This "Section-level slidedeck" uses the full unit slidedeck as a base. Only the slides aligning with the Section-level planning guide are revealed. The slides are color-coded to match the purple-orange-purple flow of the Section-level planning guides. Make a copy of the slidedeck to customize as you wish!

Measuring Length

Priority Unit (ONLY SECTIONS A & B, not C):
Major Grade-level Work …
identified by IM authors

Grade 2: Unit 3

Section-Level Slidedeck

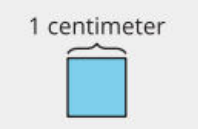
Standards addressed: 2.MD.A, 2.MD. B, 2.MD. D, 2.OA.A, 2.OA.B

Unit 3 Progression Overview
Measuring Length

Section A
Lessons 1-7

2.MD.A.1, 2.MD.A.2, 2.MD.A.3, 2.MD.A.4, 2.MD.B.5, 2.NBT.A.2, 2.NBT.B.5, 2.OA.A.1, 2.OA.B.2

- ➔ Measure length in centimeters and meters.
- ➔ Represent and solve one-step story problems within 100.



Section B
Lessons 8-13

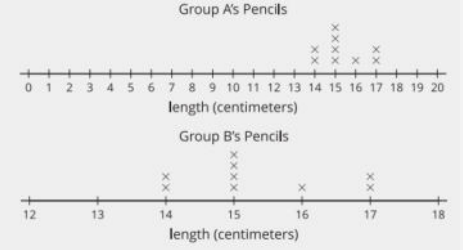
2.MD.A.1, 2.MD.A.2, 2.MD.A.3, 2.MD.B.5, 2.NBT.B.5, 2.OA.A, 2.OA.B.2

- ➔ Measure length in feet and inches.
- ➔ Represent and solve one- and two-step story problems within 100

Section C
Lessons 14-18

2.MD.A.1, 2.MD.A.3, 2.MD.A.4, 2.MD.B.5, 2.MD.D.9, 2.NBT.B.5, 2.OA.A.1, 2.OA.B.2

- ➔ Represent numerical data on a line plot



Adaptation
Lesson 1

Connecting Cube Towers to Determine Length

Let’s use connecting cube towers to measure the length of objects

Warm up

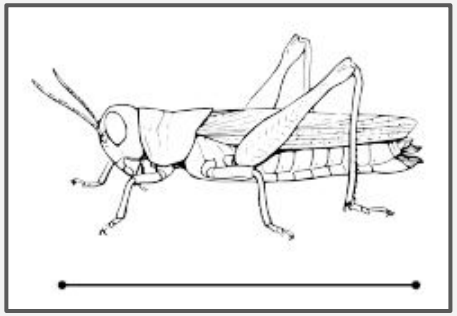
Notice and Wonder: Measuring a Pencil

What do you notice?

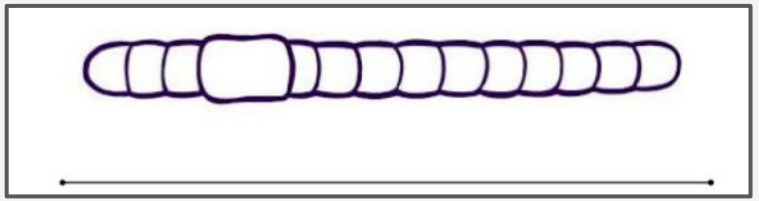
What do you wonder?

Creepy Crawly Things

Activity #1



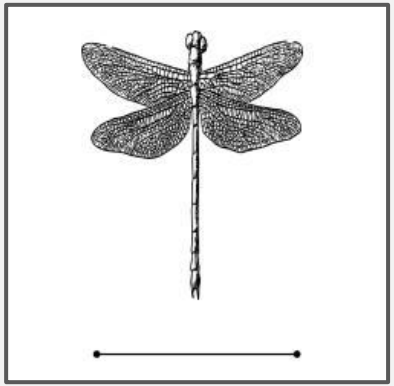
1. The grasshopper is the same length as a tower of ___ connecting cubes.



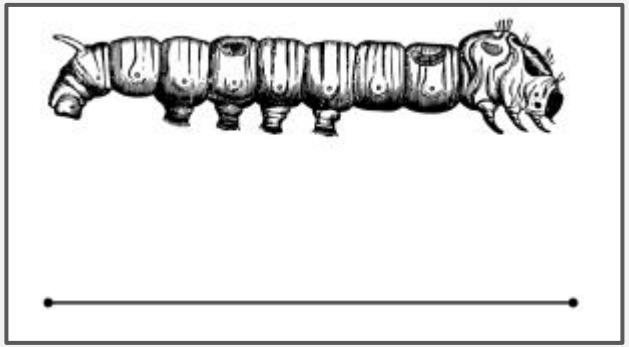
2. The earthworm is the same length as a tower of ___ connecting cubes.

Activity #1

Creepy Crawly Things



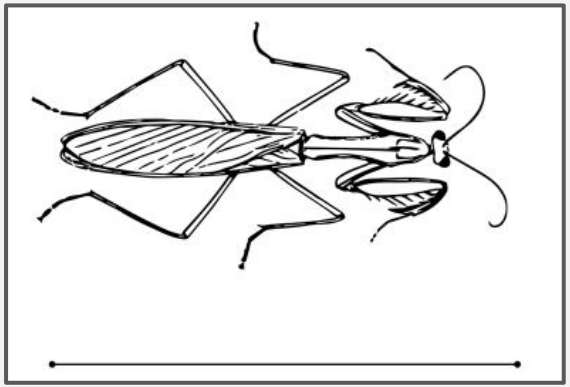
3. The dragonfly is the same length as a tower of ___ connecting cubes.



4. The caterpillar is the same length as a tower of ___ connecting cubes.

Creepy Crawly Things

Activity #1



5. The praying mantis is the same length as a tower of ___ connecting cubes.

Activity #2

Measuring Lines

1.

Line A

Line *A* is _____ cubes long

2.

Line B

Line *B* is _____ cubes long

Measuring Lines

Activity #2

3.

Line D

Line *D* is _____ cubes long

4.

Line C

Line *C* is _____ cubes long

Activity #2

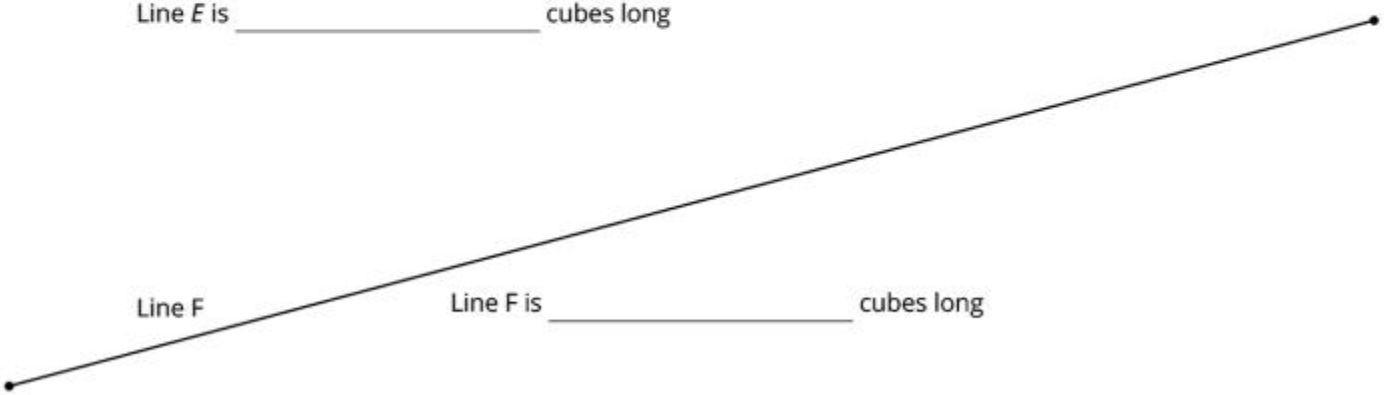
Measuring Lines

5.

Line E

Line *E* is _____ cubes long

Line F

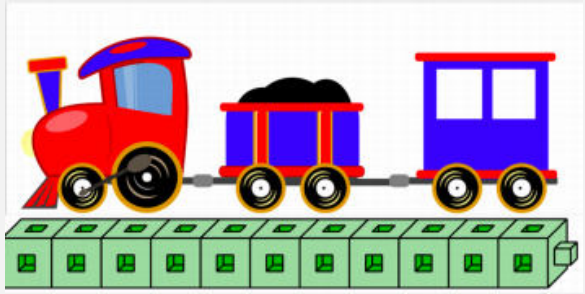


Line F is _____ cubes long

6.

Lesson Synthesis

We compared the length of objects to the length of connecting cube towers. We can count the number of cubes in the tower to say how many cubes long the tower is. When a tower and a line have the same length, the number of cubes in the tower is also the length of the line in connecting cube units



Share your statement with your partner. Work together to agree on the statement.

How many cubes long is this toy train?

When we use connecting cube towers to measure things, that means the length of a cube is the unit we are measuring with. We will see later that we can measure lengths with different units

Adaptation
Lesson 2

Measuring by Using Math Tools

Let’s measure length precisely.

Warm up

Number Talk: Using a Ten to Add

Find the value of each sum mentally.

$$10 + 6$$

Warm up

Number Talk: Using a Ten to Add

Find the value of each sum mentally.

$$9 + 6$$

Warm up

Number Talk:
Using a Ten to Add

Find the value of each sum mentally.

$$9 + 7$$

Warm up

Number Talk: Using a Ten to Add

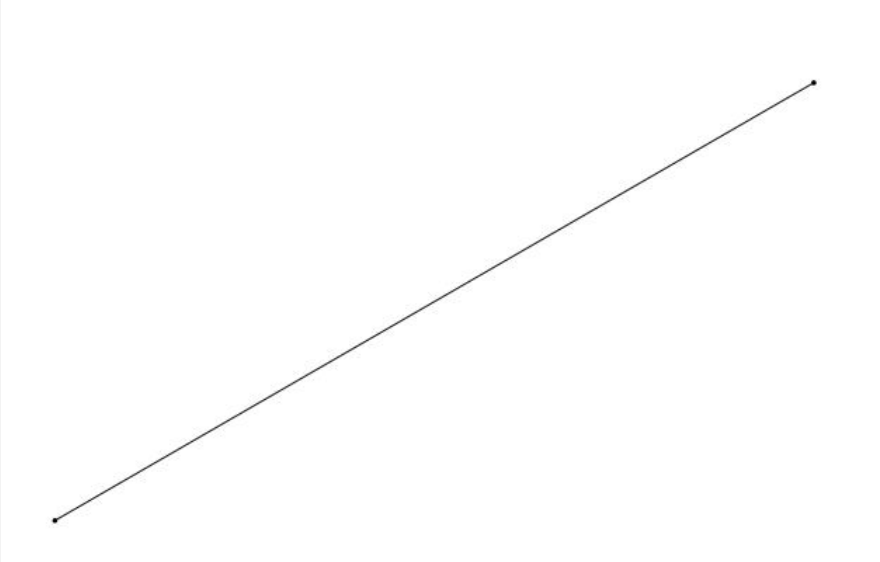
Find the value of each sum mentally.

$8 + 7$

Measuring with Paper Clips BLM

Activity #1

Use paper clips to measure.

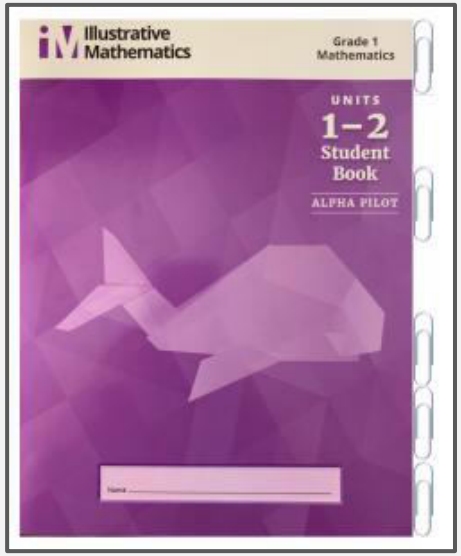


How long is the line?

Activity #2

Measuring Our Workbook

Circle whether you agree or disagree with each student.



Andre says his student workbook is 5 paper clips long.

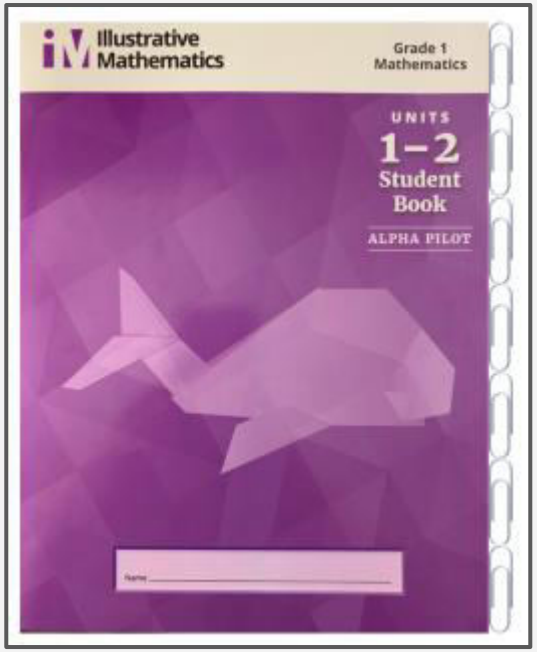
Agree Disagree

Explain why you agree or disagree?

Activity #2

Measuring Our Workbook

Circle whether you agree or disagree with each student.



Tyler says the workbook is 7 paper clips long.

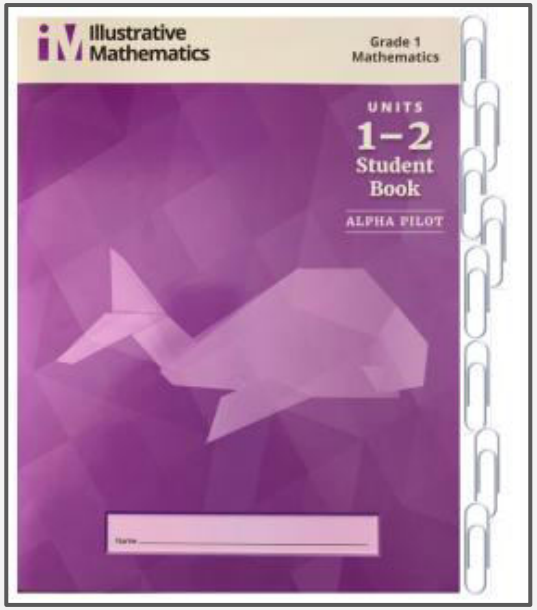
Agree Disagree

Explain why you agree or disagree?

Activity #2

Measuring Our Workbook

Circle whether you agree or disagree with each student.



Clare says the workbook is 8 paper clips long.

Agree Disagree

Explain why you agree or disagree?

Activity #3

Measuring Lengths of Lines

Use large paper clips to measure each line

Line: _____

Length: _____ large paper clips

Line: _____

Length: _____ large paper clips

Line: _____

Length: _____ large paper clips

Lesson Synthesis

I'm going to measure this line using little strips of paper.

What do you think about this measuring? What could I do to improve?

What advice would you give to someone who has never measured before?

Tell your partner the advice.

Adaptation
Lesson 3

Measuring Length with Different Units

Let’s measure the same object using different length units.

Notice and Wonder: Large Cubes and Small Cubes

Warm up

What do you notice?

What do you wonder?

Activity #1

Measure with Different Length Units

Measure the lines.

Line: _____

Our measurement:

Our partner's measurement:

What do you notice?

Line: _____

Our measurement:

Our partner's measurement:

What do you notice?

Activity #1

Measure with Different Length Units

Measure the lines.

Line: _____

Our measurement:

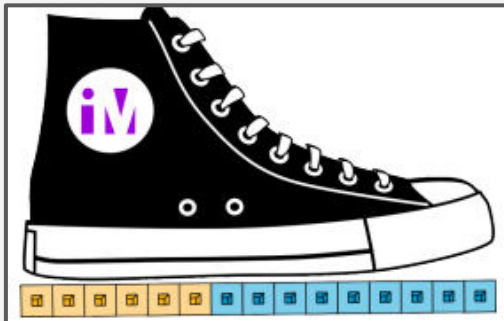
Our partner's measurement:

What do you notice?

Activity #2

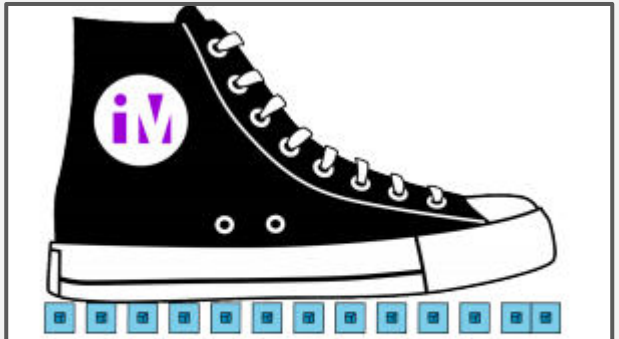
Measuring Mr. Green's Shoe

1. Andre measured Mr. Green's shoe and said it was 15 connecting cubes long.



Is his measurement accurate? Why or why not?

2. Jada measured Mr. Green's shoe and said it was 12 connecting cubes long.



Is her measurement accurate? Why or why not?

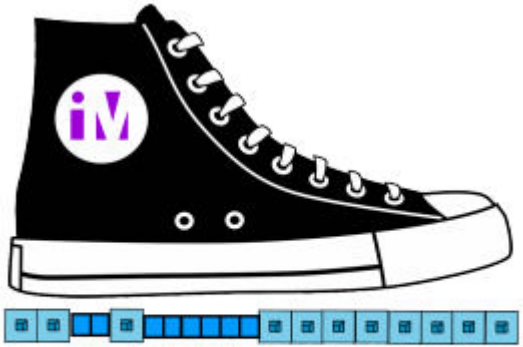
Activity #2

Measuring Mr. Green's Shoe

3. Clare measured Mr. Green's shoe and said it was 30 small cubes long.

Is her measurement accurate? Why or why not?

4. Kiran measured Mr. Green's shoe and said it was 19 long.



Is his measurement accurate? Why or why not?

Lesson Synthesis

You said Clare and Andre both had accurate measurements. How could they have different answers?

Section A Goals

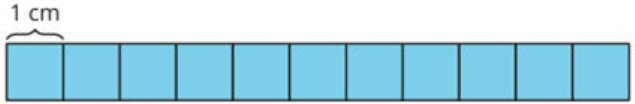
- Measure length in centimeters and meters
- Represent and solve one-step story problems within 100.

Lesson 2
Warm-up

Notice and Wonder: Centimeters

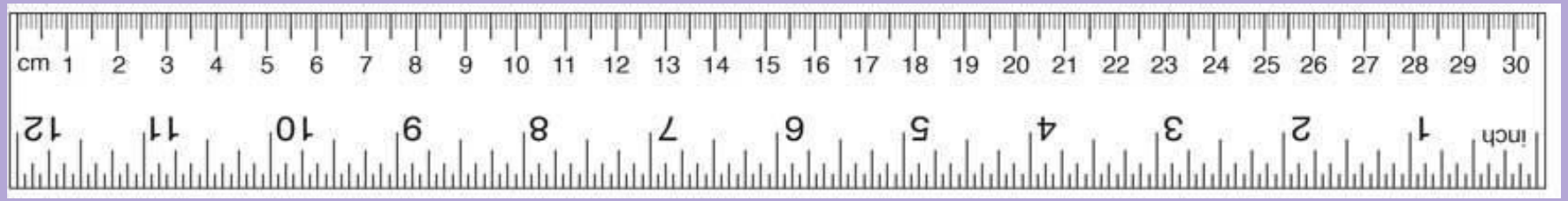
A

B



What do you notice?

What do you wonder?



Lesson 3
Warm-up

Number Talk:
Subtract Two Digits

Find the value of each expression mentally.

$$63 - 3$$

Lesson 3
Warm-up

Number Talk:
Subtract Two Digits

Find the value of each expression mentally.

$$63 - 20$$

Lesson 3
Warm-up

Number Talk:
Subtract Two Digits

Find the value of each expression mentally.

$$63 - 23$$

Lesson 3
Warm-up

Number Talk:
Subtract Two Digits

Find the value of each expression mentally.

$$63 - 24$$

Measure and Compare Lengths with Our Rulers

Lesson 3
Activity #2

1. Use your ruler to measure the lengths of each line. Don't forget to label your measurements.

a _____

b _____

c _____

d _____

e _____

f _____

2. How many more centimeters longer is line a than line b?

3. How many more centimeters longer is line f than line d?

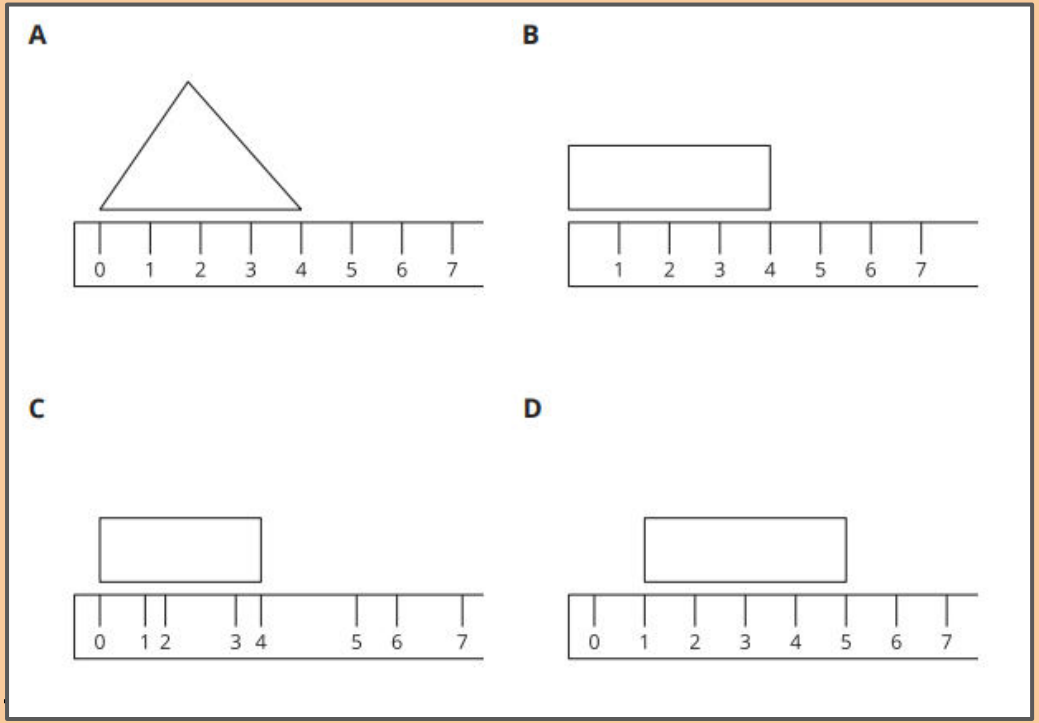
4. Which two lines are the longest? How long would the line be if you joined them together?

Scavenger Hunt!

1. Find something that is longer than 10 cm.
2. Find something that is between 20-30 cm.

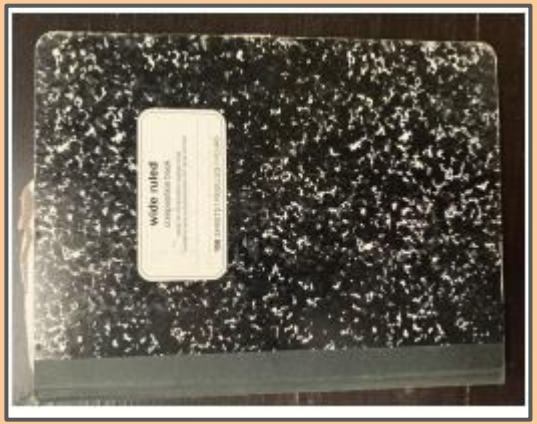
Lesson 4
Warm-up

Which One Doesn't Belong: Measurements of Length



Estimate Length in Centimeters

Lesson 4
Activity #1



Andre wanted to measure the length of his notebook, but he didn't have any tools to measure it. He made a guess that he thought would be close.

Look at the notebook and think about how long you think it is in centimeters.

What is an estimate that's too high? Too low? About right?

Estimate Length in Centimeters

Lesson 4
Activity #1

Based on the second image,

Do you want to revise, or change, your estimates?

How did your estimation change?

Estimate Length in Centimeters

Lesson 4
Activity #1

Recording Sheet

object	estimate	measurement
Choose an object:		

1. Record an estimate that is: too low, about right, too high

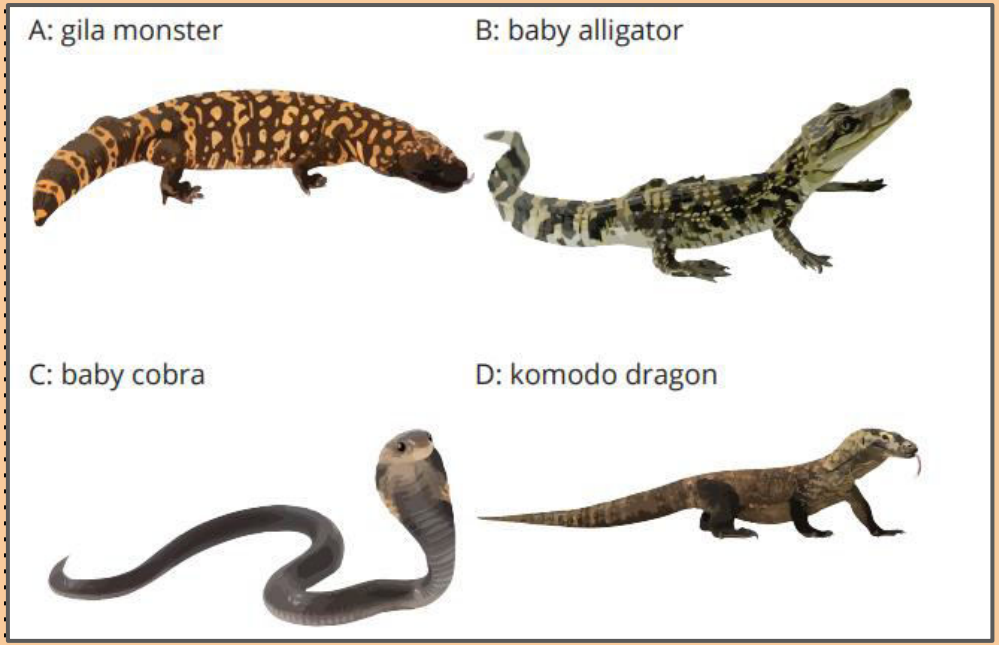
2. Record an estimate that is: too low, about right, too high

3. Record an estimate for each object on the recording sheet.

4. Tell your partner why you think your estimates are “about right.

Lesson 5
Activity #1

Reptiles to Measure



Each line on the floor represents the length of a reptile.

1. Measure to find the length of each reptile. Don't forget the unit.

a. What is the length of a gila monster?

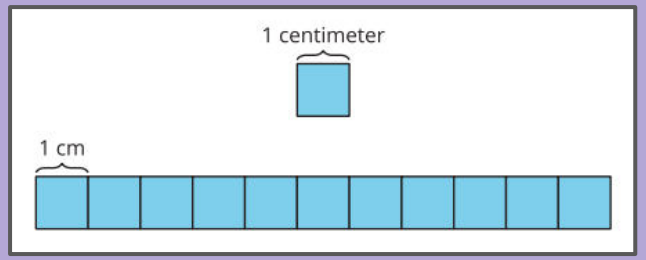
b. What is the length of a baby gator?

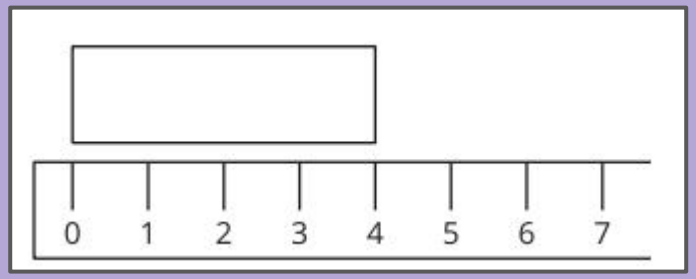
c. What is the length of a baby cobra?

d. What is the length of a komodo dragon?

Section A Summary

In this section, we measured the length of objects using different length-units. We learned that the centimeter is a standard length-unit and we used measured lengths in centimeters using base-ten blocks, rulers, and meter sticks. We learned that rulers represent length-units using tick marks and that labeled tick marks show a length from 0.





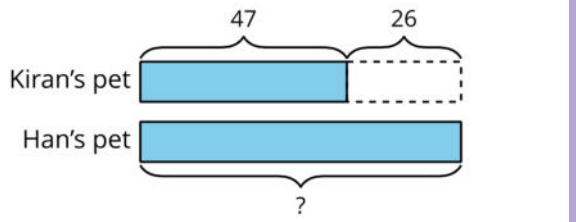
We also learned that when you need to measure a longer length you may need to use larger tools or a larger length-unit. We learned that a meter is a standard length-unit that is much longer than a centimeter. We practiced estimating the length of objects using what we know about the length of a centimeter and a meter.

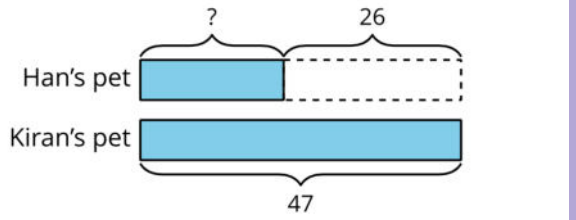
Kiran and Han Compare Pets

Lesson 6
Cool-down

Kiran's pet snake is 47 cm long. It is 26 cm shorter than Han's pet snake. How long is Han's pet snake?

1. Circle the diagram that matches the story.





2. Solve. Show your thinking.

Han's snake is _____ cm long.

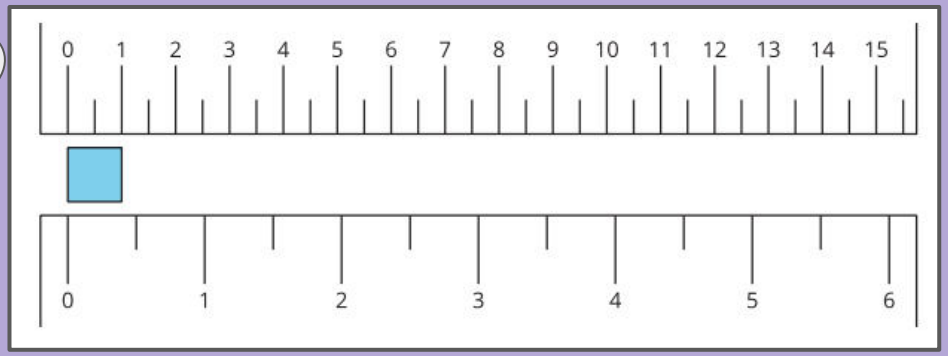
Section B Goals

- Measure length in feet and inches
- Represent and solve one- and two-step story problems within 100.

Lesson 8
Warm up

Notice and Wonder: Inches and Centimeters

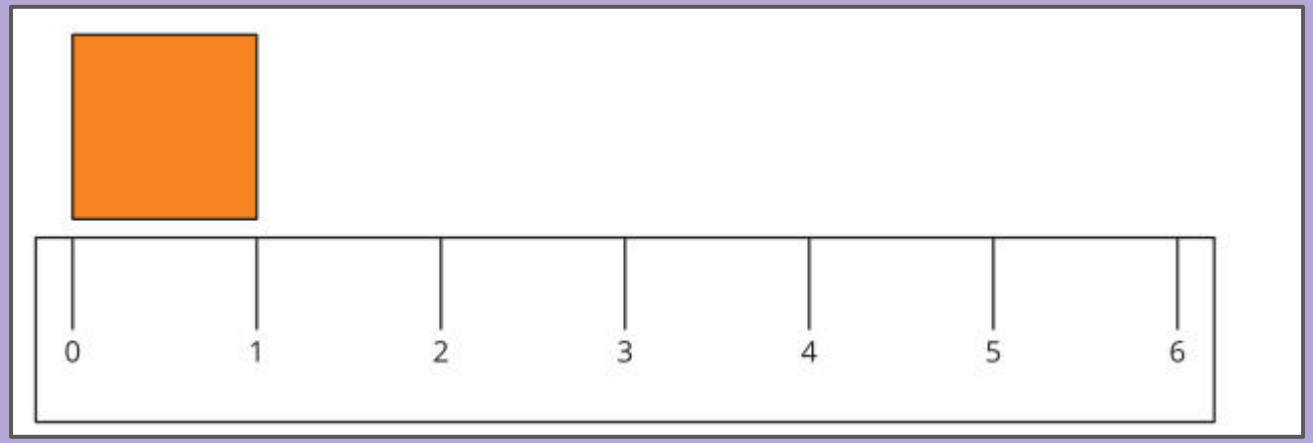
What do you notice?



What do you wonder?

Lesson 8
Activity #1

What is an inch?



1. Find 2 items that are about an inch.

a. _____

b. _____

Lesson 8
Activity #1

What is an inch?

Measure the length of each object.

object to measure	length in inches
marker	
colored pencil	
11 connecting cubes	
a book	
your choice objects:	

Lesson 8
Activity #2

Measure Shapes

1. How long is the long side of the rectangle in inches?

Estimate: _____

Measure the long side of the rectangle.

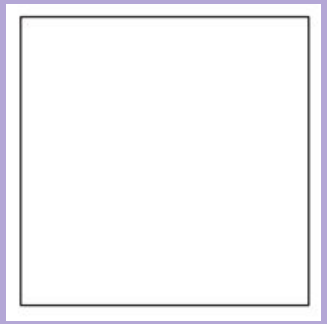
Actual length: _____

2. How long is a side of the square in inches?

Estimate: _____

Measure the long side of the square.

Actual length: _____



Lesson 8
Activity #2

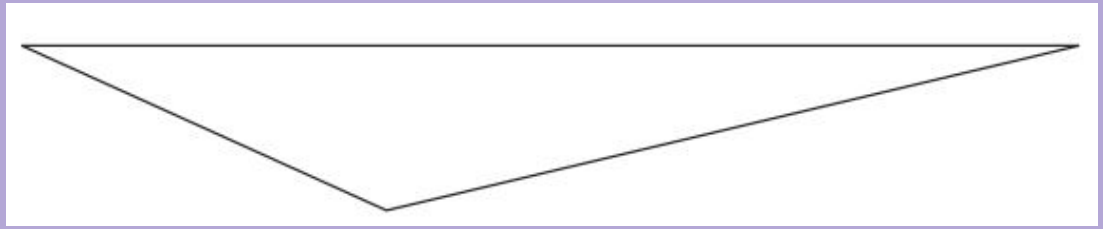
Measure Shapes

3. How long is the longest side of the triangle in inches?

Estimate: _____

Measure the long side of the triangle.

Actual length: _____



Lesson 10
Warm up

True or False: Constant Difference

Is it statement true or false?

$$10 - 0 = 12 - 2$$

Be prepared to explain your reasoning.

Lesson 10
Warm up

True or False: Constant Difference

Is it statement true or false?

$$8 - 4 = 10 - 6$$

Be prepared to explain your reasoning.

Lesson 10
Warm up

True or False: Constant Difference

Is it statement true or false?

$$12 - 4 = 10 - 3$$

Be prepared to explain your reasoning.

Lesson 10
Warm up

True or False: Constant Difference

Is it statement true or false?

$$15 - 2 = 13 - 0$$

Be prepared to explain your reasoning.

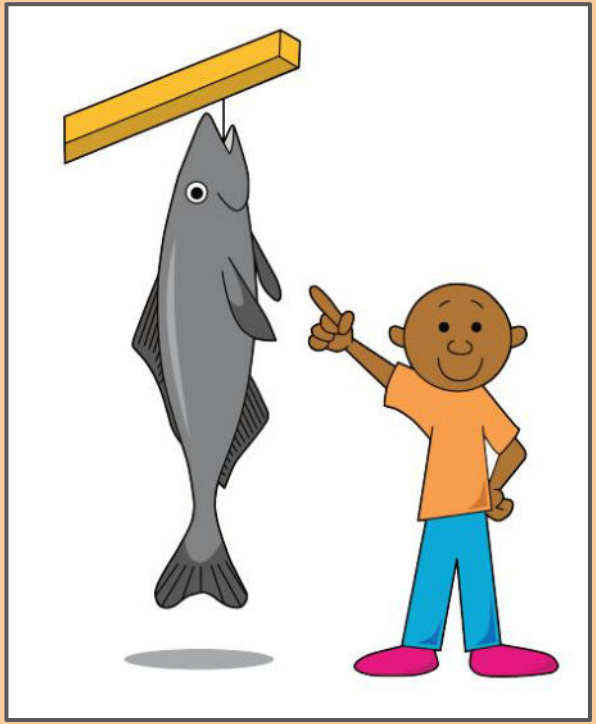
Scavenger Hunt!

1. Find something that is longer than 5 inches.
2. Find something that is between 5-15 inches.

Lesson 9
Warm up

Estimation Exploration: Small Fry Catches a Big Fish

How long is this Cobia fish in inches?



1. Record an estimate that is:

too low	about right	too high

2. Record an estimate that is:

too low	about right	too high

Revisiting Explore Activities

Let’s revisit our work from the Explore activities to discuss how we measured the shapes in inches.

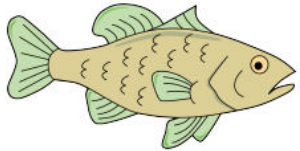
Let's Measure the Creatures of the Sea

Lesson 9
Activity #1

1. Work with your group to measure the tape strips around the classroom in inches and feet.

Tape A

largemouth bass



Length in inches: _____

Length in feet: _____

Tape B

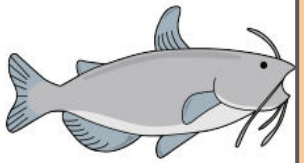
spiny dogfish shark

Length in inches: _____

Length in feet: _____

Tape C

catfish

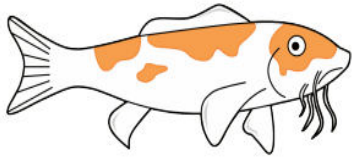


Length in inches: _____

Length in feet: _____

Tape D

koi



Length in inches: _____

Length in feet: _____

2. What did you notice about the number of feet compared to the number of inches when you measured the tape strips?

Inches or Feet? That is the Question.

Lesson 9
Activity #2

1. Estimate the length of objects around the room. Say if you will measure in inches or feet.

object to measure	my estimate	circle inches or feet
		inches feet
		inches feet
		inches feet
		inches feet

2. Choose the best tool to measure each object. Complete the table to record your actual measurements.

object to measure	measurement tool	actual length (include unit)

Revisiting Lesson 10, Warm-up

True or False?

$$10 - 0 = 12 - 2$$

$$8 - 4 = 10 - 6$$

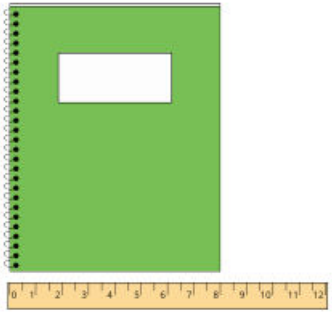
$$12 - 4 = 10 - 3$$

$$15 - 2 = 13 - 0$$

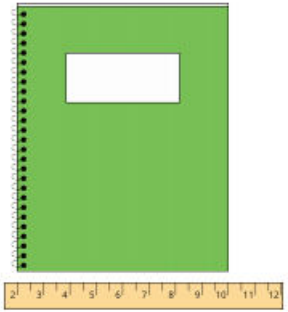
The Notebook Problem

Lesson 10
Activity #1

Jada and Han used an inch ruler to measure the short side of a notebook.



Han says 8 inches.



Jada says 8 inches.

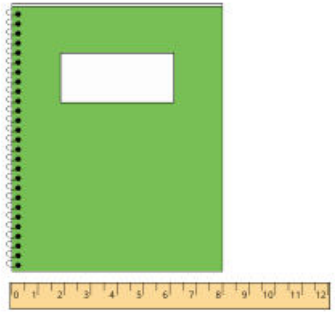
1. How did Han and Jada get the same measurement?

2. Write an equation that could show Jada's thinking.

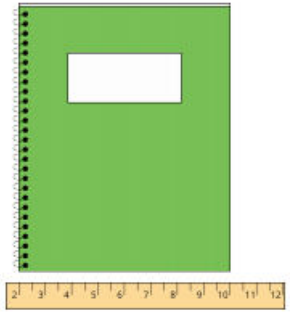
The Notebook Problem

Lesson 10
Activity #1

Jada and Han used an inch ruler to measure the short side of a notebook.



Han says 8 inches.



Jada says 8 inches.

3. Measure an object using Jada's method.

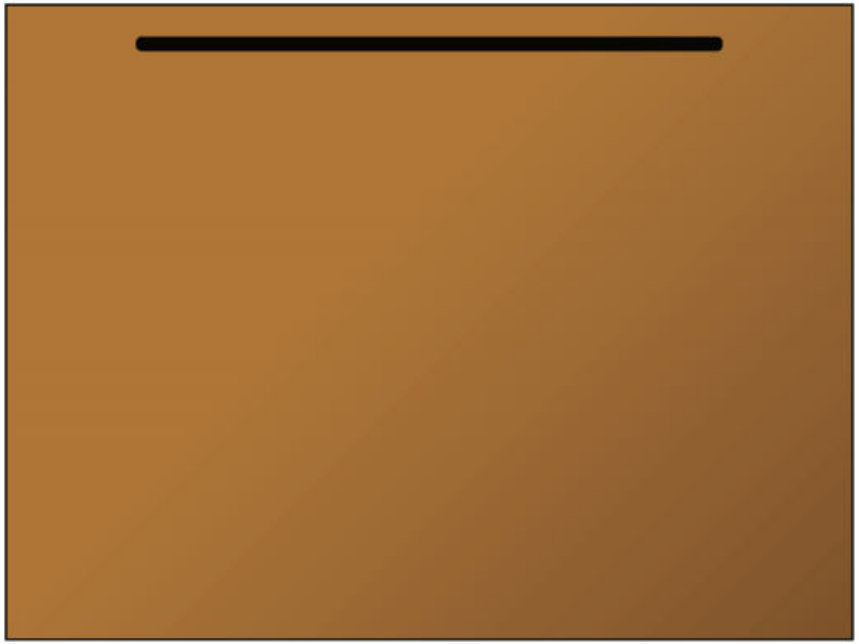
- I measured a_____.
- I started with the number _____.
- I ended with the number _____.
- Equation: _____.
- The length of my object is _____.

4. What do you notice about you and your partner's measurements?

A Desktop to Measure

Lesson 10
Activity #2

Lin is measuring her desktop in inches.



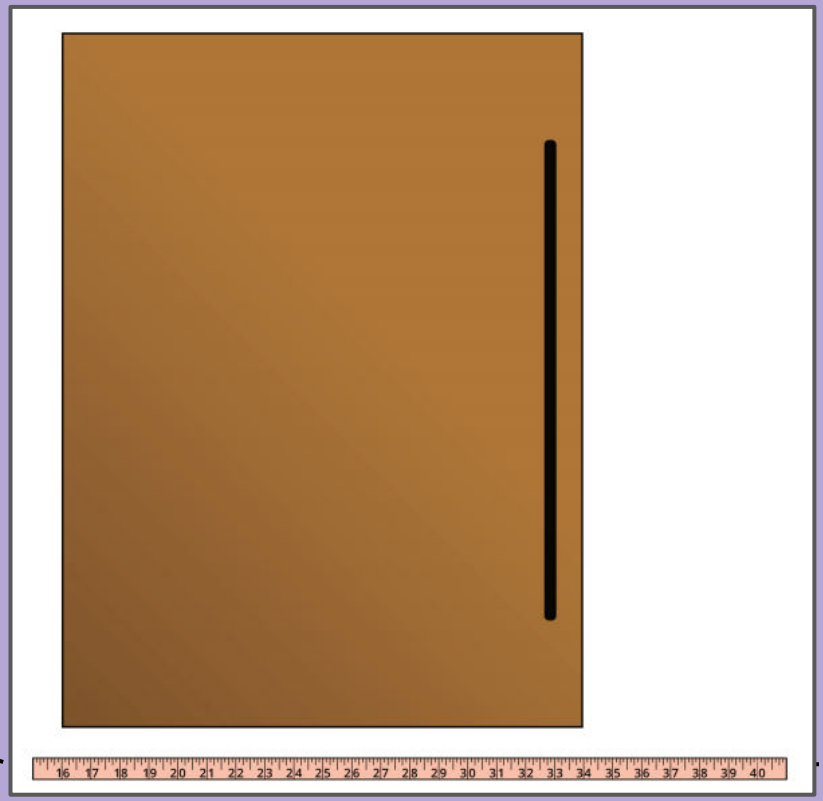
1. What is the length of the long side of the desktop? Show your thinking using drawings, numbers, or words.

Equation:_____

The long side of the desktop is _____.

A Desktop to Measure

Lesson 10
Activity #2



2. What is the length of the short side of the desktop? Show your thinking using drawings, numbers, or words.

Equation:_____

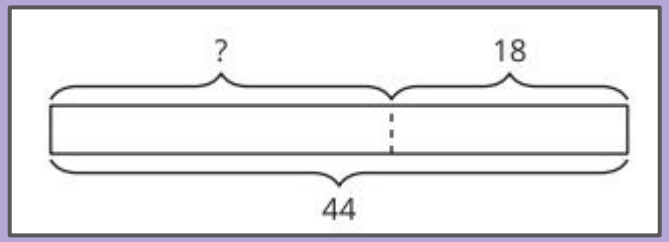
The short side of the desktop is _____.

Lesson 11
Activity #1

Making Saree Silk Ribbon Necklaces

Priya had a ribbon that was 44 in. long. She cut off 18 in. How long is Priya's ribbon now?

Andre drew this diagram to help him think about the problem.



1. What does the "?" represent in the story?

2. Why do you think there is a dotted line between the parts?

3. Find the missing value. Show your thinking.

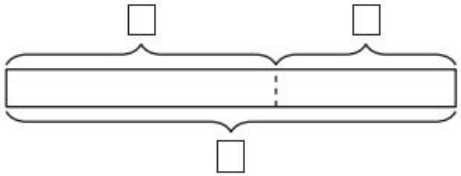
4. Priya's ribbon is _____ long.

Saree Silk Ribbon Projects

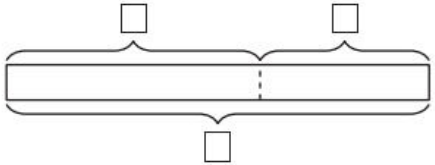
Lesson 11
Activity #2

Label the diagram. Find the missing value.
Show your thinking and don't forget the units.

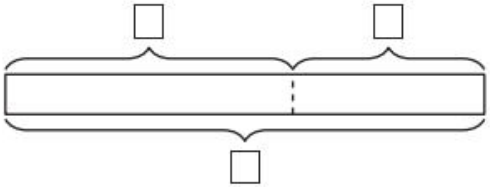
1. Elena started with 58 inches of ribbon. She gave Clare 27 inches of ribbon. How much ribbon did Elena keep for herself?



2. Han had a piece of ribbon that was 64 inches long. He cut off 28 inches to make a necklace for his sister. How much ribbon is left?

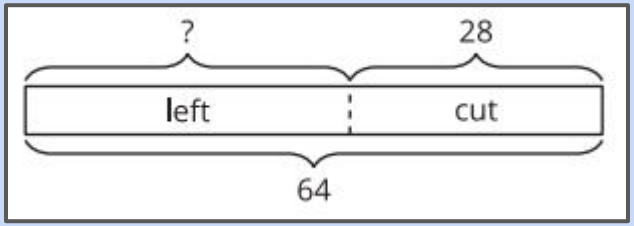


3. Priya cut off 25 inches of ribbon. She has 38 inches of ribbon left. How much ribbon did Priya start with?



Section B Summary

In this section of the unit, we learned more about standard units of measure. We measured using the U.S. Customary System of measurement, which is what we use in the United States. We learned to measure using inches and feet. We also solved two-step story problems about measurement and learned a new way to represent subtraction using diagrams.



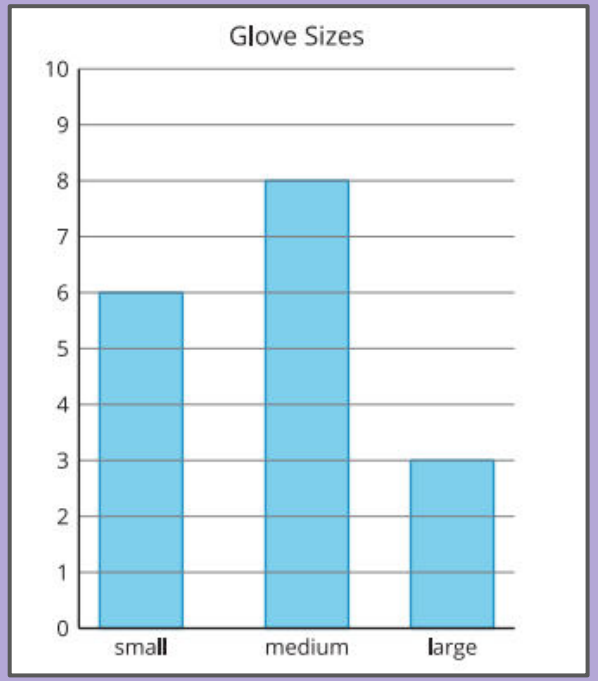
Section C Goals

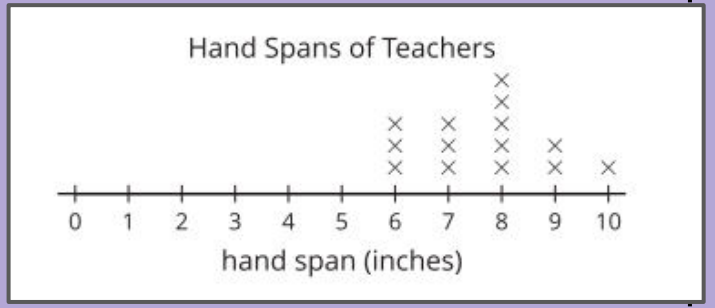
- Measure length in feet and inches
- Represent and solve one- and two-step story problems within 100.

Lesson 14
Warm-up

Notice and Wonder: "Handy" Graphs

What do you notice?

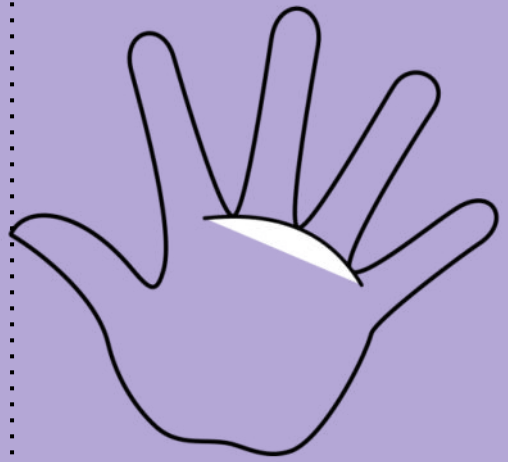




What do you wonder?

Lesson 14
Activity #1

Measuring Our Hand Spans



1. Trace your hand. (Spread your fingers wide.)

2. Draw a line from your thumb to your pinky. Measure the length of the line in inches.

My hand span is _____ inches.

Lesson 15
Warm up

Number Talk:
Subtraction within 50

Find the value of each difference mentally.

$$47 - 20$$

Lesson 15
Warm up

Number Talk:
Subtraction within 50

Find the value of each difference mentally.

$$47 - 24$$

Lesson 15
Warm up

Number Talk:
Subtraction within 50

Find the value of each difference mentally.

$$36 - 10$$

Lesson 15
Warm up

Number Talk:
Subtraction within 50

Find the value of each difference mentally.

$$36 - 15$$

Sharing from the Explore

Let’s share the responses from the Lesson 14 Warm-up and Activity 1 in the Explore section.

Interpreting Our Numerical Data

Lesson 14
Activity #2

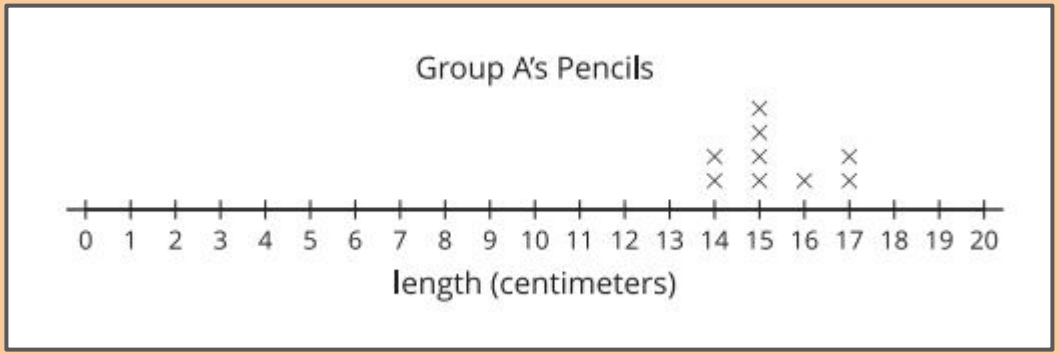
1. What was the longest hand span?

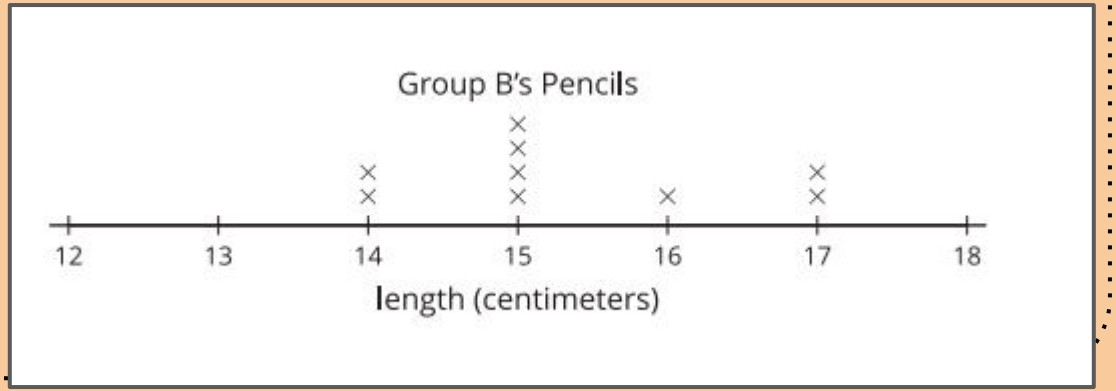
2. What was the shortest hand span?

3. Write another statement about our class' hand spans based on the line plot.

Plot Pencil Lengths

Lesson 15
Activity#2





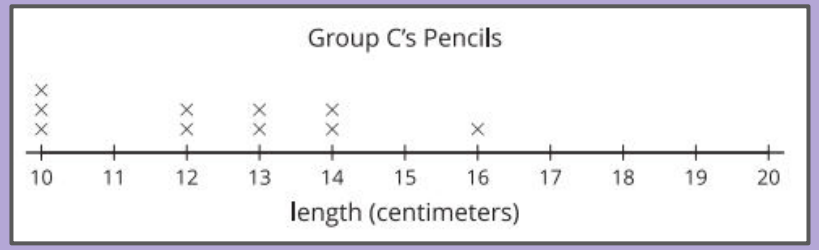
Plot Pencil Lengths

Lesson 15
Activity#2

Use this data to create a line plot.

Group C	pencil length (centimeters)
Andre	12
Clare	10
Diego	10
Elena	10
Han	13
Jada	12
Kiran	14
Noah	16
Priya	14
Tyler	13

Lesson 15 Synthesis



What do you know about the lengths of the pencils based on the line plot?

_____ said that the most pencils were 10 cm. _____ said the longest pencil was 16 cm. Are they both correct?

How can I find out how many pencils were measured based on this line plot?

The Plant Project

Lesson 16
Activity#1

Use this table to create a line plot.

Group C	plant heights (centimeters)
Andre	33
Clare	25
Diego	27
Elena	25
Han	35
Jada	33
Kiran	26
Noah	30
Priya	26
Tyler	33

Interpret Measurement Data on a Line Plot

Lesson 16
Activity #2

The Plant Project

Answer the questions based on your line plot.

1. What was the shortest plant height?

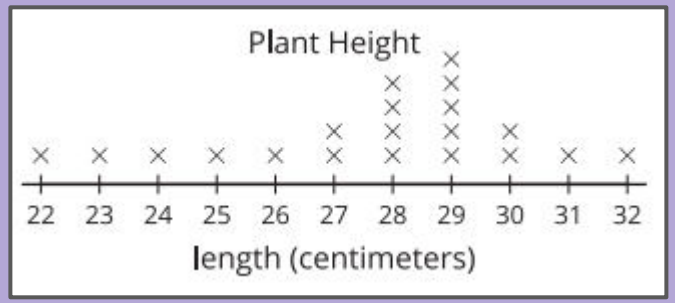
2. What was the tallest plant height?

3. What is the difference between the height of the tallest plant and the shortest plant? Write an equation to show how you know.

Interpret Measurement Data on a Line Plot

Lesson 16
Activity #2

Answer the questions based on Han's line plot.



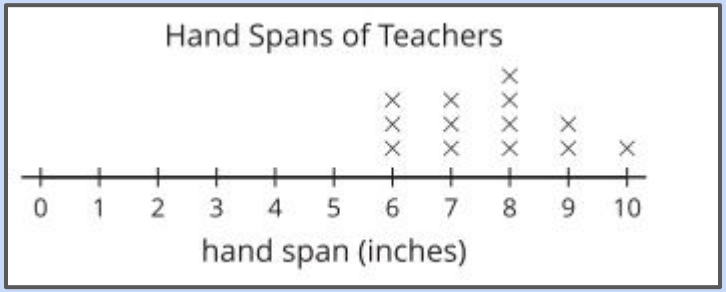
4. Han looked at this line plot and said that the tallest plant was 29 centimeters. Do you agree with him? Why or why not?

5. How many plants were measured in all?

6. Write a statement based on Han's line plot

Section C Summary

In this section of the unit, we learned about a new kind of graph. A **line plot** is a graph used to represent measurement data. The line and the numbers on it represent the units you used to measure. The line should look like the numbers on the tool you use to measure.



This line plot tells us that 4 teachers have a hand span of 8 inches because there are 4 Xs over the 8. We learned how to make line plots and how to answer questions based on a line plot.