

# GO MATH!

## INCLUDES

- School-Home Letter
- Vocabulary Game Directions
- Daily Enrichment Activities
- Reteach Intervention for every lesson
- Chapter 9 Test
- Chapter 9 Performance Task
- Answer Keys and Individual Record Forms



Copyright © by Houghton Mifflin Harcourt Publishing Company

All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, broadcasting or by any other information storage and retrieval system, without written permission of the copyright owner unless such copying is expressly permitted by federal copyright law.

Only those pages that are specifically enabled by the program and indicated by the presence of the print icon may be printed and reproduced in classroom quantities by individual teachers using the corresponding student's textbook or kit as the major vehicle for regular classroom instruction.

Common Core State Standards © Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.

This product is not sponsored or endorsed by the Common Core State Standards Initiative of the National Governors Association Center for Best Practices and the Council of Chief State School Officers.

HOUGHTON MIFFLIN HARCOURT and the HMH Logo are trademarks and service marks of Houghton Mifflin Harcourt Publishing Company. You shall not display, disparage, dilute or taint Houghton Mifflin Harcourt trademarks and service marks or use any confusingly similar marks, or use Houghton Mifflin Harcourt marks in such a way that would misrepresent the identity of the owner. Any permitted use of Houghton Mifflin Harcourt trademarks and service marks inures to the benefit of Houghton Mifflin Harcourt Publishing Company.

All other trademarks, service marks or registered trademarks appearing on Houghton Mifflin Harcourt Publishing Company websites are the trademarks or service marks of their respective owners.

# Contents

School-Home Letter (English) .....	9-1
Chapter 9 School-Home Letter (Spanish) .....	9-2
Vocabulary Game .....	9-3
9.1 Reteach .....	9-5
9.1 Enrich .....	9-6
9.2 Reteach .....	9-7
9.2 Enrich .....	9-8
9.3 Reteach .....	9-9
9.3 Enrich .....	9-10
9.4 Reteach .....	9-11
9.4 Enrich .....	9-12
9.5 Reteach .....	9-13
9.5 Enrich .....	9-14
9.6 Reteach .....	9-15
9.6 Enrich .....	9-16
9.7 Reteach .....	9-17
9.7 Enrich .....	9-18
Chapter 9 Test .....	9-19
Chapter 9 Performance Task .....	9-23
Answer Keys .....	9-28
Individual Record Forms .....	9-34



# School-Home Letter

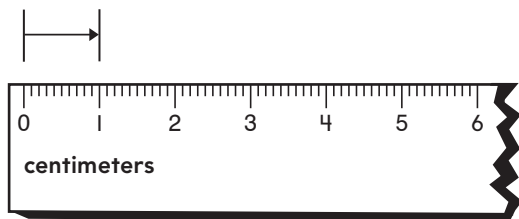
## Dear Family,

My class started Chapter 9 this week. In this chapter, I will learn how to measure using centimeters and meters. I will also solve problems about adding and subtracting lengths.

Love, \_\_\_\_\_

### Vocabulary

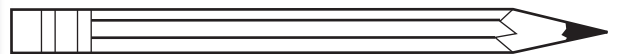
**centimeter** Unit of length



**meter** 100 centimeters

### Home Activity

Show your child an object that is about ten centimeters long. Have your child choose three or four more objects and estimate each length as more than ten centimeters or less than ten centimeters. Use the object that is about ten centimeters long to check your child's estimates.



### Literature

Reading math stories reinforces ideas.

Look for these books at the library.

**How Tall, How Short, Length**

**How Far Away?**

by David Adler.

Holiday House, 2000.

by Henry Arthur Pluckrose.

Children's Press, 1995.



# Carta para la Casa

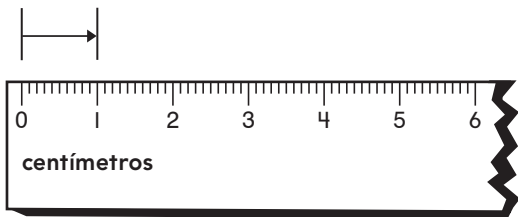
## Querida familia:

Mi clase comenzó el Capítulo 9 esta semana. En este capítulo, aprenderé a medir usando centímetros y metros. También resolveré problemas de suma y resta de longitudes.

Con cariño, \_\_\_\_\_

### Vocabulario

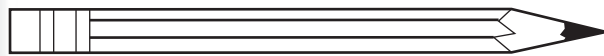
**centímetro** unidad de longitud



**metro** 100 centímetros

### Actividad para la casa

Muéstrele a su hijo un objeto de unos diez centímetros de largo. Pídale que elija tres o cuatro objetos más y que estime el largo de cada uno en más de diez centímetros o en menos de diez centímetros. Use el objeto de unos diez centímetros de largo para comprobar las estimaciones de su hijo.



### Literatura

Leer cuentos de matemáticas refuerza los conceptos. Busque estos libros en la biblioteca.

**How Tall, How Short, How Far Away?**

por David Adler.  
Holiday House, 2000.

**Length**

por Henry Arthur Pluckrose.  
Children's Press,  
1995.

## Going Places with GOMATH! Words



# Go Fish

For 3 players

### Materials

- 4 sets of word cards

### How to Play

1. Every player is dealt 5 cards. Put the rest face-down in a draw pile.
2. Ask another player for a word card to match a word card you have.
  - If the player has the word card, he or she gives it to you. Put both cards in front of you. Take another turn.
  - If the player does not have the word, he or she answers, "Go fish." Take a card from the pile. If the word you get matches one you are holding, put both cards in front of you. Take another turn. If it does not match, your turn is over.
3. The game is over when one player has no cards left. The player with the most pairs wins.

### Word Box

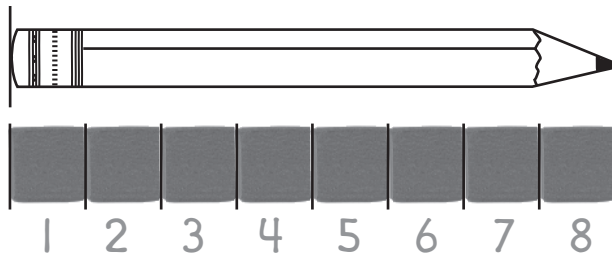
addends
centimeter
compare
difference
digit
estimate
meter
sum





Name \_\_\_\_\_

# Measure with a Centimeter Model



Place unit cubes on the squares.

How many cubes long is the pencil?

The pencil is 8 cubes long.

Each unit cube is about 1 centimeter long.

So, the pencil is about 8 centimeters long.

**Use a unit cube. Measure the length in centimeters.**



about \_\_\_\_\_ centimeters



about \_\_\_\_\_ centimeters



about \_\_\_\_\_ centimeters

Name \_\_\_\_\_

# Centimeter Clips

Read each problem. Use small paper clips to measure. Each small paper clip is about 3 centimeters long. Write your measurement.

1. This is part of John's toy train track.  
About how many centimeters long is it?



about \_\_\_\_\_ centimeters

---

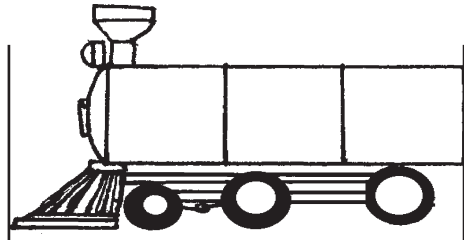
2. This caboose is from John's collection.  
About how many centimeters long is it?



about \_\_\_\_\_ centimeters

---

3. John bought this engine for his train.  
About how many centimeters long is it?



about \_\_\_\_\_ centimeters



## Writing and Reasoning

Suppose an object in your classroom is about 5 small paper clips long. About how many centimeters long is it?

---

Name \_\_\_\_\_

# Estimate Lengths in Centimeters

The ribbon is about 8 centimeters long. How can you find the most reasonable estimate for the length of the string?

ribbon



1 centimeter

6 centimeters

string



10 centimeters

Think: 1 centimeter is not reasonable because the string is much longer than 1 cube.

Think: 10 centimeters is not reasonable because the string is shorter than the ribbon.

1. The rope is about 7 centimeters long. Circle the best estimate for the length of the yarn.

rope



yarn



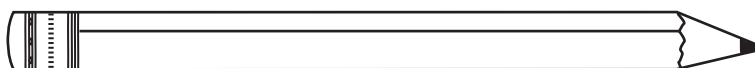
5 centimeters

9 centimeters

14 centimeters

2. The pencil is about 10 centimeters long. Circle the best estimate for the length of the ribbon.

pencil



ribbon



5 centimeters


9 centimeters

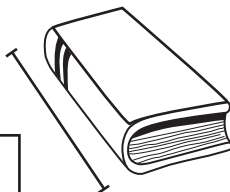
12 centimeters

Name \_\_\_\_\_

# Measure by Hand

Make an estimate. Then measure real objects.

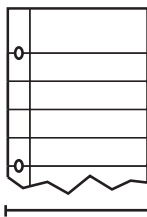
1. Use your  to measure.



Estimate: \_\_\_\_\_ fingers

Actual: \_\_\_\_\_ fingers

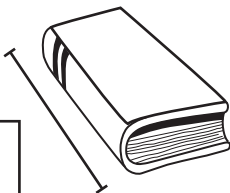
2. Use your  to measure.



Estimate: \_\_\_\_\_ palms

Actual: \_\_\_\_\_ palms

3. Use your  to measure.



Estimate: \_\_\_\_\_ fingers

Actual: \_\_\_\_\_ fingers



## Writing and Reasoning

In Exercises 1–3, you used different parts of your hand as measurement units. Which unit was the best unit to use? Explain.

---

---

---

---

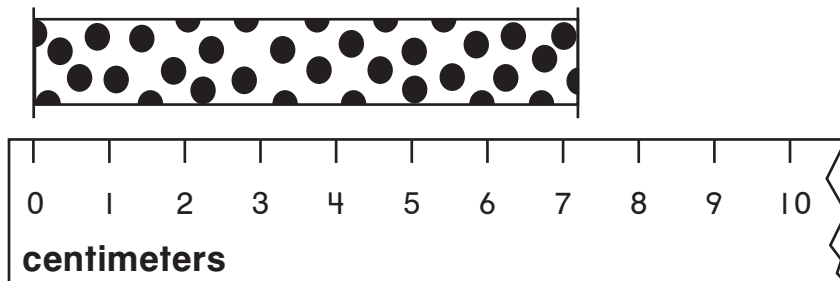
---

Name \_\_\_\_\_

# Measure with a Centimeter Ruler

Line up the left end of the ribbon with the zero mark on the ruler.

Which centimeter mark is closest to the other end of the ribbon?



The ribbon is about 7 centimeters long.

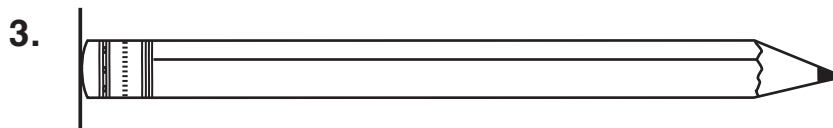
Measure the length to the nearest centimeter.



\_\_\_\_\_ centimeters



\_\_\_\_\_ centimeters



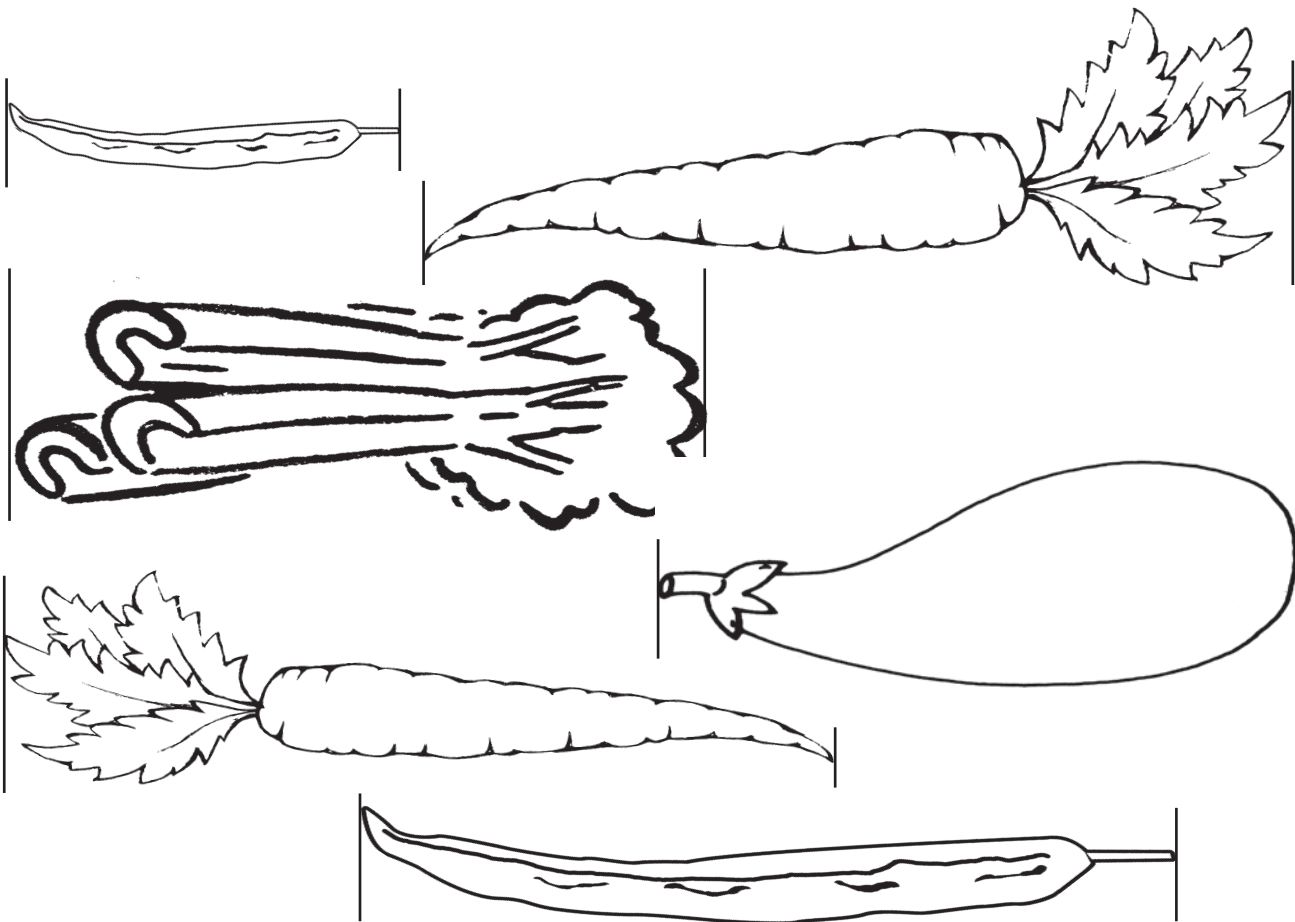
\_\_\_\_\_ centimeters

Name \_\_\_\_\_

# Colorful Vegetables

Color the vegetables that are 10 centimeters or longer yellow.

Color the vegetables that are shorter than 10 centimeters green.



**Writing and Reasoning** If you lined up all the same-color vegetables end to end in a row, which of the two rows would be longer? Explain.

---

---

---

Name \_\_\_\_\_

## Problem Solving • Add and Subtract Lengths

Christy has a ribbon that is 12 centimeters long. Erin has a ribbon that is 9 centimeters long. How many centimeters of ribbon do they have altogether?

### Unlock the Problem

**What do I need to find?**

how much ribbon they have

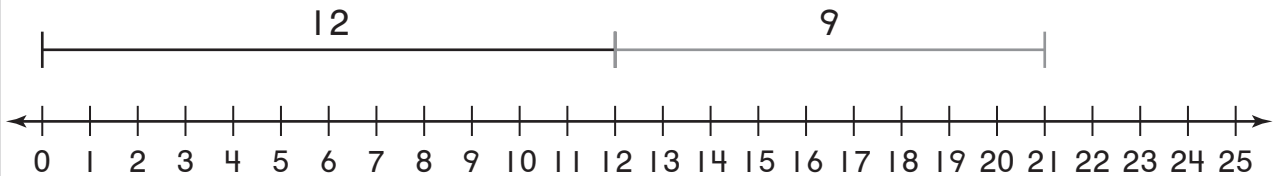
altogether

**What information do I need to use?**

Christy has 12 centimeters of ribbon.

Erin has 9 centimeters of ribbon.

**Show how to solve the problem.**



$$12 + 9 = \blacksquare$$

They have 21 centimeters of ribbon altogether.

**Write a number sentence using a  $\blacksquare$  for the missing number. Then solve.**

- Lucas has one string that is 9 centimeters long and another string that is 8 centimeters long. How many centimeters of string are there in all?



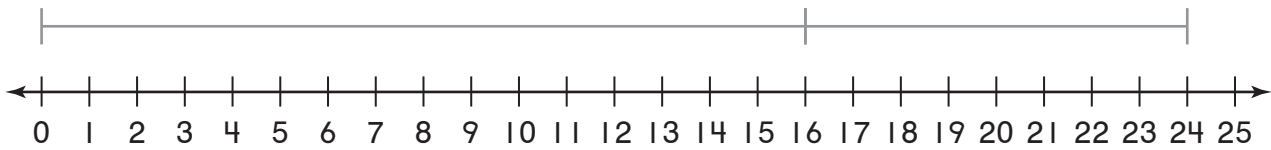
\_\_\_\_\_ centimeters of string in all

Name \_\_\_\_\_

# Diagram It Yourself

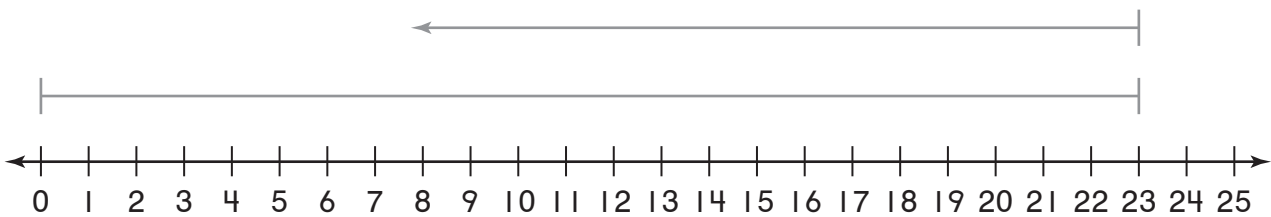
Use the diagram. Write a problem about adding or subtracting lengths in centimeters.

1. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



\_\_\_\_\_ centimeters

2. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



\_\_\_\_\_ centimeters



**Writing and Reasoning** How do addition diagrams help you add two numbers? Explain.

\_\_\_\_\_  
 \_\_\_\_\_



Name \_\_\_\_\_

# Centimeters and Meters

You can measure longer lengths in meters.

1 meter is the same as 100 centimeters.

The real board is about 100 centimeters tall.  
So, the real board is about 1 meter tall.



**Measure to the nearest centimeter.  
Then measure to the nearest meter.**

	Find the real object.	Measure.
1.	<p>desk</p>	<p>_____ centimeters</p> <p>_____ meters</p>
2.	<p>door</p>	<p>_____ centimeters</p> <p>_____ meters</p>
3.	<p>classroom floor</p>	<p>_____ centimeters</p> <p>_____ meters</p>

Name \_\_\_\_\_

# Meters and Centimeters

Find real objects that fit the clues.  
Measure each object. Use centimeters or meters for the units. Then draw and label it.

	Find an object.	Measure it.	Draw and label it.
1.	I am shorter than 10 centimeters.	_____	_____
2.	I am longer than 50 centimeters but shorter than one meter.	_____	_____
3.	I am longer than one meter.	_____	_____



**Writing and Reasoning** How much longer is the object in Exercise 2 than the object in Exercise 1? Explain.

Name \_\_\_\_\_

## Estimate Lengths in Meters

Estimate the length of the chalk tray.

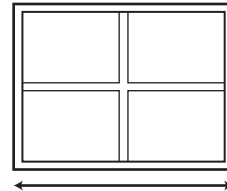


The chalk tray is about the same length as 2 meter sticks.

So, the chalk tray is about 2 meters long.

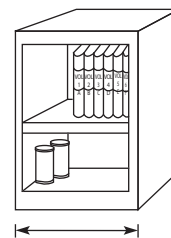
**Find the real object.  
Estimate its length in meters.**

1. window



about \_\_\_\_\_ meters

2. bookshelf



about \_\_\_\_\_ meters

Name \_\_\_\_\_

## At the Zoo

Janet, Ray, Molly, and Kyle went to the zoo.  
They estimated the lengths of things they saw.  
Circle the best estimate.

1. Janet estimated how tall the ostrich was.  
Which is the best estimate?

2 meters

5 meters

10 meters

---

2. Ray estimated the length of a fox.  
Which is the best estimate?

8 meters

3 meters

1 meter

---

3. Molly estimated the length of an adult alligator.  
Which is the best estimate?

1 meter

3 meters

9 meters

---

4. Kyle estimated how tall the adult giraffe was.  
Which is the best estimate?

6 meters

3 meters

1 meter



**Writing and Reasoning** Think about an animal you have seen. Describe how you would estimate its length in meters.

---



---

Name \_\_\_\_\_

# Measure and Compare Lengths

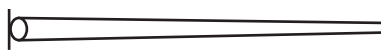
Which object is longer? How much longer?

1. Measure the leaf.



The leaf is 9 centimeters.

2. Measure the stick.



The stick is 5 centimeters.

3. Complete the number sentence to find the difference.

$$\begin{array}{r} 9 \\ \hline \text{centimeters} \end{array} - \begin{array}{r} 5 \\ \hline \text{centimeters} \end{array} = \begin{array}{r} 4 \\ \hline \text{centimeters} \end{array}$$

The leaf is 4 centimeters longer than the stick.

**Measure the length of each object. Write a number sentence to find the difference between the lengths.**



\_\_\_\_\_ centimeters



\_\_\_\_\_ centimeters

$$\begin{array}{r} \text{_____} \\ \hline \text{centimeters} \end{array} - \begin{array}{r} \text{_____} \\ \hline \text{centimeters} \end{array} = \begin{array}{r} \text{_____} \\ \hline \text{centimeters} \end{array}$$

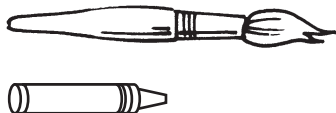
The string is \_\_\_\_\_ centimeters longer than the paper clip.

Name \_\_\_\_\_

# Long and Longer

Find the real objects. Measure the length of each object in centimeters. Then complete the sentence to describe the objects.

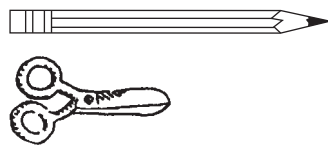
1.



The \_\_\_\_\_ is \_\_\_\_\_ centimeters longer than the \_\_\_\_\_.

---

2.



The \_\_\_\_\_ is \_\_\_\_\_ centimeters shorter than the \_\_\_\_\_.

---

3.



The \_\_\_\_\_ is \_\_\_\_\_ centimeters longer than the \_\_\_\_\_.



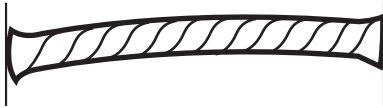
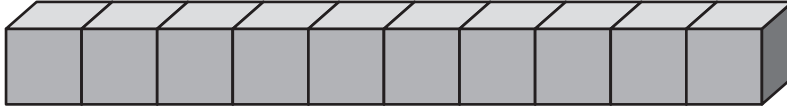
**Writing and Reasoning** Explain how you solved Exercise 3.

---

---

---

1. Susan uses unit cubes to measure the length of the yarn. Circle the number in the box that makes the sentence true.

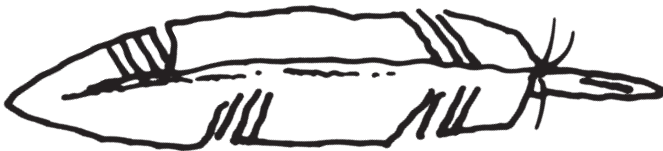


The yarn is 

2
5
9

 centimeters long.

2. The paintbrush is about 7 centimeters long. Gavin says the feather is about 8 centimeters long. Ray says the feather is about 5 centimeters long.



Which boy has the better estimate? Explain.

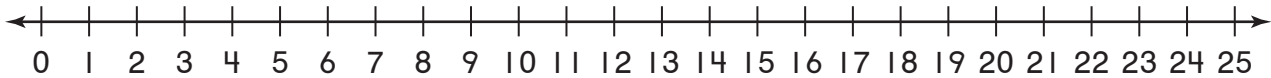
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Alberto uses 8 centimeters of wire for a science project. He uses another 15 centimeters of wire for another project. How many centimeters of wire does he use?

Draw a diagram. Write a number sentence using a  $\blacksquare$  for the missing number. Then solve.



Alberto uses \_\_\_\_\_ centimeters of wire.

4. Write the word that makes the sentence true.

centimeters

meters

A pencil is 16 \_\_\_\_\_ long.

A swimming pool is 50 \_\_\_\_\_ long.

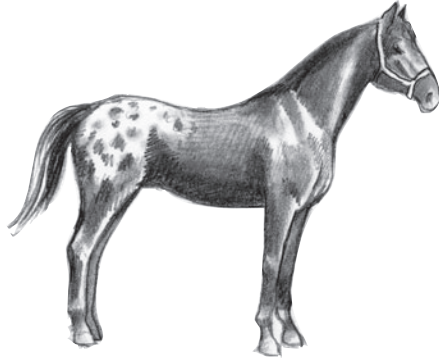
A sidewalk is 2 \_\_\_\_\_ wide.

A computer keyboard is 42 \_\_\_\_\_ wide.

GO ON 



5. Estimate the length of a real horse. Fill in the bubble next to all the sentences that are true.

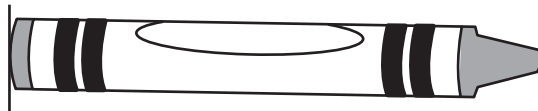


- A The horse is less than 1 meter long.
- B The horse is less than 6 meters long.
- C The horse is more than 3 centimeters long.
- D The horse is about 6 centimeters long.
- E The horse is about 3 meters long.

6. Measure the length of each object. Does the sentence describe the objects? Choose Yes or No.



\_\_\_\_\_ centimeters



\_\_\_\_\_ centimeters

The yarn is 3 centimeters longer than the crayon.  Yes  No

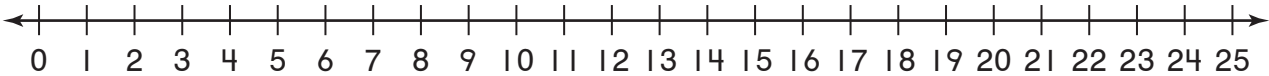
The crayon is 7 centimeters shorter than the yarn.  Yes  No

The total length of the yarn and the crayon is 17 centimeters.  Yes  No

**GO ON**

7. Elizabeth has a piece of ribbon that is 25 centimeters long. She cuts off a piece of the ribbon to use to wrap a gift. Elizabeth's ribbon is now 7 centimeters long. How many centimeters of ribbon did Elizabeth use to wrap the gift?

Write a number sentence using a ■ for the missing number. Then solve.



Elizabeth used \_\_\_\_\_ centimeters of ribbon.

8. Measure the length of the rope to the nearest centimeter. Circle the number in the box that makes the sentence true.



The rope is about \_\_\_\_\_ centimeters long.

12

13

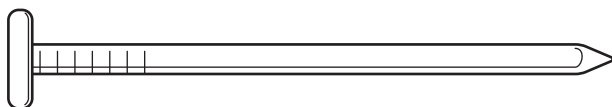
15



## Making a Birdhouse

Use a centimeter ruler for items 1 and 2.

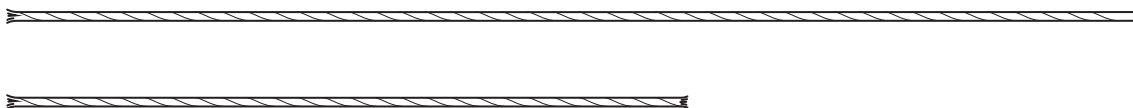
1. Karl and Nisha are making a birdhouse. They are going to use nails that look like this.



What is the length of the nail to the nearest centimeter?

\_\_\_\_\_ cm

2. Karl and Nisha will use string to hang their birdhouse from a tree. About how much longer is the top piece of string than the bottom piece?



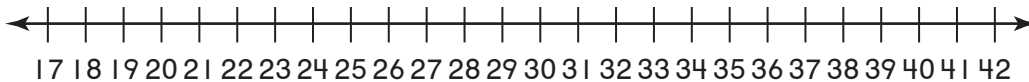
\_\_\_\_\_ cm longer

3. Nisha uses a pencil to mark the wood for cutting. The paper clip is about 3 cm long. What is a good estimate for the length of the pencil?



The pencil is about \_\_\_\_\_ cm long.

4. Karl has a board that is 42 cm long. He saws 15 cm off one end of the board. How long is the board now?



The board is \_\_\_\_\_ centimeters long now.

5. When the birdhouse is finished, Nisha and Karl want to measure its height. Should they measure the height of the birdhouse with a meter stick or a centimeter ruler?

\_\_\_\_\_

Explain your answer.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Length in Metric Units

# Making a Birdhouse

### COMMON CORE STANDARDS

- 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.
- 2.MD.A.3** Estimate lengths using units of inches, feet, centimeters, and meters.
- 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.
- 2.MD.B.5** Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
- 2.MD.B.6** Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

### PURPOSE

To assess the ability to estimate, measure, and compare lengths in metric units

### TIME

25–30 minutes

### GROUPING

Individuals

### MATERIALS

- Performance Task, paper, pencil
- Centimeter rulers

### PREPARATION HINTS

- Review basic addition and subtraction facts with children before assigning the task.
- Review measurement concepts with children before assigning the task.
- Review vocabulary, including *centimeter*, *meter*.

### IMPLEMENTATION NOTES

- Read the task aloud to children and make sure that all children have a clear understanding of the task.
- Children may use manipulatives to complete the task.
- Allow children as much paper as they need to complete the task.
- Allow as much time as children need to complete the task.
- Children must complete the task individually, without collaboration.
- Collect all work when the task is complete.

## TASK SUMMARY

Children use rulers to measure lengths to the nearest centimeter. They determine whether certain objects should be measured in centimeters or meters. They add and subtract lengths given in centimeters, using number lines as well as mental arithmetic.

## REPRESENTATION

In this task, teachers can...

- Provide options for comprehension by highlighting the relationships between centimeters and meters.

## ACTION and EXPRESSION

In this task, teachers can...

- Provide options for executive functions by having children explain their plans or strategies for solving the problems.
- Provide options for expression and communication by allowing children to give answers orally.

## ENGAGEMENT

In this task, teachers can...

- Provide options for self-regulation by asking children to determine how much effort they put into completing these tasks.
- Provide options for minimizing distractions by allowing children who need quiet to work in places away from the rest of the class.

## EXPECTED STUDENT OUTCOMES

- Complete the task within the time allowed
- Reflect engagement in a productive struggle
- Measure accurately with a centimeter ruler
- Add and subtract lengths expressed in centimeters
- Determine whether to use centimeters or meters to measure various objects

## SCORING

Use the associated Rubric to evaluate each child's work.

## Performance Task Rubric

### MAKING A BIRDHOUSE

A level 3 response

- Indicates that the child has made sense of the task and persevered
- Includes accurate measurements of lengths
- Shows an understanding of which objects can best be measured in meters and which in centimeters
- Demonstrates an understanding of how to add and subtract with metric units of length

A level 2 response

- Indicates that the child has made sense of the task and persevered
- Includes accurate measurements of lengths
- Shows an understanding of which objects can best be measured in meters and which in centimeters
- Demonstrates an understanding of how to add and subtract with metric units of length
- Addresses most or all aspects of the task, but there may be errors of omission

A level 1 response

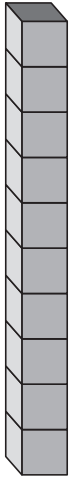
- Shows that the child has made sense of at least some elements of the task
- Demonstrates difficulty in measuring lengths
- May show confusion about which objects to measure in meters and which in centimeters
- May demonstrate difficulty in adding and subtracting lengths in centimeters

A level 0 response

- Shows little evidence that the child has made sense of the problems of the task
- Demonstrates an inability to measure lengths
- Shows confusion about which objects to measure in meters and which in centimeters
- May demonstrate an inability to use basic addition and subtraction facts
- Shows little evidence of addressing the elements of the task

Name \_\_\_\_\_

1. Susan uses unit cubes to measure the length of the yarn. Circle the number in the box that makes the sentence true.



2	5	9
---	---	---

The yarn is \_\_\_\_\_ centimeters long.

2. The paintbrush is about 7 centimeters long. Gavin says the feather is about 8 centimeters long. Ray says the feather is about 5 centimeters long.



Which boy has the better estimate? Explain.

**Gavin; Possible answer: The feather is a little longer than the paintbrush. So, 8 centimeters is the better estimate.**



Name \_\_\_\_\_

3. Alberto uses 8 centimeters of wire for a science project. He uses another 15 centimeters of wire for another project. How many centimeters of wire does he use?

Draw a diagram. Write a number sentence using a ■ for the missing number. Then solve.



$8 + 15 = \blacksquare$

Alberto uses **23** centimeters of wire.

4. Write the word that makes the sentence true.

centimeters

meters

A pencil is 16 **centimeters** long.

A swimming pool is 50 **meters** long.

A sidewalk is 2 **meters** wide.

A computer keyboard is 42 **centimeters** wide.





Name \_\_\_\_\_

5. Estimate the length of a real horse. Fill in the bubble next to all the sentences that are true.



- A The horse is less than 1 meter long.
- B The horse is less than 6 meters long.
- C The horse is more than 3 centimeters long.
- D The horse is about 6 centimeters long.
- E The horse is about 3 meters long.

6. Measure the length of each object. Does the sentence describe the objects? Choose Yes or No.



10 centimeters



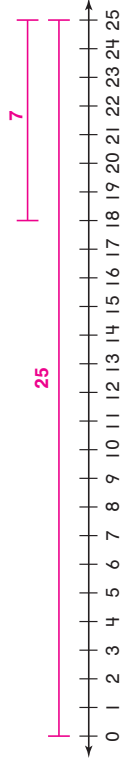
7 centimeters

- The yarn is 3 centimeters longer than the crayon.
- The crayon is 7 centimeters shorter than the yarn.
- The total length of the yarn and the crayon is 17 centimeters.
- Yes  No
- Yes  No
- Yes  No



Name \_\_\_\_\_

7. Elizabeth has a piece of ribbon that is 25 centimeters long. She cuts off a piece of the ribbon to use to wrap a gift. Elizabeth's ribbon is now 7 centimeters long. How many centimeters of ribbon did Elizabeth use to wrap the gift? Write a number sentence using a  $\blacksquare$  for the missing number. Then solve.



$25 - 7 = \blacksquare$

Elizabeth used 18 centimeters of ribbon.

8. Measure the length of the rope to the nearest centimeter. Circle the number in the box that makes the sentence true.



12  
13  
15

The rope is about 15 centimeters long.



Name \_\_\_\_\_

**Chapter 4**

**Making a Birdhouse**

Use a centimeter ruler for items 1 and 2.

1. Karl and Nisha are making a birdhouse. They are going to use nails that look like this.



What is the length of the nail to the nearest centimeter?  
8 cm

2. Karl and Nisha will use string to hang their birdhouse from a tree. About how much longer is the top piece of string than the bottom piece?



6 cm longer

3. Nisha uses a pencil to mark the wood for cutting. The paper clip is about 3 cm long. What is a good estimate for the length of the pencil?



The pencil is about 9 cm long.

4. Karl has a board that is 42 cm long. He saws 15 cm off one end of the board. How long is the board now?



The board is 27 centimeters long now.

5. When the birdhouse is finished, Nisha and Karl want to measure its height. Should they measure the height of the birdhouse with a meter stick or a centimeter ruler?

centimeter ruler

Explain your answer.

because you're measuring a birdhouse so it would make sense to be using a centimeter ruler because it is small.

Name \_\_\_\_\_

**Chapter 4**

**Making a Birdhouse**

Use a centimeter ruler for items 1 and 2.

1. Karl and Nisha are making a birdhouse. They are going to use nails that look like this.



What is the length of the nail to the nearest centimeter?

8 cm

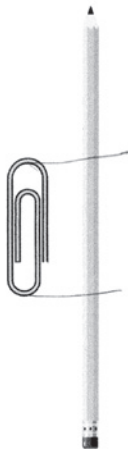
2. Karl and Nisha will use string to hang their birdhouse from a tree. About how much longer is the top piece of string than the bottom piece?



6 cm longer

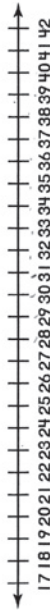
© Houghton Mifflin Harcourt Publishing Company

3. Nisha uses a pencil to mark the wood for cutting. The paper clip is about 3 cm long. What is a good estimate for the length of the pencil?



The pencil is about \_\_\_\_\_ cm long.

4. Karl has a board that is 42 cm long. He saws 15 cm off one end of the board. How long is the board now?



The board is 27 centimeters long now.

5. When the birdhouse is finished, Nisha and Karl want to measure its height. Should they measure the height of the birdhouse with a meter stick or a centimeter ruler?

centimeter ruler

Explain your answer.

A birdhouse is little so it should be measured in centimeters.  
A meter stick is to big for a birdhouse.

© Houghton Mifflin Harcourt Publishing Company

Name \_\_\_\_\_

**Chapter 9**

**Making a Birdhouse**

Use a centimeter ruler for items 1 and 2.

1. Karl and Nisha are making a birdhouse. They are going to use nails that look like this.



What is the length of the nail to the nearest centimeter?

7 cm

2. Karl and Nisha will use string to hang their birdhouse from a tree. About how much longer is the top piece of string than the bottom piece?



5 cm longer

© Houghton Mifflin Harcourt Publishing Company

3. Nisha uses a pencil to mark the wood for cutting. The paper clip is about 3 cm long. What is a good estimate for the length of the pencil?



The pencil is about 10 cm long.

4. Karl has a board that is 42 cm long. He saws 15 cm off one end of the board. How long is the board now?



$$\begin{array}{r} 42 \\ - 15 \\ \hline 27 \end{array}$$

The board is 27 centimeters long now.

5. When the birdhouse is finished, Nisha and Karl want to measure its height. Should they measure the height of the birdhouse with a meter stick or a centimeter ruler?

Meter stick

Explain your answer.

I would use a Meter stick because it is longer than a Centimeter ruler.

© Houghton Mifflin Harcourt Publishing Company

Name \_\_\_\_\_

**Chapter 4**

**Making a Birdhouse**

Use a centimeter ruler for items 1 and 2.

1. Karl and Nisha are making a birdhouse. They are going to use nails that look like this.



What is the length of the nail to the nearest centimeter?

10 cm

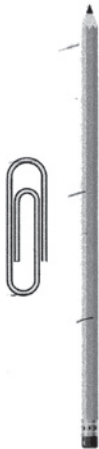
2. Karl and Nisha will use string to hang their birdhouse from a tree. About how much longer is the top piece of string than the bottom piece?



24 cm longer

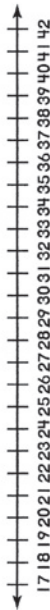
© Houghton Mifflin Harcourt Publishing Company

3. Nisha uses a pencil to mark the wood for cutting. The paper clip is about 3 cm long. What is a good estimate for the length of the pencil?



The pencil is about 10 cm long.

4. Karl has a board that is 42 cm long. He saws 15 cm off one end of the board. How long is the board now?



The board is 13 centimeters long now.

5. When the birdhouse is finished, Nisha and Karl want to measure its height. Should they measure the height of the birdhouse with a meter stick or a centimeter ruler?

meter stick

Explain your answer.

Because it's easier with a taller stick than a shorter stick.

© Houghton Mifflin Harcourt Publishing Company

## Chapter 9 Test

Item	Lesson	Standard	Content Focus	Intervene With	Personal Math Trainer
1	9.1	2.MD.A.1	Measure length using a centimeter model.	R—9.1	2.MD.1
2	9.2	2.MD.A.3	Estimate length in centimeters.	R—9.2	2.MD.3
3	9.4	2.MD.A.4	Relate addition to length and use a number line diagram.	R—9.4	2.MD.4
4	9.5	2.MD.A.2	Select centimeters or meters as the correct unit for given measures.	R—9.5	2.MD.1
5	9.6	2.MD.A.3	Estimate length in meters.	R—9.6	2.MD.3
6	9.7	2.MD.A.4	Measure and compare lengths of two objects.	R—9.7	2.MD.4
7	9.4	2.MD.B.5, 2.MD.B.6	Relate subtraction to length and use a number line diagram.	R—9.4	2.MD.5, 2.MD.6
8	9.3	2.MD.A.1	Measure length to the nearest centimeter.	R—9.3	2.MD.1

**Key:** R—Reteach