How Do the Bugs Measure and Stack Up?

A Common Core State Standards Aligned Activity for

100 BUGS!
A Counting Book

FARRAR STRAUS GIROUX
New York

Written by Kate Narita

Illustrated by Suzanne Kaufman

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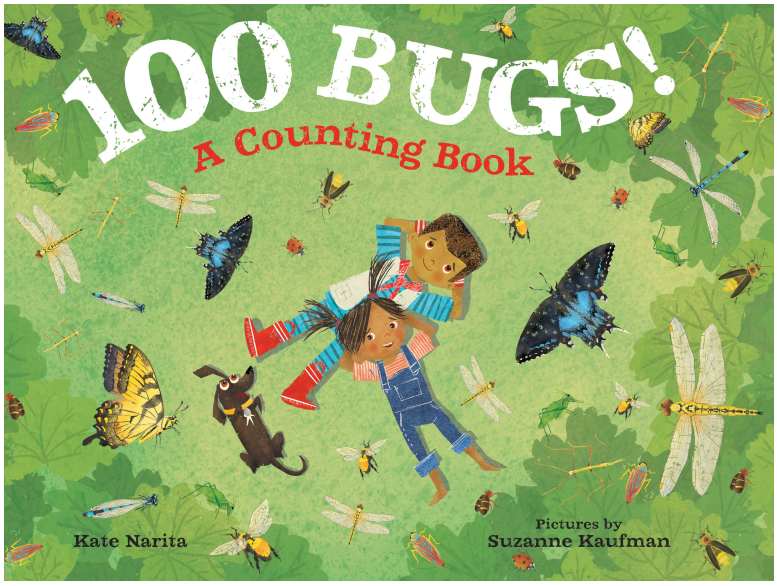


"Packed with great extension possibilities, visually engaging illustrations, and quick rhymes, this read-aloud would be a great addition to any STEM shelf." —Kirkus Review

Meet the Team

Kate Palaces Narita is the author of *100 Bugs! A Counting Book*. When she's not out and about driving, teaching fourth grade or cheering on her two teenage sons, Kate lives, writes, and hikes on a small mountain in central Massachusetts. There's a magical part of Mt. Wachusett in every one of her stories. Be it small wonders like darting dragonflies and gorgeous garden phlox, or large wonders like munching moose and beautiful balsam firs, she celebrates nature's bounty each and every day. Visit her at www.katenarita.com.

Suzanne Kaufman is an author, illustrator, animator and lover of school potlucks. She is the author-illustrator of Confiscated and *I Love Monkey*. Her previously illustrated work includes books: All Are Welcome, *100 Bugs*, *Naughty Claudine Christmas*, and *Samanthasaurus Rex*. Over the years, she's done everything from animating special effects for Universal Television and Discovery Channel, to animating award-winning video games for children. When not tramping through the wilds of the Pacific Northwest, you will find her teaching animation or working in her studio. She lives in Seattle with her husband and two creative daughters of her own. Visit her at www.suzannekaufman.com.

Lisandra Flynn is an editor turned elementary school teacher who works with Kate. She has a flair for design and enjoys creating learning resources for her students and fellow teachers. When she's not teaching or tediously reorganizing her classroom, Lisandra enjoys hiking, crafting, and decorating her home in central Massachusetts, which she shares with her husband, baby boy, and two feisty cats.

How Do the Bugs Measure Up?

Name: _____

Directions: Place your ruler along the line to measure each of the attached insects to the nearest quarter inch. Record your measurements in the data table below.

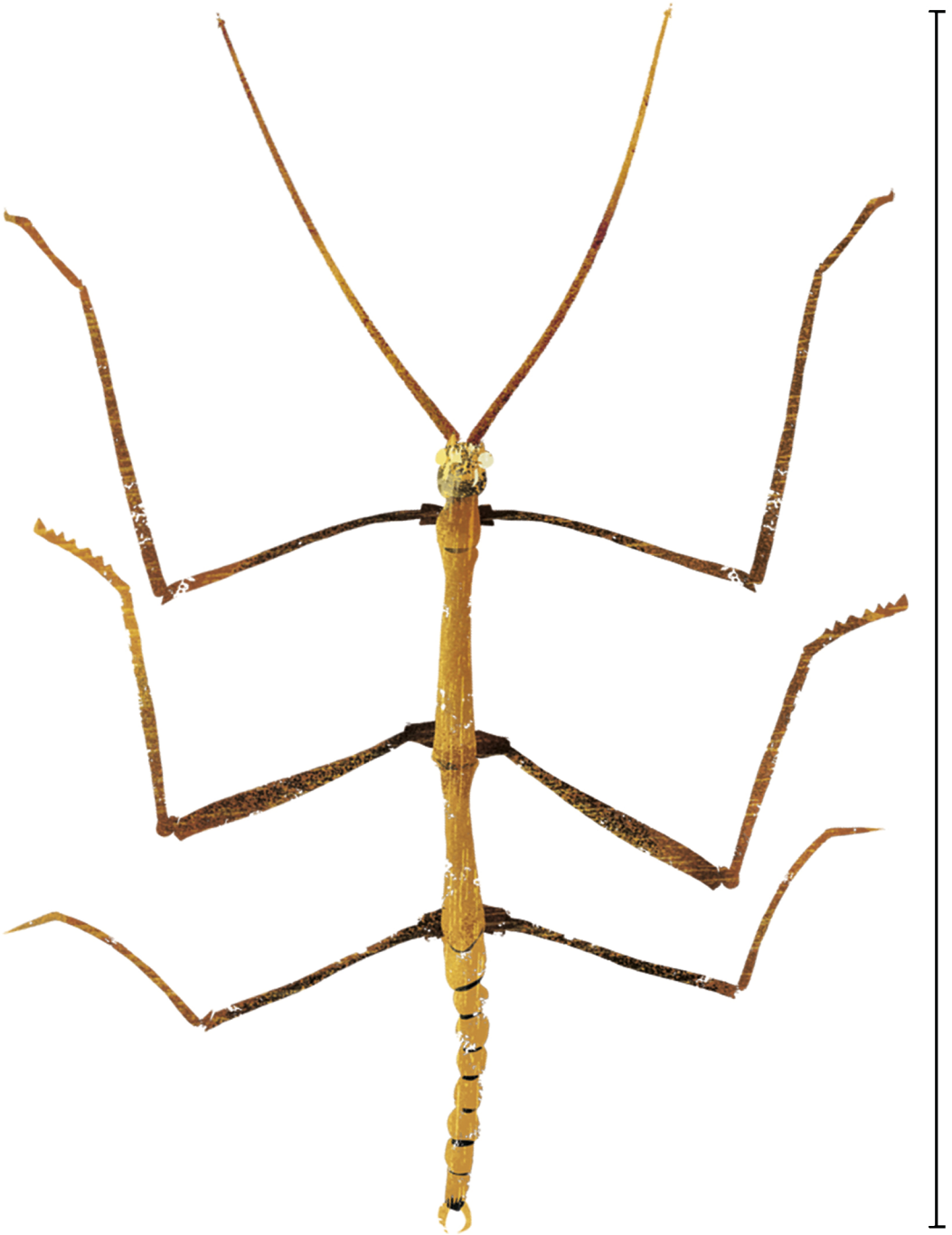
INSECT	MEASUREMENT
Walkingstick	
Dragonfly	
Leafhopper	
Ladybug	
Queen Bee	
Male and Worker Bumblebee	
Butterfly	
Damselfly	
Spittlebug	
Katydid	
Lightening Bug	

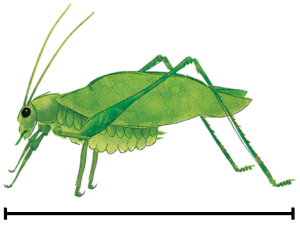
How Do the Bugs Measure Up? Answer Key

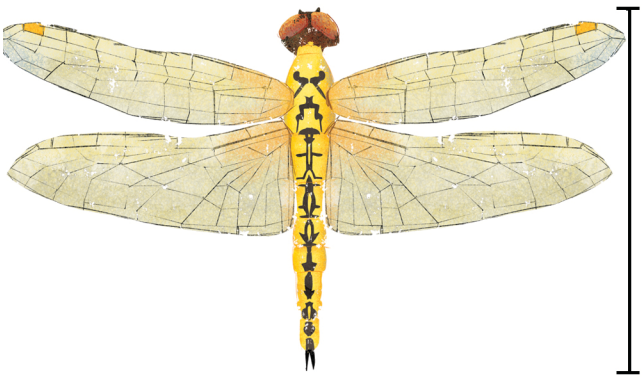
Name: _____

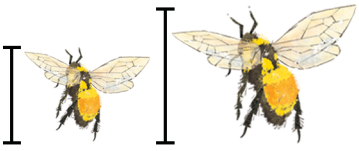
Directions: Place your ruler along the line to measure each of the attached insects to the nearest quarter inch. Record your measurements in the data table below.

INSECT	MEASUREMENT
Walkingstick	7 inches (7 in./177 mm.)
Dragonfly	2 inches (1.9 in./48 mm.)
Leafhopper	¼ inch (.3 in./8 mm.)
Ladybug	¼ inch (.25 in./5.5 mm.)
Queen Bee	¾ inch (.7 in/18 mm.)
Male and Worker Bumblebee	½ inch (.5 in./11 mm.)
Butterfly	4½ inches (4.5 in./112.5 mm.)
Damselfly	1 inch (1.1 in./27.5 mm.)
Spittlebug	½ inch (.4 in./9 mm.)
Katydid	1½ inches (1.5 in./37 mm.)
Lightening Bug	½ inch (.4 in./9 mm.)









How Do the Bugs Stack Up?

Name: _____

Directions: Use the data from the How Do the Bugs Measure Up? worksheet to create a line plot of the insects' measurements below. Remember to title your line plot. Then, use the line plot to answer the questions that follow.

1. One of the insects is an outlier. It's data point is so different from the rest it doesn't even fit on the graph. Which insect is an outlier?

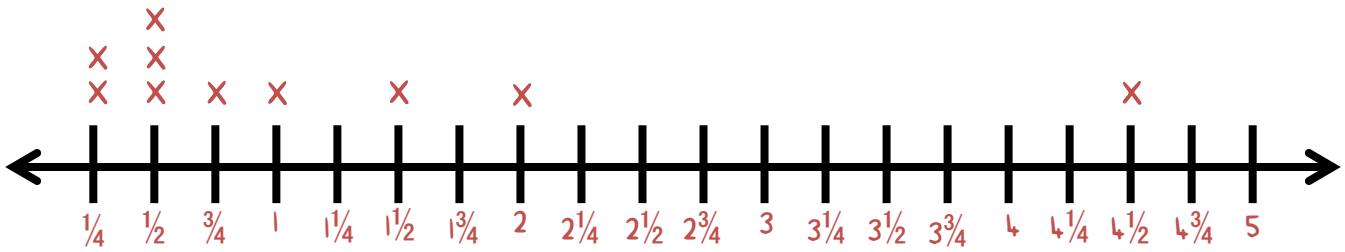
2. Which measurement occurs most often?

How Do the Bugs Stack Up? Answer Key

Name: _____

Directions: Use the data from the How Do the Bugs Measure Up? worksheet to create a line plot of the insects' measurements below. Remember to title your line plot. Then, use the line plot to answer the questions that follow.

Length of Bugs from *100 Bugs! A Counting Book*



Inches

1. One of the insects is an outlier. It's data point is so different from the rest it doesn't even fit on the graph. Which insect is an outlier?

The walkingstick measures 7 inches and is an outlier.

2. Which measurement occurs most often?

The measurement ½ inch occurs the most often.

Bug Measurement Common Core Alignment

Measure and estimate lengths in standard units.

CCSS.MATH.CONTENT.2.MD.A.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

CCSS.MATH.CONTENT.2.MD.A.2: Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.

CCSS.MATH.CONTENT.2.MD.A.3: Estimate lengths using units of inches, feet, centimeters, and meters.

CCSS.MATH.CONTENT.2.MD.A.4: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

CCSS.MATH.CONTENT.3.MD.B.4: Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

Represent and interpret data.

CCSS.MATH.CONTENT.4.MD.B.4: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*