

# Common Core Measurement & Data in Bridges, Grades K–2

## Kindergarten

### Instructional Focus:

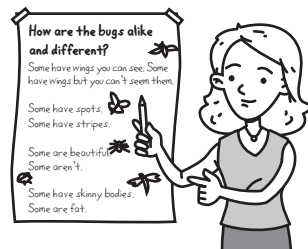
- Describe measurable attributes of objects, such as weight and length
- Directly compare two objects with a measurable attribute in common to see which has more of/less of the attribute; describe the difference (e.g., longer/shorter)
- Classify objects into given categories and count the number of objects in each category

### Resources in Bridges:

Vol 1: Sessions 1, 5, 7, 10, 11, 18, 20  
 Vol 2: Sessions 72, 94, 95, 113, 114  
 Number Corner: Oct, Nov, Mar, Apr Our Month in School; May Birthdays  
 Supplement Sets C1, D1, D2, D8

### Kindergartners

- Sort objects, including 2-D and 3-D shapes in many different ways, some measurable (e.g., size), and some non-measurable (e.g., color, shape name, etc).



**spots**      **no spots**

Not so many have spots.

Four have spots.

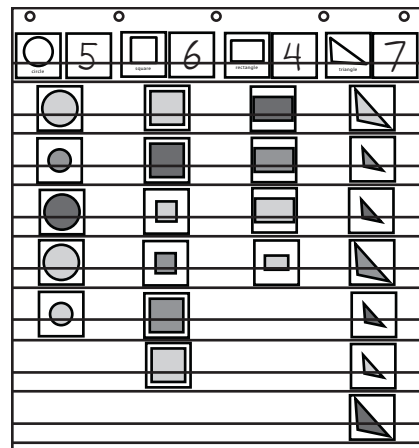
A butterfly has spots and stripes.

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18. You can count all the bugs.

Some "no spots" bugs have pincers.

There are lots of "no spots" bugs.

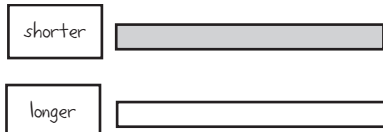
There are 14 bugs with no spots.



**Children** Triangles have the most!  
 There are only 4 of those rectangles.  
 Squares have 6, the same as me.

- Count the number of objects in each category after sorting.

- Compare length and weight directly.



- Compare, sort, and order objects according to length and weight,

Lighter than 1 Pound      Exactly 1 Pound      Heavier than 1 Pound

**Common Core Standards Addressed:** K.MD.1–K.MD.3

## Grade One

### Instructional Focus:

- Order 3 objects by length; compare the lengths of 2 objects indirectly by using a third object
- Measure length in non-standard units
- Tell and write time to the half-hour using analog and digital clocks
- Organize, represent, and interpret data with up to three categories

### Resources in Bridges:

Bridges: Unit 1, Unit 3, Unit 4, Unit 5, Unit 6  
 Number Corner: Sep–Jan Tuesday's Time, Sep Thursday's Thinking  
 Supplement Sets: A5, D1, D2, D7, E1

### First Graders

- Tell time to the half hour using analog and digital clocks.



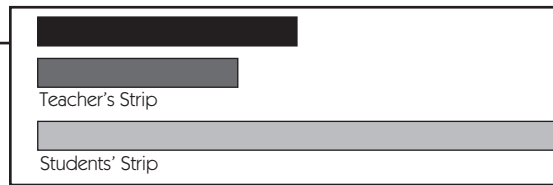
- Measure length in non-standard units.



- Compare and order objects by length.

My piece of string is \_\_\_\_\_ the belt.

shorter than      the same as      longer than



**Students** Wow! Our strip is way longer than the black strip.  
 Teacher's was shorter than the black strip.  
 Our strip will be longer than the teacher's!

- Collect, organize, and interpret meaningful data.

**Adult Emperor Penguins weigh from 60 to 100 pounds.**

Do you weigh:

**Less than an Emperor Penguin?**  
 Jose, Joseph, Jayne, Duy, Michele, Max, Anna, A.J., Scott, Timmy, Robby, Terilyn, David, Tien, Dalena, Reese

**Somewhere in the range of an Emperor Penguin?**  
 Ben, Marcie, Jessie, Gilbert, Sarah, Jeanie, Chester, Tiffany, Joshua, Melody

**Only 10 kids weigh as much as the Emperor.** Scott

**5 boys weigh as much as the Emperors.** Ben

**Some of the kids on the same side are taller than the kids on the "less" side.** Sarah

$8 + 8 + 8 + 2 = 26$  Tiffany  
 $(3 \times 8) + 2 = 26$  Robby

**Common Core Standards Addressed:** 1.MD.1–1.MD.4

## Grade Two

### Instructional Focus:

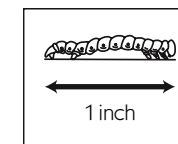
- Estimate and measure length in centimeters, meters, inches, and feet
- Solve story problems involving lengths that are given in the same units
- Represent whole numbers, addition, and subtraction on a number line
- Tell and write time in increments of five minutes using analog & digital clocks
- Solve money word problems; use \$ and ¢ signs appropriately
- Draw and interpret picture & bar graphs to represent data sets with up to 4 categories

### Resources in Bridges:

Bridges: Unit 3, Unit 5, Unit 6, Unit 7  
 Number Corner: November Daily Measure; Bean Clock & Coin Collector through the year, Dec-Jan Magnetic Tiles  
 Supplement Sets: A1, A5, A6, A7, A9, D2, D3, D5

### Second Graders

- Develop referents for standard units, including an inchworm for inches and an army ant for centimeters.

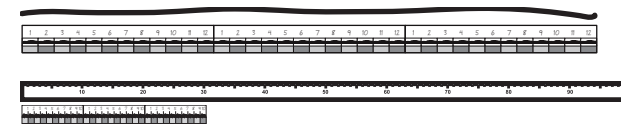


A 10-centimeter army ant ruler

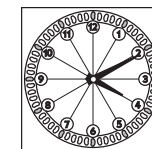


A 12-inch inchworm ruler

- Use their rulers to compose larger units of measure: a yard and a meter.



- Participate in activities and games through the year in Number Corner to learn to tell time.



Student Number Corner  
 NAME: Mercy      DATE: 5/16

**Shopping Problem 1**

Today's Amount of Money: \$1.47

Item and Price: pink eraser 39¢

If you took today's money to the store and bought 1 of the item listed above, how much change would you get back? Please show your work below.

\$ ~~1.00~~ ~~0.09~~ 1¢

1¢ 1¢ 1¢ 1¢ 1¢ 1¢ 1¢

\$1.08 left I made 1.47 and then I crossed out 40¢ and got 1 penny back for change.

- Count money and solve money-related story problems.

**Common Core Standards Addressed:** 2.MD.1–2.MD.10

Estimate & Measure Centimeters, Record Sheet 1 of 3

1 Use your army ant ruler to estimate and measure length in centimeters. Write down your estimate. How many centimeters long do you think it is?  
 • Measure the length with your ruler.  
 • Record the answer.

Object	My Estimate	Length in Centimeters
a Eraser	_____ cm	_____ cm
b Glue Stick	_____ cm	_____ cm
c Calculator	_____ cm	_____ cm
d Pencil	_____ cm	_____ cm
e 10 Unifix cubes	_____ cm	_____ cm
f Your pointer finger	_____ cm	_____ cm

# Common Core Measurement & Data in Bridges, Grades 3–5

## Grade Three

### Instructional Focus:

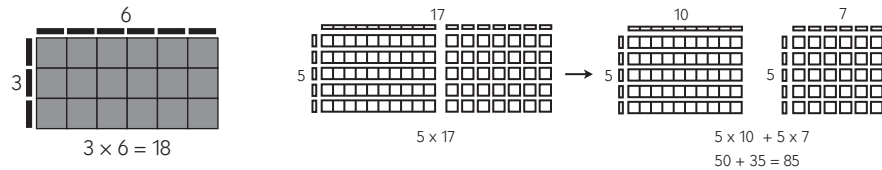
- Tell & write time to the nearest minute; solve word problems involving time intervals
- Measure & estimate liquid volume and mass in metric units; solve related story problems
- Read, draw, and interpret scaled picture and bar graphs
- Understand concepts of area measurement; measure area in standard units
- Relate area to the operations of multiplication and addition
- Solve problems involving perimeter

### Resources in Bridges:

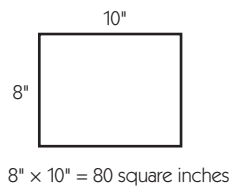
Bridges: Unit 1, Unit 4, Unit 6, Unit 8  
 Number Corner: Coins, Clocks & Bills through the year, Oct & Jan Cal Grid, Dec, Feb & March Data Collector, Oct & May Magnetic Board  
 Supplement Sets: A2, A3, A7, C4, D2, D3, D5, D6, E1

### Third Graders

- Make extensive and consistent use of arrays and the area model to picture and solve basic multiplication facts as well as 1 x 2-digit multiplication combinations.



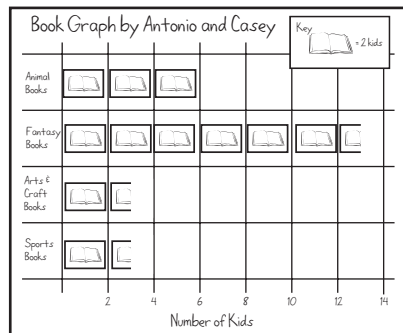
- Use square inch and square cm tile to find area and make generalizations that lead to the formula for finding area.



$8 \times 10 = 80$  square inches

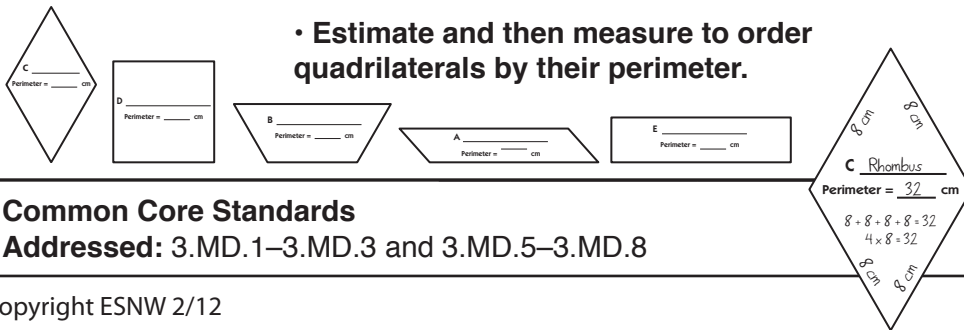
**Students** The 10 tells you how many tiles fit across the top. The 8 tells you how many rows of tiles you'd need. You can just multiply them together to get the answer. This is cool! It's way faster than covering the paper with tiles.

- Estimate and measure liquid volume and mass.



- Construct & interpret scaled picture and bar graphs.

- Estimate and then measure to order quadrilaterals by their perimeter.



### Common Core Standards

Addressed: 3.MD.1–3.MD.3 and 3.MD.5–3.MD.8

## Grade Four

### Instructional Focus:

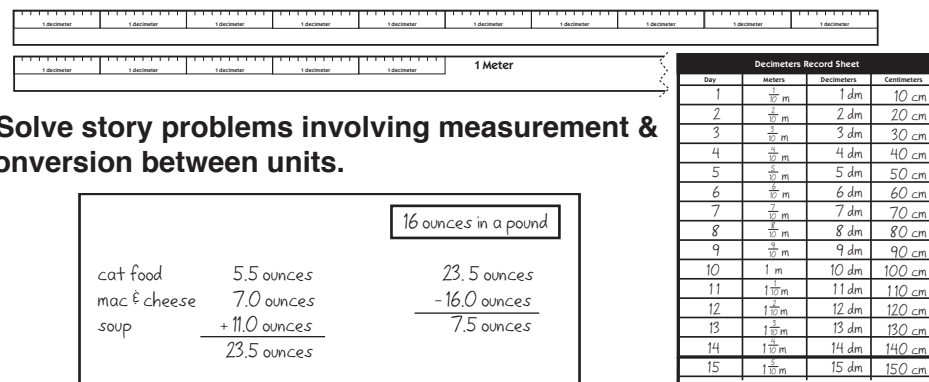
- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit (metric length & weight; customary weight, metric capacity, time)
- Use the 4 operations to solve story problems involving distances, intervals of time, liquid volumes, masses of objects, and money
- Apply area & perimeter formulas for rectangles in real world & mathematical problems
- Understand concepts of, and measure, angles

### Resources in Bridges:

Bridges: Unit 2, Unit 3, Unit 4, Unit 6, Unit 8 (Also, Grade 5 Unit 3, Sessions 6–10, 15)  
 Number Corner: Sep–Dec, Mar, May Cal Collector; Jan, Apr May Cal Grid  
 Supplement Sets: A5, C3, D1, D3, D6, D9, E2  
 Practice Book: 6, 7, 10, 12, 18–22, 24, 26–28, 30–32, 34, 36, 38, 40, 48–50, 55, 56, 62, 70, 72, 78, 80, 88, 91, 93, 96, 98, 99, 100, 103, 104, 106, 109, 110, 114, 116, 120, 122, 127, 140

### Fourth Graders

- Measure and convert between units within a single system.



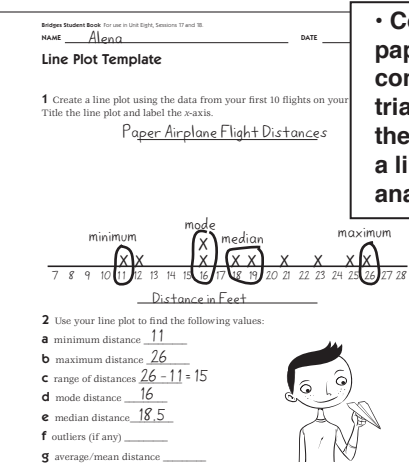
- Solve story problems involving measurement & conversion between units.

16 ounces in a pound

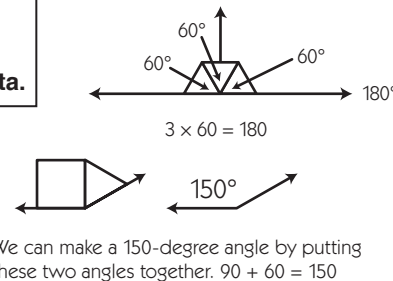
cat food	5.5 ounces	23.5 ounces
mac & cheese	7.0 ounces	-16.0 ounces
soup	+11.0 ounces	7.5 ounces
	23.5 ounces	

These 3 items add up to 1 pound 7.5 ounces

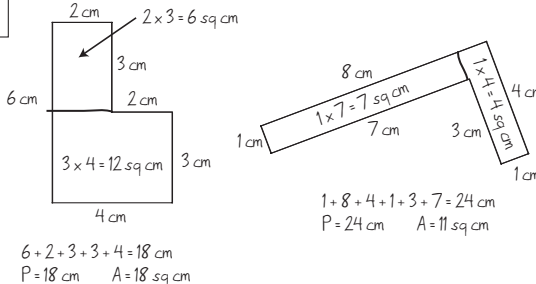
- Construct paper airplanes, conduct flight trials, display the results on a line plot & analyze the data.



- Use pattern blocks to investigate angle measure.



Find the area and perimeter of the hexagons below. Show all your work.



- Find the area and perimeter of simple and more complex figures, and solve problems involving perimeter and area.

### Common Core Standards

Addressed: 4.MD.1–4.MD.3 and 4.MD.5–4.MD.7

## Grade Five

### Instructional Focus:

- Convert like measurement units within a given measurement system, and use these conversions in solving multi-step, real world problems
- Understand concepts of volume measurement
- Relate volume to the operations of multiplication and addition & solve real world & mathematical problems involving volume

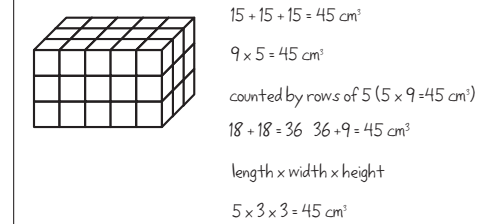
### Resources in Bridges:

Bridges: Unit 1, Unit 2, Unit 3, Unit 4, Unit 6, Unit 7  
 Number Corner: Nov, Mar Cal Collector; Jan, Mar, Apr Cal Grid  
 Supplement Sets: D2  
 Practice Book pages: 17, 27, 28, 54, 57, 59, 60, 65, 69, 72, 74, 86, 91

### Fifth Graders

- Construct and measure rectangular solids to find volume and make generalizations that lead to the formula for finding volume.

Build this rectangular solid with your centimeter cubes. Find the volume *without* counting each cube 1 by 1.



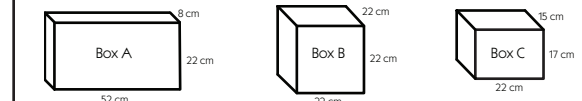
Rectangular Solids with Volume =  $12 \text{ cm}^3$

Length = 2 cm Width = 2 cm Height = 3 cm	Length = 6 cm Width = 2 cm Height = 1 cm	Length = 12 cm Width = 1 cm Height = 1 cm
$2 \times 2 \times 3 = 12 \text{ cm}^3$	$6 \times 2 \times 1 = 12 \text{ cm}^3$	$12 \times 1 \times 1 = 12 \text{ cm}^3$

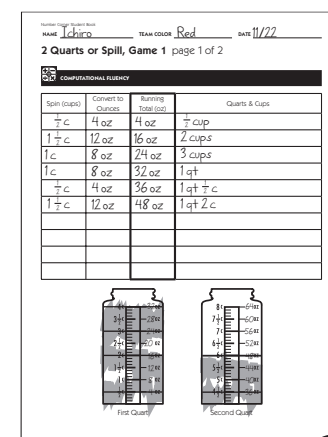
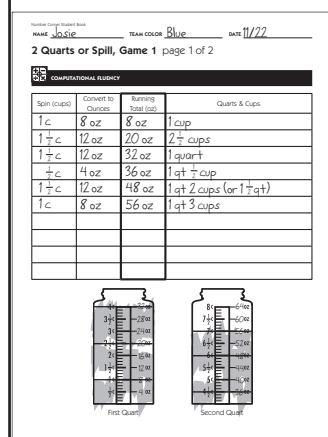
- Solve problems involving volume.

### Which Box Holds the Most?

1 Ebony's cousin Jada is away at college this year. Ebony wants to send her a package with some candy in it. She has the three boxes shown below. Which box should she use if she wants to send Jada as much candy as possible?



- Conduct month-long investigations that involve measuring liquid volume, weight, time, and temperature, and making measurement conversions when needed.



$12 \text{ hrs.} + 11 \text{ hrs.} 6 \text{ mins.} = 23 \text{ hrs.} 6 \text{ mins.}$   
 $54 \text{ mins.} + 23 \text{ hrs.} 6 \text{ mins.} = 24 \text{ hrs.}$   
 $12 \text{ hrs.} 54 \text{ mins. of darkness}$

Date	Time of Sunrise	Time of Sunset	Daylight (Hours & Minutes)	Darkness (Hours & Minutes)
1	6:50 AM	5:56 PM	11 hr. 6 min.	12 hr. 54 min.

### Common Core Standards

Addressed: 5.MD.1 and 5.MD.3–5.MD.5