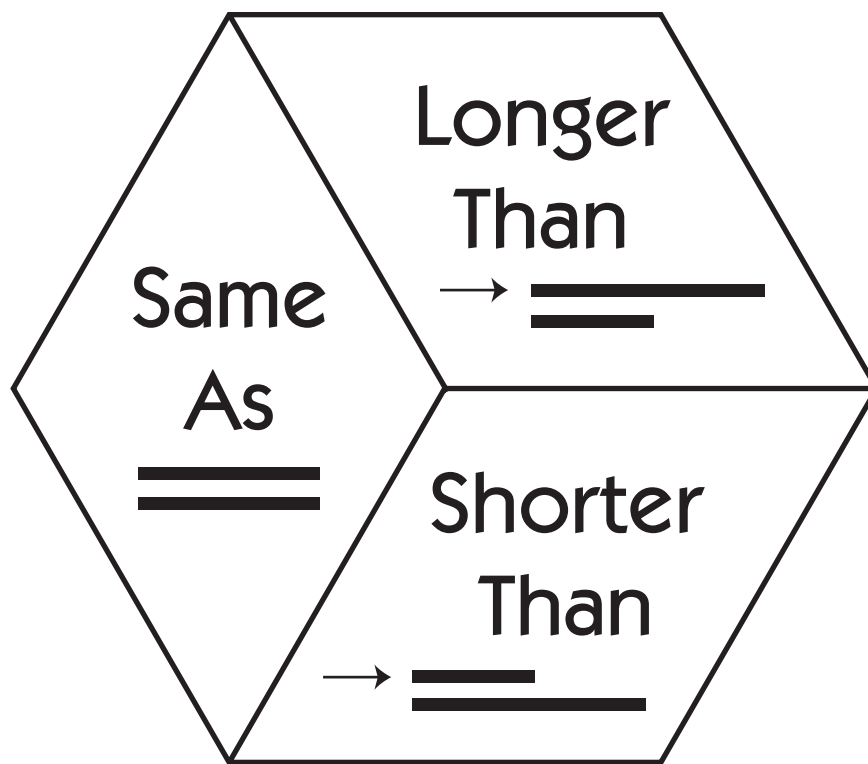
4. Repeat the steps above until you've used up all the lengths of ribbon or yarn. Lay all the lengths you won in the middle of the circle and ask one of the children to help you put them in order from longest to shortest. Then have the child who was holding the students' lengths place them in the middle of the circle, well apart from your set. Ask a couple of students to put the class strips in order from longest to shortest. Finally, compare the longest of your lengths of ribbon or yarn to the longest of theirs. Spin the spinner to determine who wins the game—you or the class. (If it lands on "shorter than", the team with the shorter length of ribbon or yarn wins the game. If it lands on "longer than", the team with the longer length of ribbon or yarn wins. If the spinner lands on "same as", spin again.) Put all the lengths back into the bag so you can play the game again now or in the future.

### Extension

- Set up the bag of ribbon or yarn lengths and the spinner as a Work Place, and let pairs of students play the game on their own.



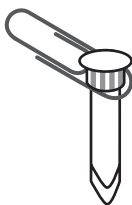
## Length Comparison Spinner



---

### Spinner-Making Instructions

1. Poke a brass fastener through a  $\frac{1}{4}$ " length of drinking straw and a paperclip. Be sure to insert the brad and straw into the large end of the paperclip, as shown.



2. Keeping the straw and the paperclip on the brass fastener, insert it into the midpoint hole of the spinner. Once it has been pushed through to the back side, bend each side of the fastener flat against the underside of the gameboard. The section of straw should serve as a spacer so the brad doesn't push the paperclip flat against the gameboard and prevent it from spinning.

3. Give the paperclip a test spin to see if it works.





# KINDERGARTEN SUPPLEMENT

---

## Set D2 Measurement: Weight

### Includes

Activity 1: Comparing Weights	D2.1
Activity 2: A Pound of Potatoes	D2.5
Activity 3: Spin & Compare Weights	D2.9

### Skills & Concepts

- ★ compare and order objects according to weight
- ★ use nonstandard units to explore the measurement concept of weight

**Bridges in Mathematics Kindergarten Supplement**

**Set D2** Measurement: Comparing Weight

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2009 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P0709

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).

# Set D2 ★ Activity 1



## ACTIVITY

### Comparing Weights

#### Overview

Students share what they understand about the term *weight*, and then work together to compare the weights of several pairs of objects.

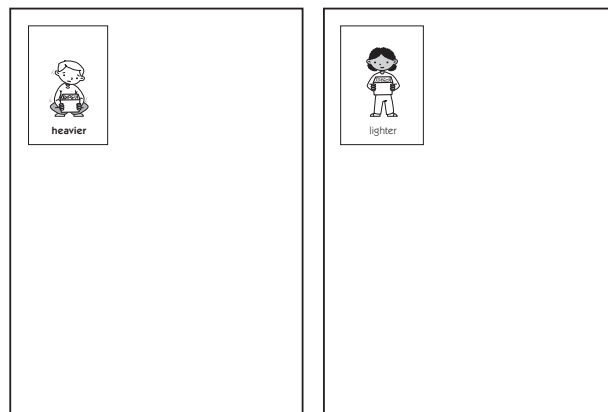
#### Skills & Concepts

- ★ compare and order objects according to weight

#### You'll need

- ★ Weight Comparison Labels (page D2.3, run 1 copy, see Advance Preparation)
- ★ 8 common household objects or classroom items (see Advance Preparation)
- ★ a grocery sack or gift bag
- ★ 2 pieces of 12" × 18" construction paper
- ★ a balance scale

**Advance Preparation** Cut the Weight Comparison Labels apart and glue each to a 12" × 18" piece of construction paper. Place 8 objects of varying weights (e.g., a building block, a tennis ball, a box of crayons, a plastic toy, a whiteboard eraser, a small book, a stuffed animal, and a can of soup) in a grocery sack or gift bag and fold the top over so children can't see the contents.



#### Instructions for Comparing Weights

1. Gather children to your discussion circle. Show them the balance scale and explain that you're going to use it to compare the weights of some objects today. Ask if anyone knows what the word *weight* means.

**Students** *Is that how heavy something is?  
My mom's always saying she weighs too much.  
That scale will show if something's heavier or lighter.*

**Activity 1** Comparing Weights (cont.)

2. Now show students the bag of objects. Pull something out of the bag, and then ask a volunteer to pull out a second object. Place both objects in the middle of the circle and ask children to pair-share which of the two they think is heavier. After a few moments, invite volunteers to share their thinking with the class.

**Students** *The can is heavier. I know because cans like that are always heavy.*

*But the boat is bigger, so maybe it's heavier.*

*I think the can will make the scale go down more because that boat is just plastic.*

3. Ask your helper to compare the two objects by holding one in each hand. Which one feels heavier? Explain that you're going to use the scale to check, and ask students to show with their arms how they think the scale will look after you've placed one of the objects on each side of the scale.



**K'Sondra** *Look! Marco's side of the scale went down!*

**Teacher** *Now I'll put the can on my side of the scale.*

**Students** *Wow! Teacher's side is way down to the floor now. That can is heavy!*

**Teacher** *The can is heavier. The boat doesn't weight as much—it's lighter.*

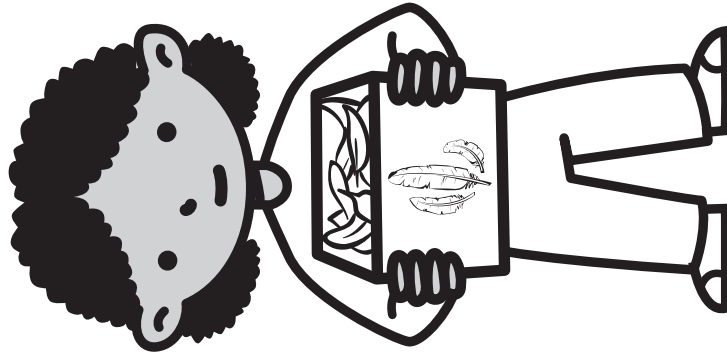
4. Show students the weighing mats you've prepared and place each object on the appropriate mat.

5. Repeat steps 2–4 with the other 3 pairs of objects in the sack. Be sure to use the terms “heavier” and “lighter” throughout the discussion, and encourage students to do so as well. If two of the objects drawn from the sack turn out to balance each other perfectly on the scale, take the opportunity to discuss the idea that some objects weigh the same amount.

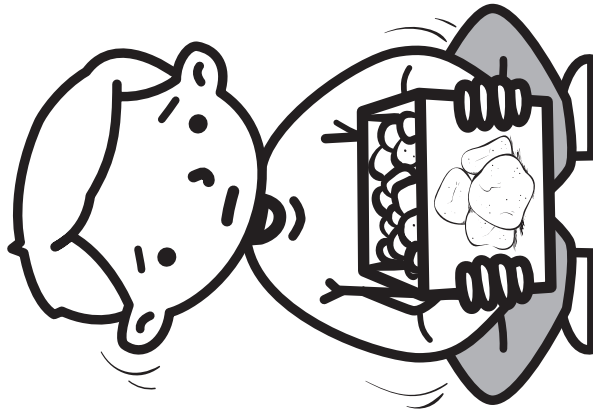
**Extension**

- Return the objects to the sack. Set up the sack, the balance scale, and the weighing mats as a Work Place and let students revisit the activity on their own. You can keep children's interest high by periodically changing the objects in the sack.

**Weight Comparison Labels**



**lighter**



**heavier**





# Set D2 ★ Activity 2



## ACTIVITY

### A Pound of Potatoes

#### Overview

Small groups of 8–10 of students find objects around the classroom that are lighter than, the same as, or heavier than 1 pound.

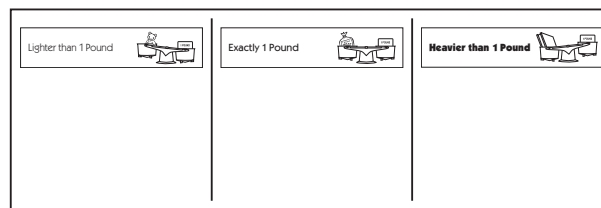
#### Skills & Concepts

- ★ compare and order objects according to weight
- ★ use nonstandard units to explore the measurement concept of weight

#### You'll need

- ★ Weight Graphing Labels (page D2.7, 1 copy, see Advance Preparation)
- ★ 5-foot length of butcher paper (see Advance Preparation)
- ★ 1 pound of potatoes (or other produce such as onions or carrots) in a small sack with handles
- ★ a balance scale
- ★ *Stone Soup* (optional, there are many versions of this old folktale)

**Advance Preparation** Place the potatoes in one of the paper sacks. Fold the butcher paper in thirds the long way to form 3 columns, and glue one of the Weight Graphing Labels to the top of each.



#### Instructions for A Pound of Potatoes

1. Gather a small group of 8–10 children. Show them your sack and explain that you went shopping the other day and bought a pound of potatoes. Take the potatoes out of the sack one by one so they can see how many it took to make a pound when you weighed them on the scale at the store. Give the children a minute or two to share similar experiences. Have they seen a scale in the produce department at the store? Have they helped weigh potatoes, onions, apples, bananas, or other vegetables or fruits on one of those scales? Do they know how much a pound weighs?

2. Put the potatoes back in the sack. Ask one of the children to lift the sack with the potatoes in it. How does it feel? Light or heavy? Have that child leave the group, return with something he or she thinks is about the same weight as the sack of potatoes, and sit back down in his or her spot, still holding the object. Repeat this in quick succession with each child in the group. If some of the children feel that they need to bring several objects in order to approximate a pound (i.e., 2 or 3 blocks, several plastic toys, a couple of hardback books), that's fine.

**Activity 2** A Pound of Potatoes (cont.)

3. When all the children in the group are seated again with their objects, place the sack of potatoes on one side of your balance scale. Then give each child a turn to place his or her object(s) on the other side of the scale. How does (do) the object(s) compare? Is it/are they heavier, lighter, or exactly the same as the sack of potatoes? How do the children know?



**Students** *The block is heavier than the potatoes.*

*I knew it. Those really big blocks are heavy!*

*The scale is tipped down on the block's side. That means it's heavier.*

4. After each child compares the weight of his or her object to the sack of potatoes, have him or her place it in the appropriate column on your graph. When all the objects have been weighed and graphed, take a minute or two to discuss the results. Are there more objects that are heavier than, lighter than, or the same as the 1-pound sack of potatoes?

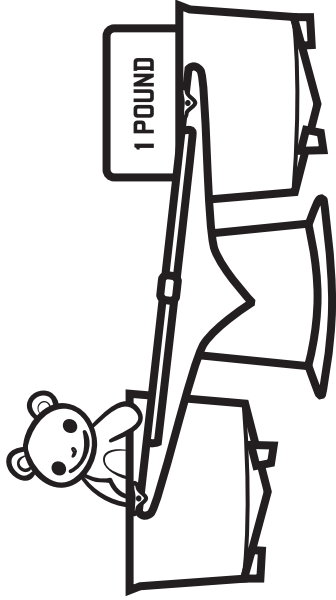
5. Repeat this activity with other groups until each child in class has had a chance to participate. You can either remove the objects from the graph each time or leave them to create a cumulative graph.

**Extensions**

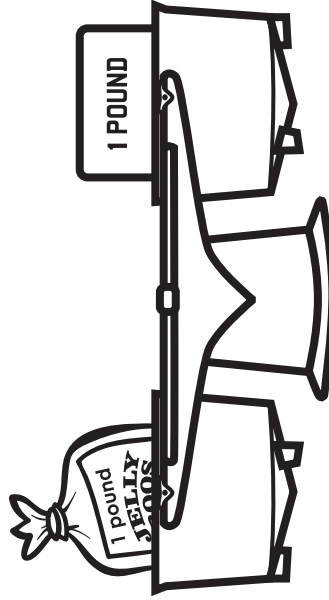
- Set up the sack of potatoes, the balance scale, and the graph as a Work Place. Clear the graph each day and let students build it anew, finding objects around the room that are heavier than, lighter than, or exactly the same as a pound.
- Ask students to find out how many of a particular object it takes to equal the weight of the potatoes exactly. Can they find out how many alphabet blocks they have to place on one side of the balance scale to equal the weight of the potatoes on the other? How many unit blocks does it take? How many large plastic dinosaurs does it take? A few children might enjoy keeping a written record of their discoveries.
- Bring in carrots, onions, and celery, and have students use the balance scale and the pound of potatoes to weigh out a pound of each of these other ingredients. Then read *Stone Soup* and use all the vegetables, along with any other ingredients you want, to make soup with the class.

## Weight Graphing Labels

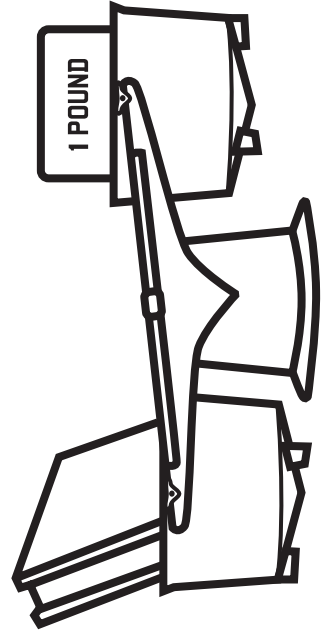
Lighter than 1 Pound



Exactly 1 Pound



Heavier than 1 Pound





# Set D2 ★ Activity 3



## ACTIVITY

### Spin & Compare Weights

#### Overview

Students compare the weights of various pairs of objects.

#### Skills & Concepts

- ★ compare and order objects according to weight

#### Recommended Timing

Anytime after Set D2 Activity 1

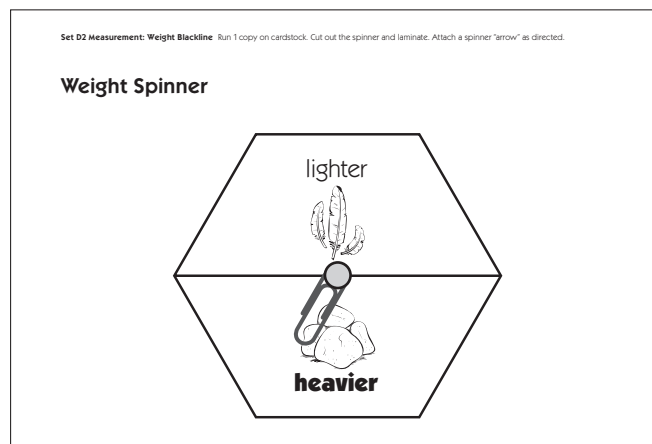
#### You'll need

- ★ Weight Spinner (page D2.11, run 1 copy on cardstock, see Advance Preparation)
- ★ 8, 10, or 12 common classroom or household items of varying weight on a tray or in a basket
- ★ a balance scale

.....  
**Advance Preparation** Follow the instructions on the blackline page D2.11 to prepare a spinner for this game.  
 .....

#### Instructions for Spin & Compare Weights

1. Gather children to your discussion circle. Place the balance scale and tray of objects in the middle of the circle, but still within your reach. Explain that you're going to play a weighing game with the class and show them the spinner you've prepared. Note with them that one side says "heavier" while the other says "lighter".
2. Select an object from the tray and set it on one side of the balance scale. (Choose an object that's lighter than some of the items on the tray, but heavier than others.) Now explain that it's the children's turn to choose an object, but they have to spin the spinner first. If it lands on "heavier", they have to choose an object from the tray that's heavier than the one you just selected. If they spin "lighter", they have to find an object that's lighter than yours. Pass the spinner to one of the children sitting near you and ask him or her to spin it. When it stops spinning, ask the class to read it.



### Activity 3 Spin & Compare Weights (cont.)

**Students** *It landed on the rocks!*

*That's the heavy side.*

*I like the feathers better. I thought it would land there instead.*

3. Ask the children to examine the objects on the tray. Do they see any they think would be heavier than the item you've already placed on one side of the balance scale? After some discussion, have one of them choose an item and place it on the other side of the scale. Is it heavier? How do they know? If it is, remove both objects from the scale and set them together off to one side. If it's not, ask students to experiment with other objects until they find one that works, and then remove both objects from the scale to set off to the side.

4. Repeat steps 2 and 3, but this time, let the students select an object from the tray first, while you spin the spinner and do what it says.

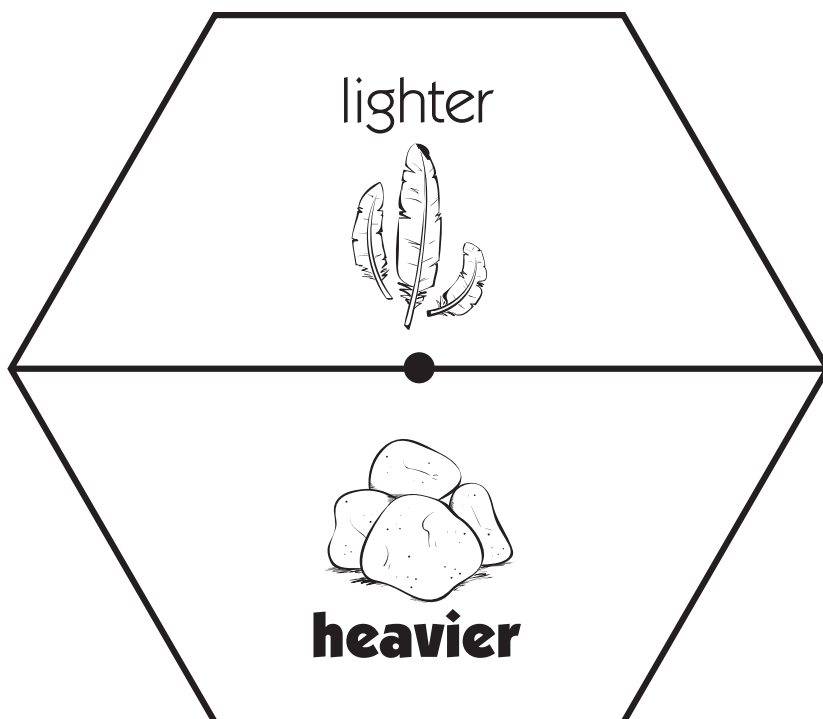
5. Continue the game, taking turns with the class to set the first object on the scale or spin the spinner, until all the objects have been removed from the tray. If you or the class spins something that's not possible, take another turn.

**Teacher** *Oh dear, I think I'm stuck. Justin put that can of soup on the scale for the class and I spun "heavier". There's nothing on the tray that's heavier than the can of soup. I'll have to spin again.*

#### Extension

- Set up the tray of objects, the balance scale, and the spinner as a Work Place, and let pairs of students play the game on their own. You can keep children's interest high by periodically changing the objects on the tray (or asking children to gather new collections).

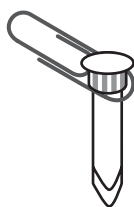
## Weight Spinner



---

### Spinner-Making Instructions

1. Poke a brass fastener through a  $\frac{1}{4}$ " length of drinking straw and a paperclip. Be sure to insert the brad and straw into the large end of the paperclip, as shown.



2. Keeping the straw and the paperclip on the brass fastener, insert it into the midpoint hole of the spinner. Once it has been pushed through to the back side, bend each side of the fastener flat against the underside of the gameboard. The section of straw should serve as a spacer so the brad doesn't push the paperclip flat against the gameboard and prevent it from spinning.

3. Give the paperclip a test spin to see if it works.







# KINDERGARTEN SUPPLEMENT

---

## Set D8 Measurement: Measuring Tools Calendar Pattern

### Includes

April Calendar Pattern

D8.1

### Skills & Concepts

- ★ identify the appropriate instruments used to measure time, weight, temperature, and length
- ★ describe and extend simple repeating patterns
- ★ read aloud numerals from 0 to 31
- ★ identify ordinal positions through the 31st

**Bridges in Mathematics Kindergarten Supplement**

**Set D8** Measurement: Measuring Tools Calendar Pattern

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2010 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P1210

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

*Bridges in Mathematics* is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at [www.mathlearningcenter.org](http://www.mathlearningcenter.org).

# Set D8 ★ April Calendar Pattern



## CALENDAR GRID

### Measuring Tools

#### Overview

This set of Calendar Grid markers replaces the student-made markers in the month of April, and provides opportunities for kindergartners to identify some of the tools commonly used to measure time, weight, temperature, and length.

#### Skills & Concepts

- ★ identify the appropriate instruments used to measure time, weight, temperature, and length
- ★ describe and extend simple repeating patterns
- ★ read aloud numerals from 0 to 31
- ★ identify ordinal positions through the 31st

#### You'll need

- ★ Calendar Grid pocket chart
- ★ Month and Year Calendar Grid cards
- ★ April Measuring Tools Calendar Markers (available at <http://gotomlc.org/calmarkers>) Print 1 copy of the calendar marker sheets, preferably in color, single-sided, on white cardstock. Cut the calendar markers apart and laminate if desired.
- ★ Mini-Markers (pages D8.6–D8.11, see Advance Preparation)
- ★ 4 pieces of 18" × 24" chart paper (see Advance Preparation)
- ★ glue stick and marking pens
- ★ helper jar containing a popsicle stick for each child with his/her name on it
- ★ measuring tools (optional, see Extensions on page D8.4)
- ★ books about measurement to read aloud (optional, see Extensions on page D8.4)

**Advance Preparation** Run 1 copy of the Mini-Markers sheets on copy paper. Cut the mini-markers apart, stack them in order from 1–31, and store them near your calendar display in an envelope or small resealable bag. Label the 4 sheets of chart paper as shown below.

Time	Weight
Temperature	Length

## April Calendar Pattern (cont.)

### Introducing the Measuring Tools Calendar Grid Pattern

Open your first Number Corner lesson in April by directing students' attention to the calendar grid. Explain that as in previous months, you will put up a new calendar marker as each day of the month passes. Place the first marker in the correct pocket, and ask children to pair-share observations. What do they notice about this marker? After a few moments, pull popsicle sticks from your helper jar to call on children to share their observations with the class. Guide them to discuss the fact that people use watches to tell time.

**Students** *It's a watch!*

*My dad has one like that.*

*You can wear it.*

*It has numbers on it, like 1, 2, 3, 4.*

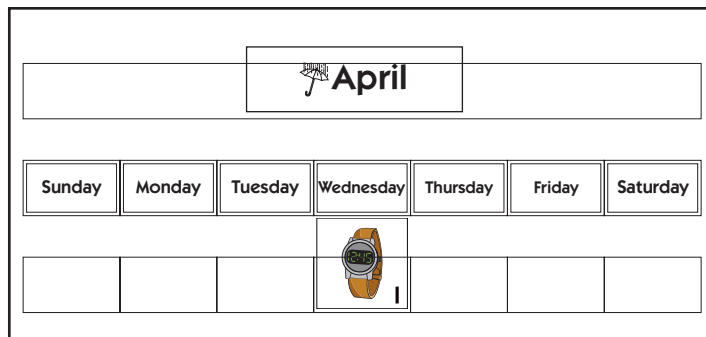
**Teacher** *Why do people wear watches?*

**Student** *To tell time.*

*So they can know what time it is.*

Post the chart you have prepared with the word "Time" written at the top. Read the word with the class, and explain that the calendar markers this month will show pictures of measuring tools. Some of the tools, like the watch shown on today's marker, are used to measure time.

Show students the collection of mini-markers you have prepared. Glue the first one to the Time chart, and work with input from the children to label it. Then ask students to look around the room. Do they see any other tools in the classroom that can be used to measure time.



**Students** *The clock over there!*

*My brother has a watch.*









*What about our play clock in the corner?*

*Teacher has a watch on so she can tell what time it is.*

### Continuing through April with the Calendar Grid

Each day throughout the month, display the new marker. Have children describe the tool shown on the marker, identify it by name, and discuss how it is used. Reinforce the words and concepts of time, weight, temperature, and length by gluing a mini-marker to the appropriate chart each day and labeling the tool shown on the marker.

April Calendar Pattern (cont.)


April						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			 1	 2	 3	 4
 5	 6	 7	 8			


Time

 1 wristwatch


 5 analog clock


Weight

 2 balance scale


 6 kitchen scale


Temperature

 3 thermometer

 7 thermometer

Length

 4 ruler

 8 tape measure

Here are some questions and prompts to use through the month:

- Let's say the name of each tool as our helper points to the markers.
- Let's tell what each tool is used to measure as our helper points to the markers.
- Which kind of measuring tool do you think will come next in our pattern? Why?
- Which tool do you see on the 4th marker? (The 10th marker? The 16th marker?)
- Which markers so far show tools that are used to measure length (time, weight, temperature)? What marker will be the next one to show a tool that measures length (time, weight, temperature)? How do you know?
- Can you find tools around our room we could use to measure length (time, weight, temperature)?

Toward the end of the month, ask students to share observations about the collections of mini-markers you have glued to each of the charts. You might have them examine and discuss one of the charts every 2 or 3 days during the last two weeks of the month.

**Teacher** *Let's look at all the mini-markers we've glued to the time chart so far. What do you notice? Talk with the person next to you for a minute, and then I'll pull some sticks out of our helper jar to choose children to share their ideas with the class.*

**Students** *There are watches and clocks.*

*What's that book thing?*


*That's a planner book. You can write stuff for each day.*


*Everything on there can help you measure time.*


*Some of the things measure minutes and hours, but the calendars have days on them.*


*They all have numbers.*


Time


 1 wristwatch


 5 analog clock


 9 week planner

 13 digital clock

 17 cuckoo clock

 21 calendar

 25 digital clock

 29 mantle clock

## April Calendar Pattern (cont.)





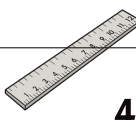

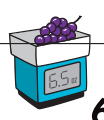

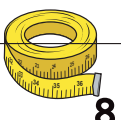







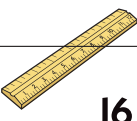


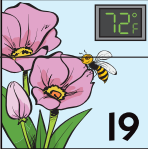



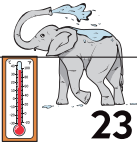
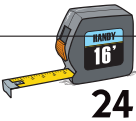



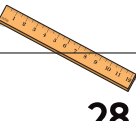



## Extensions

- Bring in and display examples of tools that can be used to measure time, weight, temperature, and length (e.g., a digital clock, a small analog clock, a medical or scientific thermometer, a round outdoor thermometer, a digital thermometer, a kitchen scale, a bathroom scale, a cloth measuring tape, a carpenter's tape measure, and so on). Ask families to send in items to add to the collection.
- Set up a measuring station where children can use some of the tools to measure length or weight.
- Place an outdoor thermometer outside your classroom window, and encourage interested students to read the temperature each day.
- Read books about measuring during the month. Some possibilities include *Length* and *Weight*, both by Henry Arthur Pluckrose, *How Long is It* by Donna Loughran, *Millions to Measure* by David Schwartz, and *How Big is a Foot* by Rolf Myller.

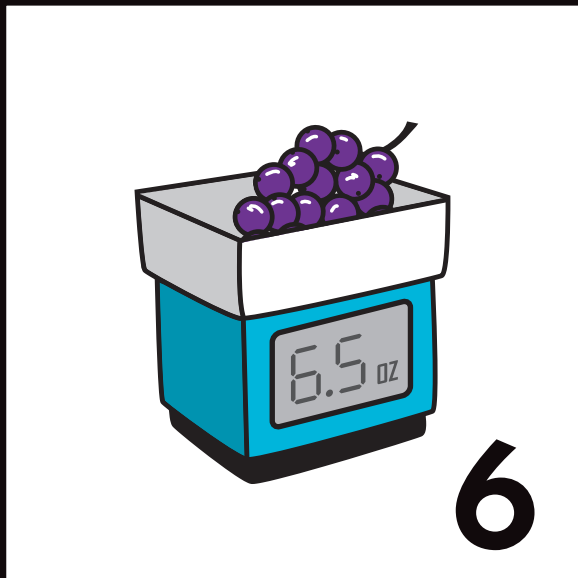
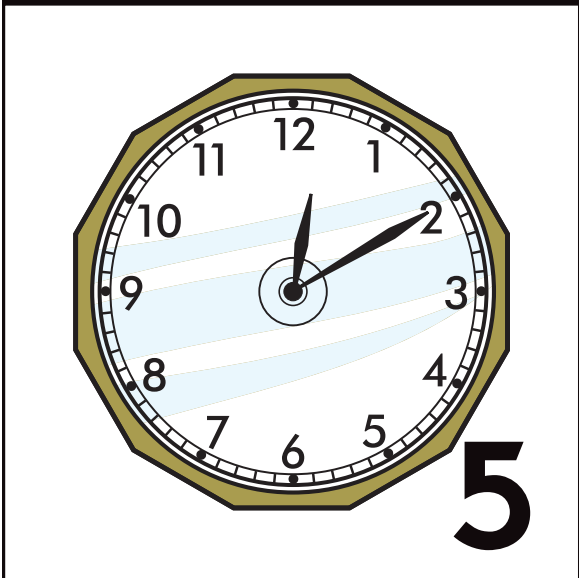
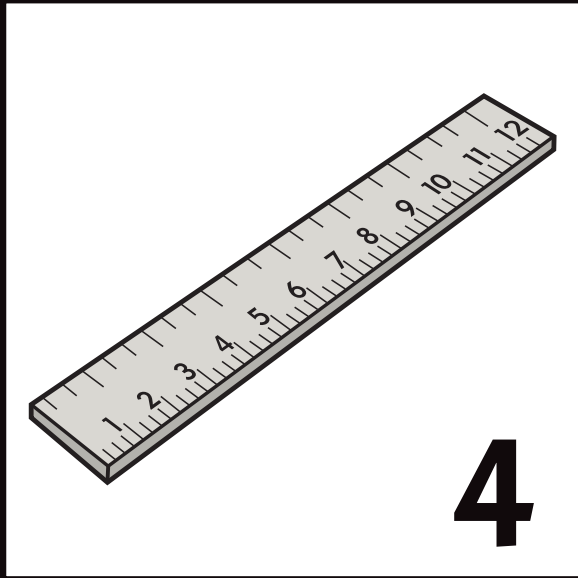
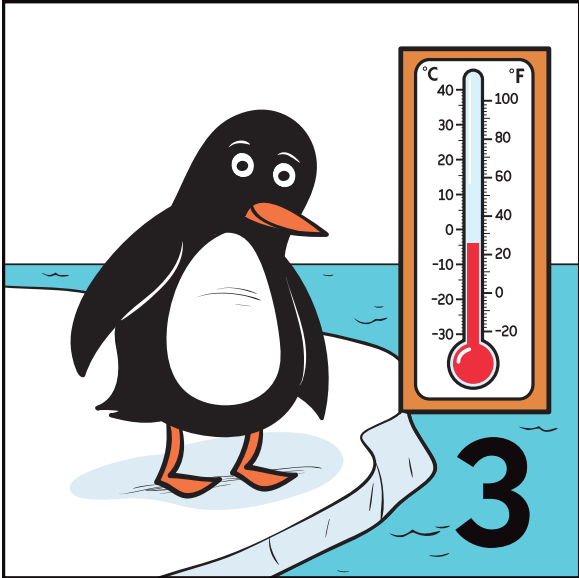
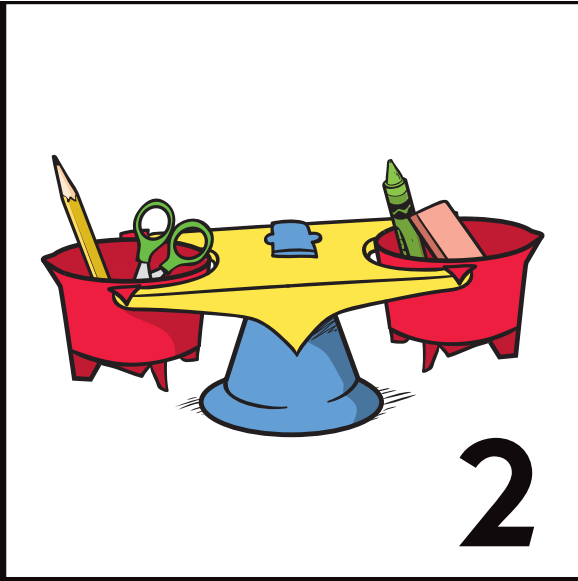
MEASURING TOOLS FEATURED ON THE CALENDAR MARKERS			
Time	Weight	Temperature	Length
Marker 1 Digital wristwatch	Marker 2 Balance scale	Marker 3 Thermometer (cold)	Marker 4 12-inch ruler
Marker 5 Analog clock	Marker 6 Kitchen scale	Marker 7 Thermometer (warm)	Marker 8 Measuring tape
Marker 9 Weekly desk calendar	Marker 10 Bathroom scale	Marker 11 Thermometer (hot)	Marker 12 Measuring tape
Marker 13 Digital alarm clock	Marker 14 Hanging produce scale	Marker 15 Thermometer (cold)	Marker 16 12-inch ruler
Marker 17 Analog Cuckoo clock	Marker 18 Doctor's scale	Marker 19 Thermometer (warm)	Marker 20 Measuring tape
Marker 21 Month calendar	Marker 22 Pan balance	Marker 23 Thermometer (hot)	Marker 24 Measuring tape
Marker 25 Digital outdoor clock	Marker 26 Pediatrician's scale	Marker 27 Thermometer (cold)	Marker 28 12-inch ruler
Marker 29 Analog mantle clock	Marker 30 Truck scale	Marker 31 Thermometer (warm)	

April Calendar Pattern (cont.)

**NOTE** Below is a representation of the April calendar grid. The full-size calendar markers are available at <http://gotomlc.org/calmarkers>.

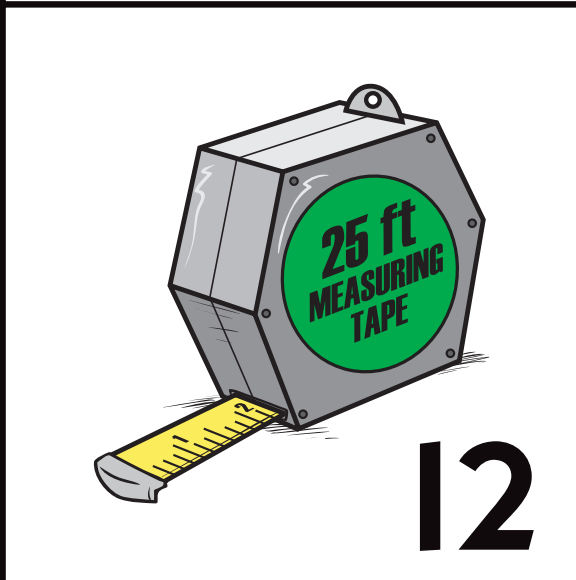
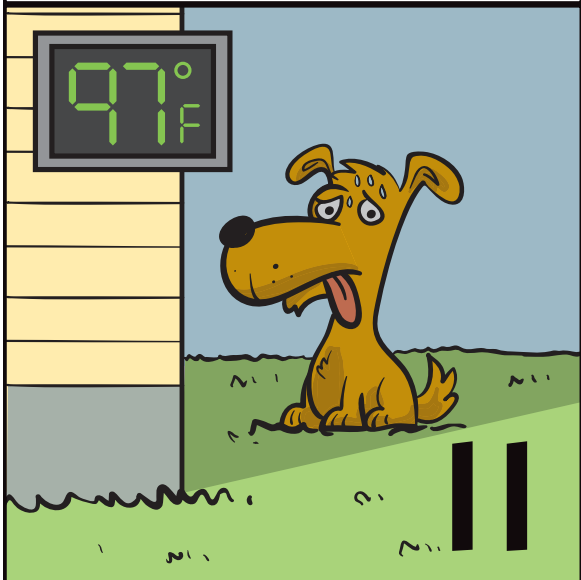
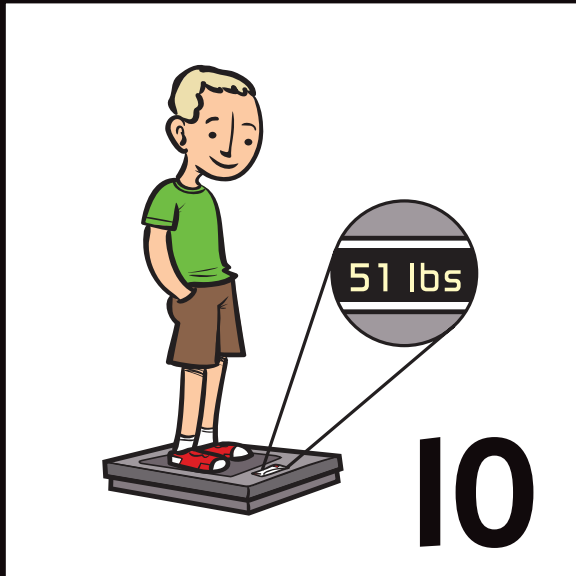
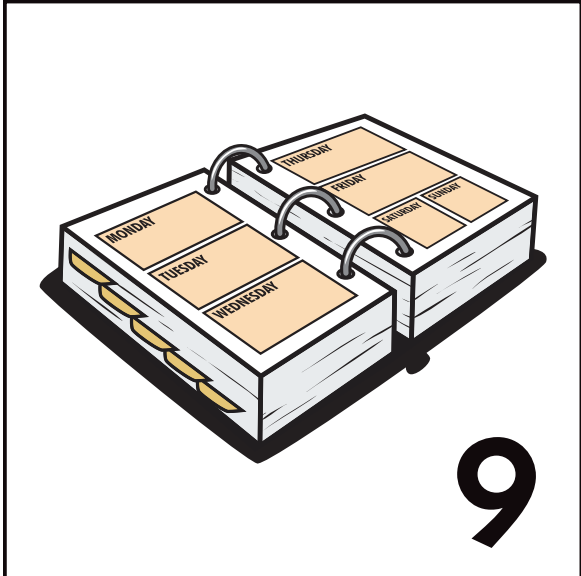
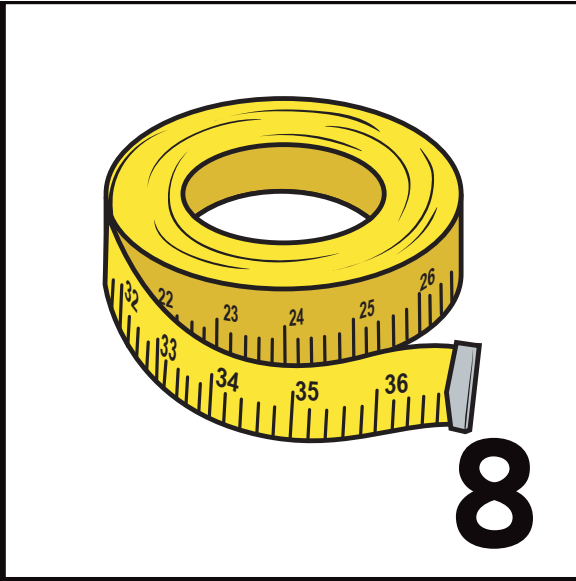
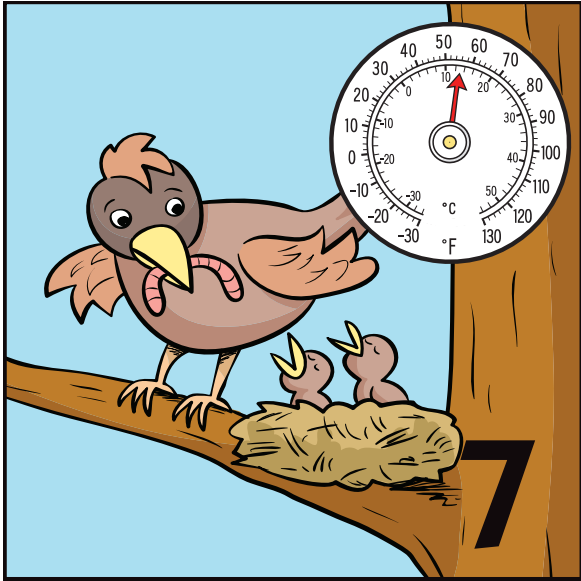
<div style="text-align: center; border: 1px solid black; padding: 5px;">  <span style="font-size: 2em; font-weight: bold;">April</span> </div>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			 1	 2	 3	 4
 5	 6	 7	 8	 9	 10	 11
 12	 13	 14	 15	 16	 17	 18
 19	 20	 21	 22	 23	 24	 25
 26	 27	 28	 29	 30	 31	

# Mini-Markers Page 1 of 6





# Mini-Markers Page 2 of 6

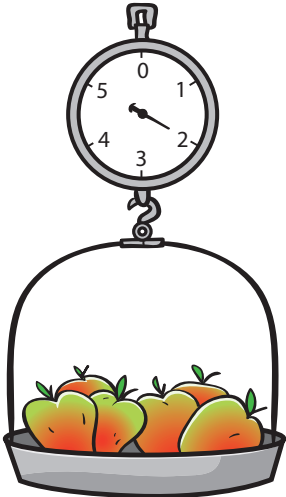


# Mini-Markers Page 3 of 6



A blue digital clock with a black display showing the time 2:10 in yellow digits. It has a speaker grille at the bottom.

**13**



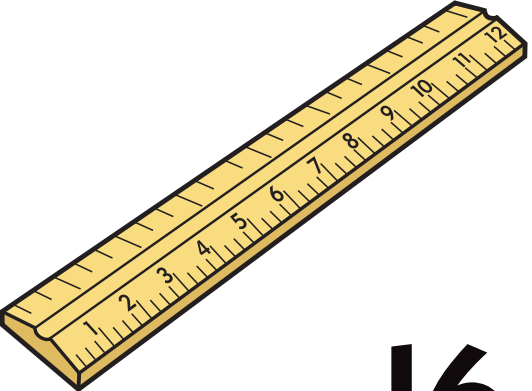
A spring scale with a circular dial showing a measurement of 2. The scale is hanging from a hook and contains a basket of fruit.

**14**



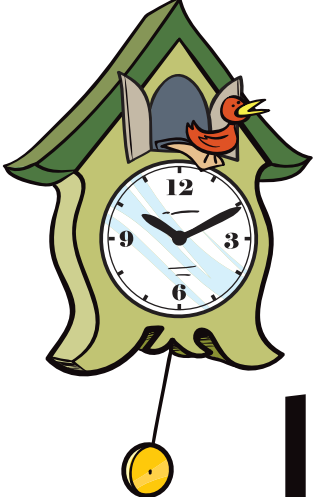
A polar bear standing on a piece of ice. In the foreground, there is a thermometer with two scales: Celsius (0 to 130) and Fahrenheit (-30 to 100). The red needle points to -20 on the Fahrenheit scale.

**15**



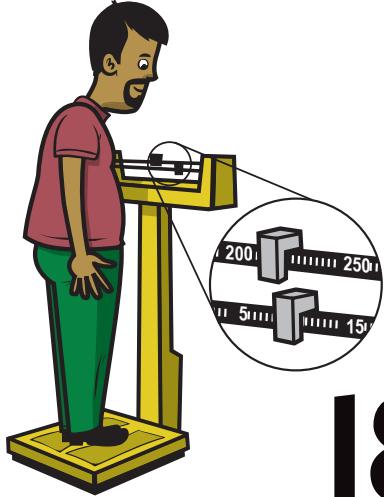
A yellow wooden ruler with black markings and numbers from 1 to 12.

**16**



A green cuckoo clock with a white clock face and a yellow bird popping out of the top. It has a pendulum at the bottom.

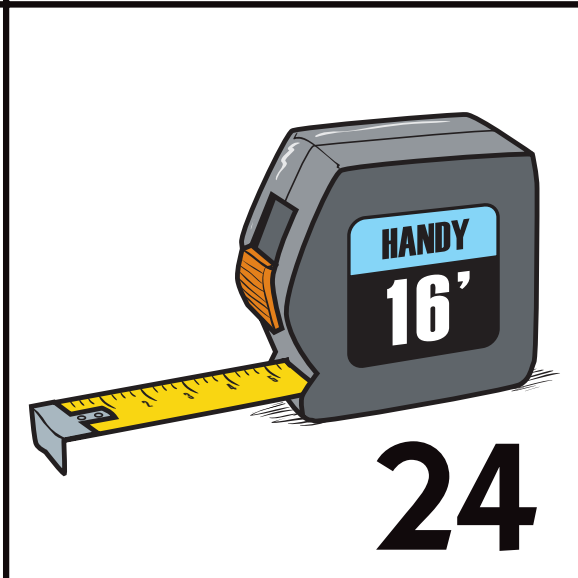
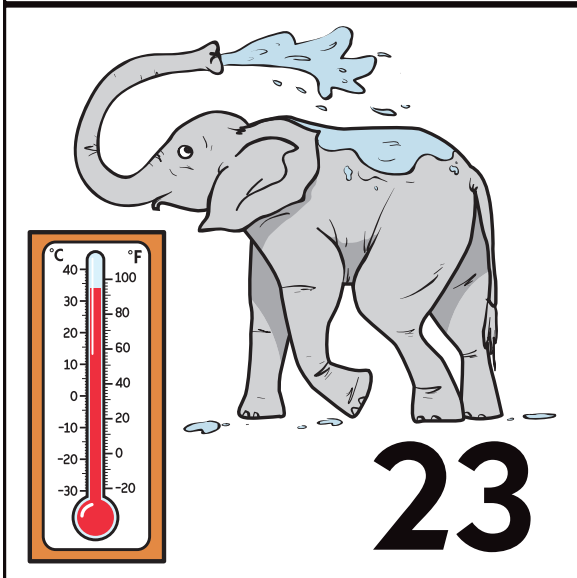
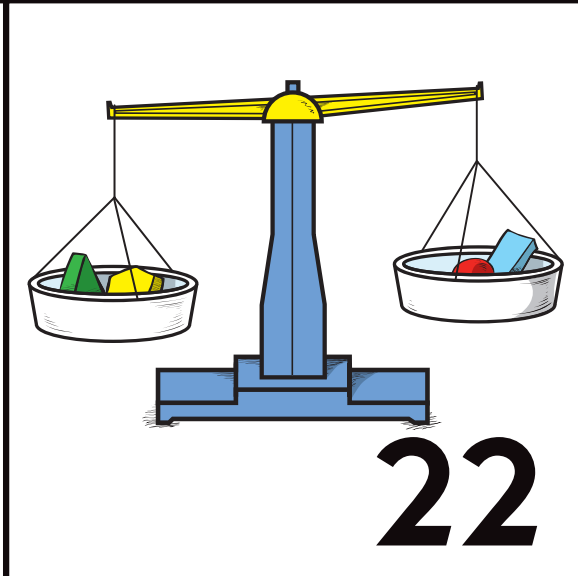
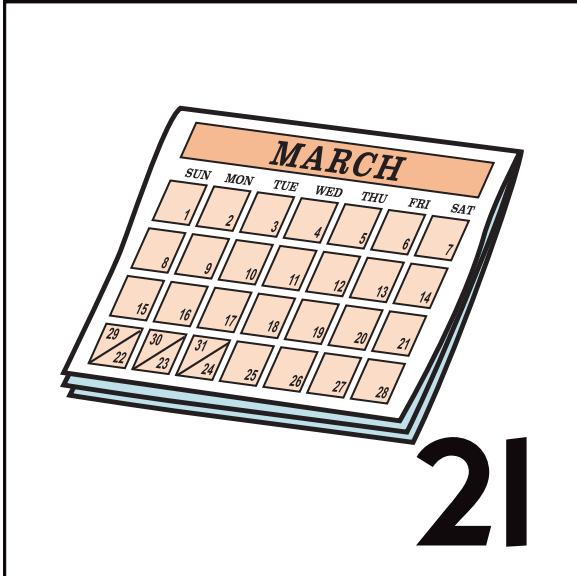
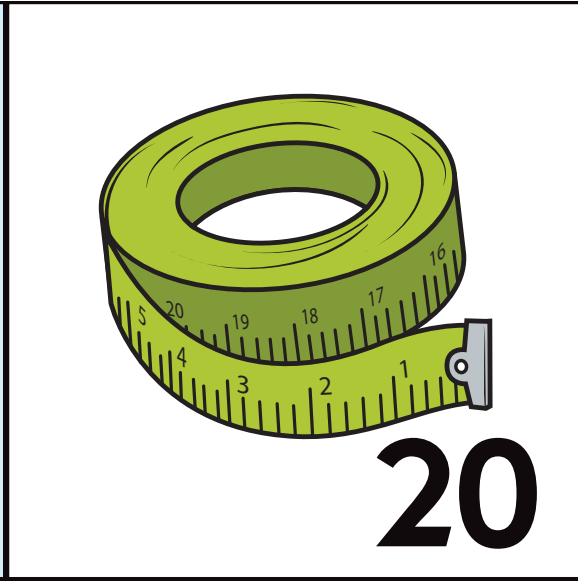
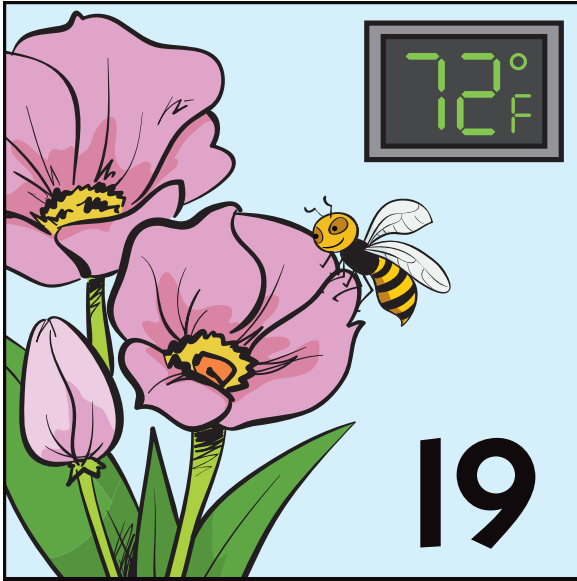
**17**



A person standing on a yellow platform scale. A circular inset shows a close-up of the scale's markings, with numbers 200, 250, 5, and 15.

**18**

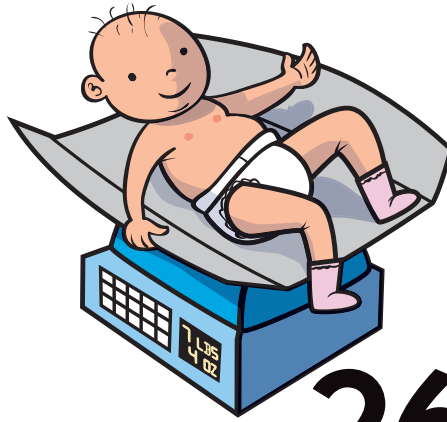
# Mini-Markers Page 4 of 6



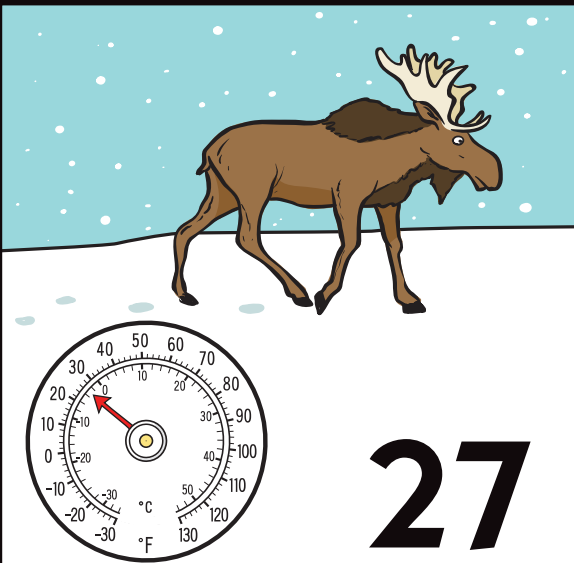
# Mini-Markers Page 5 of 6



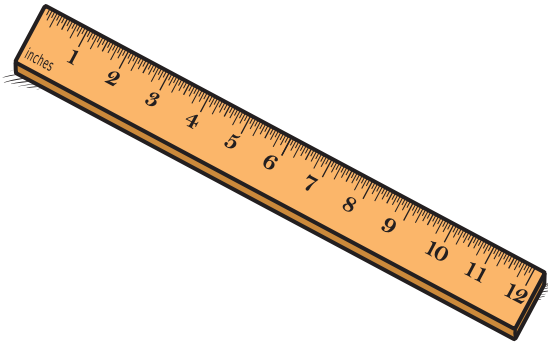
25



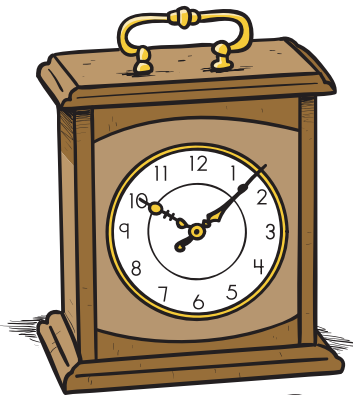
26



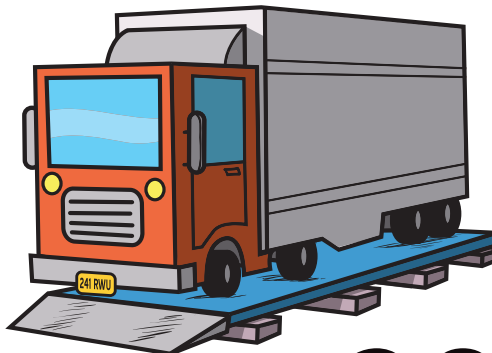
27



28

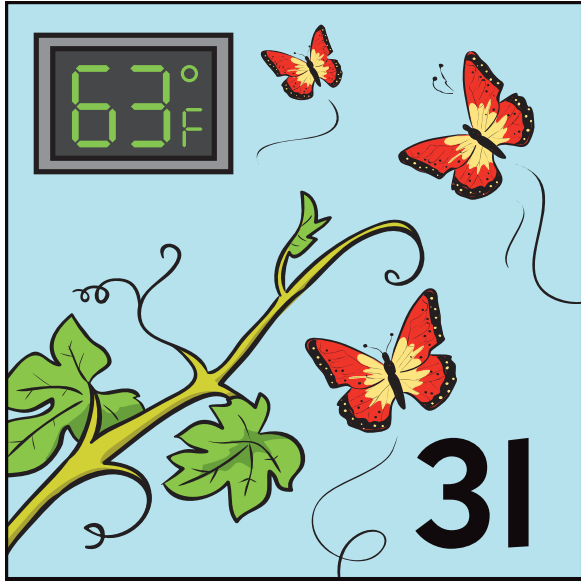


29



30

# Mini-Markers Page 6 of 6







## BRIDGES KINDERGARTEN

PUBLISHER'S CORRELATIONS TO  
COMMON CORE STATE STANDARDS  
FOR MATHEMATICS, KINDERGARTEN





# Bridges Kindergarten Correlations to Common Core State Standards

## Common Core State Standards for Mathematics, Kindergarten

In Kindergarten, instructional time should focus on two critical areas: (1) representing and comparing whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

(1) Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as  $5 + 2 = 7$  and  $7 - 2 = 5$ . (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

## Kindergarten Overview

### Counting & Cardinality

- Know number names and the count sequence.
- Count to tell the number of objects.
- Compare numbers.

### Operations & Algebraic Thinking

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

### Number & Operations in Base Ten

- Work with numbers 11–19 to gain foundations for place value.

### Measurement & Data

- Describe and compare measurable attributes.
- Classify objects and count the number of objects in categories.

### Geometry

- Identify and describe shapes.
- Analyze, compare, create, and compose shapes.

### Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

# Bridges Kindergarten Correlations to Common Core State Standards (cont.)

## COUNTING AND CARDINALITY K.CC

Standard	Bridges (Sessions, W/P, HC)	Number Corner	Supplement	Assessment
1. Count to 100 by ones and by tens.	Volume 1, Session 4 Volume 2, Sessions 57–59, 84, 85, 92, 94, 95, 97, 99	Sept–May Calendar Grid Sept–Our Month in School Oct–May A Link Each School Day	Set A1, Number & Operations: Counting on the Number Line, Activities 1–3	<b>Formal</b> Kindergarten Yearlong Skills Assessment,* Tasks 1, 3, 9
	Volume 2, Work Places 2A, 2B, 2I, 2J, 2K, 2L, 2M, 2N  Home Connections 15, 23	DeclJan Kid Count DeclJan Our Month in School Feb Our Month in School Feb Day 100 Activities May Our Month in School	Set A6, Number & Operations: One Dot, Many Dots Calendar Pattern Bridges Practice Book, pp 1–7, 10, 11, 13–20, 27, 28, 30, 31, 32, 35–39, 45, 48, 49, 50, 51, 54, 59, 60, 61, 63, 67, 68	* The Kindergarten Yearlong Skills Assessment can be accessed on the Bridges Support for K Teachers page at <a href="http://www.mathlearningcenter.org">www.mathlearningcenter.org</a>
2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	Volume 1, Sessions 25, 43, 50, 51, 55 Volume 1, Work Place 1P Volume 2, Sessions 57, 58, 61, 63, 64, 69, 79, 80, 84, 85, 92, 97	DeclJan Our Month in School Feb Our Month in School Feb–May A Link Each School Day	Set A1, Number & Operations: Counting on the Number Line, Activity 1 Set A4, Number & Operations: Addition & Subtraction, Activity 4	<b>Informal</b> S70 & 71 Observational Checklist: Ten & More (Bridges Blackline 2.4) S70 & 71 Observational Checklist: Sock Boxes & Coins: Beat You to 20¢ (Bridges Blackline 2.5)
	Volume 2, Work Places 2A, 2D, 2F, 2G, 2H, 2I, 2J, 2L, 2N  Home Connections 8, 11, 14, 15, 23		Bridges Practice Book, pp 27, 35, 50, 70	<b>Formal</b> Kindergarten Yearlong Skills Assessment, Task 9
3a. Write numbers from 0 to 20.	Volume 1, Session 46 Volume 1, Work Place 1O Volume 2, Sessions 68, 69, 92	Sept. Our Month in School Nov Writing Today's Date Feb–April Calendar Grid	Bridges Practice Book, pp 1–11, 13–20, 22–28, 30–32, 35, 37, 38, 39, 41, 42, 44, 45, 48, 49, 50, 51, 54, 56, 60, 61, 62, 63, 68, 69	<b>Formal</b> Getting Started: Assessment Worksheet 5 (Patterning & Numeral Writing)
	Volume 2, Work Places 2F, 2J, 2N  Home Connections 10, 17			
	Volume 1, Sessions 23, 26, 30, 43, 55 Volume 2, Sessions 68, 69, 92 Volume 2, Work Places 2F, 2J, 2N  Home Connections 3, 14, 15, 21	DeclJan Kid Count	Set A4, Number & Operations: Addition & Subtraction, Activities 1, 6–8 Bridges Practice Book, pp 1–7, 10, 11, 13, 14, 16, 18–20, 28, 30–32, 37, 38, 39, 48, 49, 60, 61, 63	<b>Informal</b> S70 & 71 Observational Checklist: Ten & More (Bridges Blackline 2.4)
3b. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).				<b>Formal</b> Getting Started: Assessment Worksheet 3 (Matching Sets & Numerals)

# Bridges Kindergarten Correlations to Common Core State Standards (cont.)

COUNTING AND CARDINALITY K.CC				
Standard	Bridges (Sessions, WP, HC)	Number Corner	Supplement	Assessment
<b>Count to tell the number of objects.</b>				
4. Understand the relationship between numbers and quantities; connect counting to cardinality.				
a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.	Volume 1, Session 55 Volume 2, Sessions 57–59, 63, 64, 84, 85, 92, 94, 95, 97 Volume 2, Work Places 2A, 2B, 2D, 2I, 2J, 2K, 2L, 2N Home Connections 3, 8, 14, 15	Dec./Jan Our Month in School	Set A4, Number & Operations: Addition & Subtraction, Activities 1–8 Set A6, Number & Operations: One Dot, Many Dots Calendar Pattern	<b>Informal</b> S70 & 71 Observational Checklist: Beat You to 20 (Bridges Blackline 2.3) S70 & 71 Observational Checklist: Ten & More (Bridges Blackline 2.4) <b>Formal</b> Getting Started: Interview 1 Getting Started: Interview 2 Kindergarten Yearlong Skills Assessment, Task 3
	Home Connections 8, 15		Set A6, Number & Operations: One Dot, Many Dots Calendar Pattern	<b>Formal</b> Kindergarten Yearlong Skills Assessment, Task 3
b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.	Home Connections 8, 15			
c. Understand that each successive number name refers to a quantity that is one larger.	Volume 1, Sessions 19, 23, 27, 49 Volume 2, Sessions 61, 68 Home Connection 20	Oct–May A Link Each School Day Dec/Jan Our Month in School Feb Our Month in School May Our Month in School	Set A6, Number & Operations: One Dot, Many Dots Calendar Pattern Bridges Practice Book, pp 22	<b>Formal</b> Getting Started: Interview 3 Kindergarten Yearlong Skills Assessment, Task 3
	Volume 1, Sessions 4, 7, 10, 14, 16–18, 20, 23, 25, 26, 28–30, 40, 41, 43, 49, 50, 51, 55 Volume 1, Work Places 1F, 1J, 1M, 1P Volume 2, Sessions 55, 57–59, 61, 63, 64, 68, 69, 80, 84, 85, 92, 94, 95, 97 Volume 2, Work Places 2A, 2B, 2D, 2F, 2H, 2J, 2K, 2L, 2N Home Connections 3, 4, 6, 8, 14, 15, 21, 23	Dec/Jan Kid Count Dec/Jan Our Month in School Feb Our Month in School Mar/Apr Our Month in School May Here's When We Were Born	Set A1, Number & Operations: Counting on the Number Line, Activities 2, 3 Set A4, Number & Operations: Addition & Subtraction, Activities 1–8 Set A6, Number & Operations: One Dot, Many Dots Calendar Pattern Bridges Practice Book, pp 2, 4–7, 10, 11, 13, 14, 16, 18, 19, 20, 28, 30, 32, 39, 48	<b>Informal</b> S70 & 71 Observational Checklist: Beat You to 20 (Bridges Blackline 2.3) S70 & 71 Observational Checklist: Ten & More (Bridges Blackline 2.4) S70 & 71 Observational Checklist: Sock Boxes & Coins: Beat You to 20† (Bridges Blackline 2.5) <b>Formal</b> Getting Started: Interview 1 Getting Started: Interview 2 Getting Started: Assessment Worksheet 3 (Matching Sets & Numerals) Kindergarten Yearlong Skills Assessment, Tasks 3, 9
5a. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration;				

# Bridges Kindergarten Correlations to Common Core State Standards (cont.)

## COUNTING AND CARDINALITY K.CC

Standard	Bridges (Sessions, WP, HC)	Number Corner	Supplement	Assessment
5b. Given a number from 1–20, count out that many objects.	Volume 1, Sessions 25, 28, 29 Volume 1, Work Place 1J		Set A1, Number & Operations: Counting on the Number Line, Activity 3 Set A4, Number & Operations: Addition & Subtraction, Act 1, 5–8 Set A6, Number & Operations: One Dot, Many Dots Calendar Pattern (Extension 4) Bridges Practice Book, pp 7, 15, 36, 54, 67	<b>Informal</b> S70 & 71 Observational Checklist: Beat You to 20 (Bridges Blackline 2.3)
	Volume 2, Session 57 Volume 2, Work Place 2A Home Connections 1I, 16, 23			<b>Formal</b> Kindergarten Yearlong Skills Assessment, Task 3

<b>Compare numbers.</b>				
6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Include groups with up to ten objects.)	Volume 1, Sessions 5, 7, 16–18, 20, 28, 29, 40, 41, 50, 51 Volume 1, Work Places 1F, 1J, 1M, 1P Volume 2, Sessions 57, 58, 63, 64, 68, 80, 84, 85, 92, 97 Volume 2, Work Places 2A, 2D, 2H, 2I, 2J, 2L Home Connections 4, 8, 18, 19	Mar/Apr: Our Month in School May Here's When We Were Born	Set A4, Number & Operations: Addition & Subtraction, Activities 3, 6 Set A6, Number & Operations: One Dot, Many Dots Calendar Pattern Bridges Practice Book, pp 26, 28, 30, 31, 54, 67	<b>Informal</b> S70 & S71 Observational Checklist: Beat You to 20 (Bridges Blackline 2.3) S70 & 71 Observational Checklist: Sock Boxes & Coins: Beat You to 20† (Bridges Blackline 2.5)
	7. Compare two numbers between 1 and 10 presented as written numerals.		Nov: Writing Today's Date	Set A1, Number & Operations: Counting on the Number Line, Activities 2, 3 Set A4, Number & Operations: Addition & Subtraction, Activity 6 Set A6, One Dot, Many Dots Calendar Pattern

## OPERATIONS AND ALGEBRAIC THINKING K.OA

Standard	Bridges (Sessions, WP, HC)	Number Corner	Supplement	Assessment	
<b>Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</b>	1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.	Volume 1, Sessions 31, 32 Volume 2, Sessions 73–80, 82, 83, 105–111 Volume 2, Work Places 2H, 2O Home Connection 6	Mar/Apr: Our Month in School	Set A4, Number & Operations: Addition & Subtraction, Activities 1, 3–8 Bridges Practice Book, pp 22, 23, 24, 25, 40, 41, 44, 46, 53, 56, 57, 58, 62, 65, 69, 71	<b>Formal</b> Kindergarten Yearlong Skills Assessment, Task 10

# Bridges Kindergarten Correlations to Common Core State Standards (cont.)

OPERATIONS AND ALGEBRAIC THINKING K.OA				
Standard	Bridges (Sessions, WP, HC)	Number Corner	Supplement	Assessment
<b>Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</b>				
2a. Solve addition and subtraction word problems.	Volume 2, Sessions 73–80, 82, 83, 105, 106, 109–111	Dec/Jan Kid Count Feb/Mar Link Each School Day May Here's When We Were Born	Set A4, Number & Operations: Addition & Subtraction, Activities 4, 5, 7, 8 Bridges Practice Book, pp 43, 53, 54, 58, 59	<b>Formal</b> Kindergarten Yearlong Skills Assessment, Task 10
	Volume 2, Work Place 2O Home Connection 6			
2b. Add and subtract within 10, e.g., by using objects or drawings to represent the problem.	Volume 1, Sessions 16, 17	Mar/Apr Our Month in School	Set A4, Number & Operations: Addition & Subtraction, Activities 3–8 Bridges Practice Book, pp 22, 23, 24, 25, 40, 41, 42, 43, 44, 46, 53, 54, 56, 57, 58, 62, 65, 69, 70, 71	<b>Formal</b> Kindergarten Yearlong Skills Assessment, Task 10
	Volume 1, Work Place 1F Volume 2, Sessions 74–80, 82, 83, 105, 106, 109–111 Volume 2, Work Place 2O Home Connection 6			
3a. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings,	Volume 2, Sessions 115, 116	Mar/Apr Our Month in School	Set A4, Number & Operations: Addition & Subtraction, Activities 1, 3, 7, 8 Bridges Practice Book, pp 41, 44, 46, 53, 56, 57, 62, 65, 69	<b>Formal</b> Kindergarten Yearlong Skills Assessment, Task 8
3b. and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$ ).		Mar/Apr Our Month in School	Set A4, Number & Operations: Addition & Subtraction, Activities 1, 7, 8 Bridges Practice Book, pp 41, 44, 46, 53, 56, 57, 62, 65, 69	
4a. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings,	Not Yet Addressed			
4b. and record the answer with a drawing or equation.	Not Yet Addressed			
5. Fluently add and subtract within 5.	Home Connection 20	March/April Our Month in School	Set A4, Number & Operations: Addition & Subtraction, Activities 1, 3–8 Bridges Practice Book, pp 41, 44, 53, 56, 57, 62, 69, 70, 71	<b>Formal</b> Kindergarten Yearlong Skills Assessment, Task 8

# Bridges Kindergarten Correlations to Common Core State Standards (cont.)

## NUMBER AND OPERATIONS IN BASE TEN K.NBT

Standard	Bridges (Sessions, WP, HC)	Number Corner	Supplement	Assessment
<b>Work with numbers 11–19 to gain foundations for place value.</b>				
1a. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings,	Volume 2, Sessions 61, 62, 65, 68, 69, 84, 85, 92, 97 Volume 2, Work Places 2C, 2E, 2F, 2H, 2I, 2J, 2L	Declan Our Month in School	Bridges Practice Book, pp 48, 49	
1b. and record each composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$ );	Volume 2, Sessions 84, 85, 92 Volume 2, Work Places 2I, 2J			
1c. understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	Volume 2, Sessions 61, 62, 68, 69, 79, 84, 85, 97 Volume 2, Work Places 2C, 2F, 2G, 2I, 2L Home Connection 15	October–May Link a Day Declan Our Month in School	Set A1, Number & Operations: Counting on the Number Line, Activity 1 Bridges Practice Book, pp 48, 49	

## MEASUREMENT AND DATA K.MD

Standard	Bridges (Sessions, WP, HC)	Number Corner	Supplement	Assessment
<b>Describe and compare measurable attributes.</b>				
1a. Describe measurable attributes of objects, such as length or weight.	Volume 2, Sessions 94, 95, 113, 114 Volume 2, Work Places 2K, 2P Home Connections 21, 24		Set D1 Measurement: Length, Activities 1–3 Set D2 Measurement: Weight, Activities 1–3 Set D8 Measurement: Measuring Tools Calendar Pattern Bridges Practice Book, pp 47, 66, 67	
1b. Describe several measurable attributes of a single object.	Not Yet Addressed			
2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.	Volume 2, Sessions 113, 114 Volume 2, Work Place 2P		Set D1 Measurement: Length, Activities 1–3 Set D2 Measurement: Weight, Activities 1–3 Bridges Practice Book, pp 29, 30, 66, 67	

# Bridges Kindergarten Correlations to Common Core State Standards (cont.)

MEASUREMENT AND DATA K.MD			
Standard	Bridges (Sessions, WP, HC)	Number Corner	Supplement
<b>Classify objects and count the number of objects in each category.</b>			
3a. Classify objects into given categories;	Volume 1, Sessions 1, 5, 7, 10, 11, 18, 20 Volume 2, Session 72 Volume 2, Work Place 2B	Oct/Nov Our Month in School Mar/April Our Month in School May Here's When We Were Born	Set C1 Geometry: 3-D Shapes, Activities 2, 3 Bridges Practice Book, p 47
		Home Connection 2	
3b. count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)	Volume 1, Sessions 5, 7, 10, 18, 20 Volume 2, Session 72 Volume 2, Work Place 2B	Oct/Nov Our Month in School Mar/April Our Month in School May Here's When We Were Born	<b>Formal</b> Kindergarten Yearlong Skills Assessment, Task 7

GEOMETRY K.G			
Standard	Bridges (Sessions, WP, HC)	Number Corner	Supplement
<b>Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</b>			
1a. Describe objects in the environment using names of shapes,	Volume 1, Sessions 2, 14, 15, 33, 35, 36, 38, 39, 44, 45 Volume 1, Work Places 1B, 1C, 1N Volume 2, Sessions 117–120 Volume 2, Work Places 2Q, 2R	September Calendar Grid	Set C1 Geometry: 3-D Shapes, Activities 1–3 Set C6 Geometry: 3-D Shapes in the World Calendar Pattern
		Home Connections 7, 9, 12, 22, 26	
1b. and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.			Set C2 Geometry: Locations, Activities 1–3 Set C3 Geometry: Flying Butterflies Calendar Pattern Set C4 Geometry: Teddy Bear & Box Calendar Pattern
2. Correctly name shapes regardless of their orientations or overall size.	Volume 1, Sessions 7, 10, 14, 35, 36, 44, 45, 53, 54 Volume 1 Work Places 1L, 1N Volume 2, Sessions 118–120 Volume 2, Work Place 2S	Sep Calendar Grid Dec Calendar Grid	Set C1 Geometry: 3-D Shapes, Activities 1–3 Set C5 Geometry: Growing Shapes Calendar Pattern Set C6 Geometry: 3-D Shapes in the World Calendar Pattern
		Home Connections 1, 2, 13, 22, 26	
3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").	Not Yet Addressed		<b>Formal</b> Getting Started: Interview 1



# Bridges Kindergarten Correlations to Common Core State Standards (cont.)

GEOMETRY K.G				
Standard	Bridges (Sessions, W/P, HC)	Number Corner	Supplement	Assessment
4a. Analyze and compare two-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).	Volume 1, Sessions 1, 10–12, 44, 45 Volume 1, Work Place 1N Volume 2, Sessions 119, 120 Volume 2, Work Place 2S	September Calendar Grid	Set C5 Geometry: Growing Shapes Calendar Pattern Bridges Practice Book, pp 8, 9, 33, 34	<b>Formal</b> Getting Started: Interview 3 Getting Started: Assessment Worksheet 1 (Shape Sorting) Kindergarten Yearlong Skills Assessment, Task 4
	Home Connections 1, 2, 13			
4b. Analyze and compare three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).			Set C1 Geometry: 3-D Shapes, Activities 1–3 Set C6 Geometry: 3-D Shapes in the World Calendar Pattern	
5a. Model shapes in the world by building shapes from components (e.g., sticks and clay balls)...	Volume 1, Sessions 14, 15, 33–35, 38, 39, 44 Volume 1, Work Places 1B, 1C, 1K, 1L, 1N Volume 2, Session 117 Volume 2, Work Place 2Q		Set C1 Geometry: 3-D Shapes, Activity 2 Set C6 Geometry: 3-D Shapes in the World Calendar Pattern (Extension 3)	
	Home Connections 7, 9, 12, 26			
5b. and drawing shapes:			Bridges Practice Book, pp 12, 15, 17, 52	
6. Compose simple shapes to form larger shapes. For example, “Can you join these two triangles with full sides touching to make a rectangle?”	Volume 1, Sessions 14, 33, 35, 36, 44, 45 Volume 1, Work Places 1B, 1C, 1L Volume 2, Sessions 117, 118 Volume 2, Work Places 2Q, 2R		Set C5 Geometry: Growing Shapes Calendar Pattern	
	Home Connections 7, 9, 12, 26			



# Bridges in Mathematics & the Common Core State Standards (CCSS) – Grade K

COUNTING & CARDINALITY		OPS./ALG. THINKING		NUMBER/OPS. IN BASE 10		MEASUREMENT & DATA		GEOMETRY	
<b>K</b>	<ul style="list-style-type: none"> <li>• Rote Count to 100 by 1's &amp; 10's</li> <li>• Read &amp; Write Numbers to 20</li> <li>• Count Objects to 20</li> <li>• Compare Sets &amp; Numbers</li> </ul> Bridges Months: Sep–Feb Number Corner: Sep–May Supplement Sets: A1, A4, A6	<ul style="list-style-type: none"> <li>• Represent &amp; Solve Addition &amp; Subtraction Word Problems</li> <li>• Add &amp; Subtract within 10</li> <li>• Add &amp; Subtract Facts to 5</li> </ul> Bridges Months: Feb, Apr, May/June Number Corner: Dec–May Supplement Sets: A4	<ul style="list-style-type: none"> <li>• Compose &amp; Decompose Numbers 11-19 into Tens &amp; Some Ones</li> </ul> Bridges Months: Jan–Apr Number Corner: Oct–May Supplement Sets: A1	<ul style="list-style-type: none"> <li>• Length &amp; Weight</li> <li>• Classify &amp; Count Objects</li> </ul> Bridges Months: Sep, Oct, Mar–May/June Number Corner: Oct, Nov, Mar–May/June Supplement Sets: C1, D1, D2, D8	<ul style="list-style-type: none"> <li>• Identify &amp; Describe 2-S &amp; 3-D Shapes</li> <li>• Use Positional Language</li> <li>• Analyze, Compare, Create Shapes</li> </ul> Bridges Months: Sep, Nov, Dec, May/June Number Corner: Sep Supplement Sets: C1, C2, C3, C4, C5, C6				

## Pacing Guide (177 Sessions Total)

	SEP 23 SESSIONS	OCT 19 SESSIONS	NOV 20 SESSIONS	DEC 13 SESSIONS	JAN 20 SESSIONS	FEB 19 SESSIONS	MAR 15 SESSIONS	APR 20 SESSIONS	MAY/JUNE 28 SESSIONS
<b>Units</b>	<b>UNIT 1:</b> 23 Sessions Shapes (2-D Shapes, Sorting, Counting, Comparing Sets)	<b>UNIT 2:</b> 17 Sessions Bugs (Sorting, Graphing, Numbers to 10)	<b>UNIT 3:</b> 14 Sessions Butterflies (2-D Shapes, Patterning, Numbers to 10, Comparing Sets)	<b>UNIT 4:</b> 10 Sessions Ladybugs & Pennies (Skip Counting, Add/Sub, Coins)	<b>UNIT 5:</b> 20 Sessions New Games (Numbers to 20, Counting by 10's and 1's, Comparing and Ordering Sets)	<b>UNIT 6:</b> 19 Sessions Sea Creatures (Graphing Data, Addition & Subtraction, Word Problems, Numbers to 20)	<b>UNIT 7:</b> 12 Sessions Frogs & Toads (Numbers to 20, Skip Counting, Estimating & Measuring Length)	<b>UNIT 8:</b> 15 Sessions More Games (Numbers to 30, Addition & Subtraction Word Problems, Length, Money)	<b>UNIT 9:</b> 19 Sessions Shapes & Story Problems (Addition & Subtraction Word Problems, Length, Shapes)
<b>CCSS Supplement Sets</b>	<b>SET A1:</b> Counting on Number Line <b>Use during NC and 2 Sessions</b>	<b>SET A4:</b> Addition & Subtraction <b>Use during NC</b>	<b>SET A4:</b> Addition & Subtraction <b>Use during NC.</b>	<b>SET A4:</b> Addition & Subtraction <b>Use during NC.</b>	<b>SET A1:</b> Counting on Number Line <b>Use during NC.</b>	<b>SET A1:</b> Counting on Number Line <b>Use during NC.</b>	<b>SET A1:</b> Counting on Number Line <b>Use during NC.</b>	<b>SET A1:</b> Counting on Number Line <b>Use during NC.</b>	<b>SET C1:</b> 3-D Shapes <b>3 Sessions</b>
	<b>SET A4:</b> Addition & Subtraction <b>Use during NC.</b> NC = Number Corner	<b>SET A6:</b> One Dot, Many Dots <b>Use during NC.</b>	<b>SET C2:</b> Locations 1 Session <b>SET C3:</b> Butterflies <b>Use during NC.</b>	<b>Set C4:</b> Teddy Bear & Box <b>Use during NC.</b>	<b>SET A4:</b> Addition & Subtraction <b>Use during NC.</b>	<b>SET A4:</b> Addition & Subtraction <b>Use during NC.</b>	<b>SET A4:</b> Addition & Subtraction <b>3 Sessions</b>	<b>SET A4:</b> Addition & Subtraction <b>5 Sessions</b>	<b>SET C2:</b> Locations <b>2 Sessions</b>
<b>Number Corner</b>	Counting by 1's; numeral recognition and writing; sorting; 2-D shapes	Counting by 1's; skip counting; cardinal and ordinal numbers; repeating patterns; picture graphs	Counting by 1's; counting by 10's and 1's; skip counting; picture graphs	Numeral recognition; counting by 1's; counting by 10's and 1's; 2-D shapes; picture graphs	Numeral recognition; counting by 1's; and counting by 10's and 1's; yesterday, today, and tomorrow	Counting by 1's; counting by 10's and 1's; sorting; yesterday, today, and tomorrow	Counting by 1's; counting by 10's and 1's; early addition; 2-D shapes; bar graphs	Counting by 10's and 1's; skip counting; early addition; 2-D shapes; time to the hour; bar graphs	Counting by 10's and 1's; skip counting; sorting; morning, noon, and night; time to the hour
	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY/JUNE</b>

