


# 8-2

## Understanding Metric Units of Measure

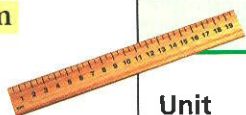
 **Prep for MA.6.A.2.2**  
Interpret and compare ratios and rates.  
**Review of MA.5.G.5.3**

The **metric system** of measurement is used almost everywhere in the world. Its advantage over the customary system is that all metric units are related by the decimal system.

The shortest Olympic track race is 100 meters. Use the length of your classroom as a benchmark. A classroom is about 10 meters long, so a 100-meter race is about the length of 10 classrooms.

### Vocabulary

**metric system**



Metric Units of Length

Unit	Abbreviation	Relation to a Meter	Benchmark
Millimeter	mm	0.001 m	Thickness of a dime
Centimeter	cm	0.01 m	Width of a fingernail
Decimeter	dm	0.1 m	Width of a CD case
Meter	m	1 m	Width of a single bed
Kilometer	km	1,000 m	Distance around a city block

 **Animated Math**  
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### EXAMPLE

1

#### Choosing Appropriate Units of Length

What unit of measure provides the best estimate? Explain.

- A** A TV remote control is about 19   ? long. *Think: A TV remote control is about 19 times the width of a fingernail.*  
A TV remote control is about 19 cm long.
- B** A school auditorium is about 40   ? long. *Think: An auditorium is about 40 times the width of a single bed.*  
A school auditorium is about 40 m long.



Metric Units of Mass

Unit	Abbreviation	Relation to a Gram	Benchmark
Milligram	mg	0.001 g	Very small insect
Gram	g	1 g	Paper clip
Kilogram	kg	1,000 g	Textbook



**EXAMPLE****2****Choosing Appropriate Units of Mass**

What unit of measure provides the best estimate? Explain.

A sandwich has a mass of about 400 \_\_\_\_?

*Think: A sandwich has a mass of about 400 paper clips.*

A sandwich has a mass of about 400 g.

Metric Units of Capacity			
Unit	Abbreviation	Relation to a Liter	Benchmark
Milliliter	mL	0.001 L	Drop of water
Liter	L	1 L	Water pitcher

**EXAMPLE****3****Choosing Appropriate Units of Capacity**

What unit of measure provides the best estimate? Explain.

A bucket has a capacity of about 10 \_\_\_\_?

*Think: A bucket has a capacity of about 10 water pitchers.*

A bucket has a capacity of about 10 L.

**EXAMPLE****4****Finding Measurements**

Use a ruler to measure the length of the barrette to the nearest centimeter.



*The barrette is between 6 and 7 cm. It is closer to 7 cm than 6 cm.*



The length of the barrette is about 7 cm.

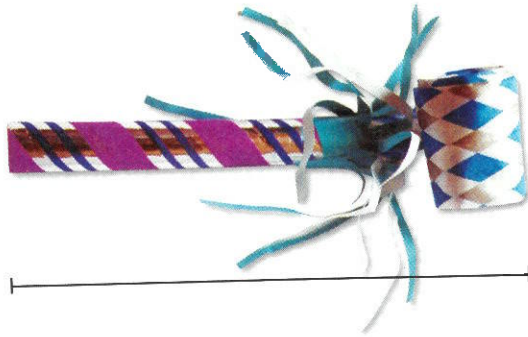
**Think and Discuss**

- Explain** how you would estimate the length of the board in your classroom using the barrette in Example 4 as a benchmark.



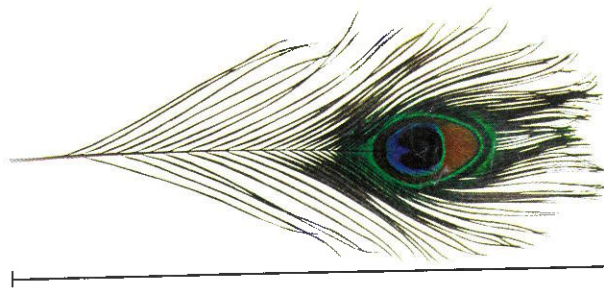
## GUIDED PRACTICE

- See Example 1 What unit of measure provides the best estimate? Explain.
1. The height of a doorknob from the floor is about 1 \_\_\_\_?
- See Example 2
2. A greeting card has a mass of about 28 \_\_\_\_?
- See Example 3
3. A kitchen sink holds about 20 \_\_\_\_? of water.
  4. A bowl holds about 350 \_\_\_\_? of soup.
- See Example 4
5. Use a ruler to measure the length of the party favor to the nearest centimeter.



## INDEPENDENT PRACTICE

- See Example 1 What unit of measure provides the best estimate? Explain.
6. The width of a desk is about 10 \_\_\_\_?
- See Example 2
7. The mass of a packet of sugar is about 3 \_\_\_\_?
- See Example 3
8. A washing machine holds about 50 \_\_\_\_? of water.
  9. A cooking pot holds about 1.5 \_\_\_\_?
- See Example 4
10. Use a ruler to measure the length of the feather to the nearest centimeter.



## PRACTICE AND PROBLEM SOLVING

11. **Estimation** Felipe is estimating the length of his baseball bat using a benchmark. He gets an estimate of about 10 \_\_\_\_?. Which benchmark was Felipe most likely using: the width of his fist, the length of his foot, the distance from his elbow to his fingertip, or the length of his baseball cap?

Which unit of measure would you use for each? Justify your answer.

12. the length of a movie screen

13. the length of a walk around a campus

14. the mass of a single flower

15. the mass of a CD case

16. the capacity of a jug

17. the capacity of a thimble

Which metric units of measure you would use to

Mean, Median Mode & Range  
252 254 #1-6  
Bar Graph  
262 - 264 #1-8  
ordered pair  
269 270-271 #1-34  
274 #1-8  
Custom measure  
352-353 354 #1-8

Christopher bought four pounds of apples for \$1.96. What is the unit rate?  
(Lesson 7-1)

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See Example 2 2. A greeting card has a mass of about 28 \_\_\_\_? \_\_\_\_.

See Example 3 3. A kitchen sink holds about 20 \_\_\_\_? \_\_\_\_ of water.

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See Example 4 5. Use a ruler to measure the length of the party favor to the nearest centimeter.



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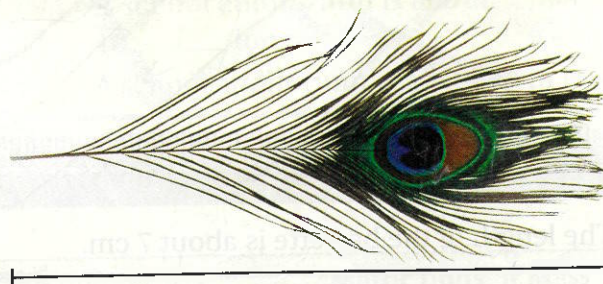
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