

# Measuring in Centimetres

**Goal**

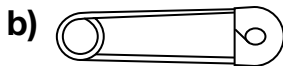
Estimate and measure lengths in centimetres.

You will need a centimetre ruler.

- Use your hands and fingers to estimate the length of each object. Write your estimates. Then use your ruler to measure. Write the measurements.



Estimate Estimates will vary.  
Measurement 7 cm



Estimate Estimates will vary.  
Measurement 3 cm

- c) the width of this page Estimate Estimates will vary.  
Measurement 20 cm or 21 cm
- d) the length of this page Estimate Estimates will vary.  
Measurement 27 cm or 28 cm

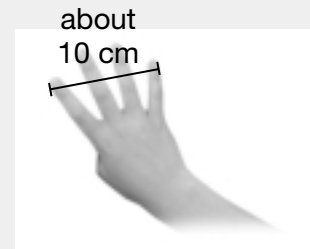
- Use your fingers and hands to estimate. Find 2 objects that you think are each length. Then use a ruler to measure.

For example:

- a) 20 cm Object a telephone Measurement Measurements will vary.  
Object a picture Measurement Measurements will vary.
- b) 60 cm Object width of a TV Measurement Measurements will vary.  
Object width of a desk Measurement Measurements will vary.

**At-Home Help**

It helps to use a personal reference to estimate lengths in centimetres. A child's fingertip is about one centimetre (1 cm). The width of a child's hand with fingers spread is about 10 cm.



# Measuring in Metres and Centimetres

**Goal** Estimate and measure lengths in metres and centimetres.

You will need a measuring tape or a metre stick.

### At-Home Help

As with centimetres, it helps to use a personal reference to estimate lengths in metres. The length of a child's giant step may be about one metre (1 m).

1. Use giant steps to estimate each object.  
Write your estimate. Next, measure the object to the nearest metre. Then measure in metres and centimetres. The first one is done for you.

Answers will vary.

- a) length of a sofa      Estimate 2 m  
Measurement to nearest metre 2 m  
Measurement in metres and centimetres 2 m 4 cm
- b) width of a door      Estimate 1 m  
Measurement to nearest metre 1 m  
Measurement in metres and centimetres 0 m 80 cm
- c) width of a window      Estimate 1 m  
Measurement to nearest metre 1 m  
Measurement in metres and centimetres 1 m 6 cm
- d) length of a table      Estimate 2 m  
Measurement to nearest metre 2 m  
Measurement in metres and centimetres 1 m 83 cm
- e) height of a chair      Estimate 1 m  
Measurement to nearest metre 1 m  
Measurement in metres and centimetres 0 m 94 cm
- f) length of a bed      Estimate 2 m  
Measurement to nearest metre 2 m  
Measurement in metres and centimetres 1 m 94 cm



# Comparing Lengths to a Kilometre

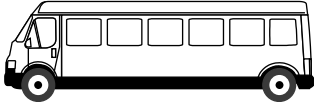
**Goal** Explain how long a kilometre is.

Circle the letters of the items that are about 1 km.  
Write the letters that you circled in order below.  
You should spell a special Canadian event.  
The first one is done for you.


### At-Home Help


A kilometre can be difficult to visualize because it is so large. Think of some places that are about 1 km away from your home. It takes about 15 minutes for a child to walk 1 km.


$$1 \text{ km} = 1000 \text{ m}$$

1. 100   
(T)

2. 1000 schools  
A

3. 1000   
(E)

8. 1000   
(Y)

13. 1000   
(X)

4. 100   
F

9. 1000 snowboards  
(F)

14. 100 classrooms  
(R)

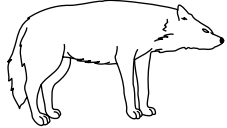
5. 1000 metre sticks  
(R)


10. 100   
R

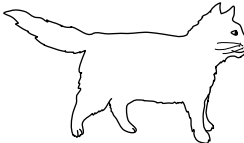
15. 100 small houses  
(U)

6. 100   
S

11. 1000 desks  
(O)

16. 1000   
(N)

7. 1000   
(R)

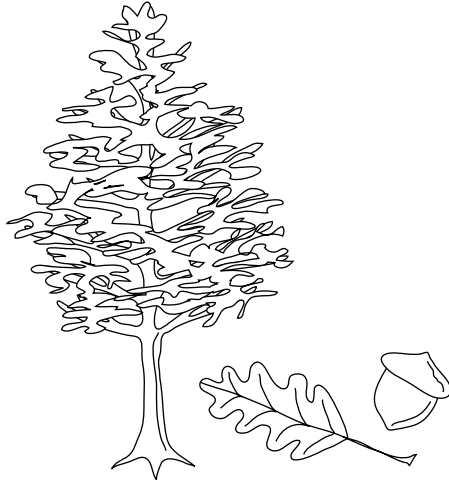
12. 1000   
R

T E R R Y F O X R U N

# Choosing an Appropriate Unit

**Goal**

Choose centimetres, metres, or kilometres to measure lengths and order lengths with different units.


**At-Home Help**

Sometimes lengths can be measured using different units. For example, you can measure the height of a door in metres or centimetres. Often, it is better to measure in one unit than another. Part of estimating and measuring lengths is deciding which unit or units to use.

1. Complete each statement using centimetres, metres, or kilometres.

- An oak tree might be about 20 \_\_\_\_\_ metres \_\_\_\_\_ tall.
- A forest might be about 4 \_\_\_\_\_ kilometres \_\_\_\_\_ long.
- The trunk of an oak tree might about be 2 \_\_\_\_\_ metres \_\_\_\_\_ around.
- An oak tree branch might be about 6 \_\_\_\_\_ metres \_\_\_\_\_ long.
- An oak leaf is about 5 \_\_\_\_\_ centimetres \_\_\_\_\_ wide.
- An acorn is about 3 \_\_\_\_\_ centimetres \_\_\_\_\_ long.

2. Name 2 objects or distances that might have each length.

Answers will vary.

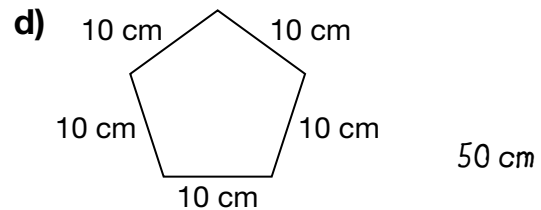
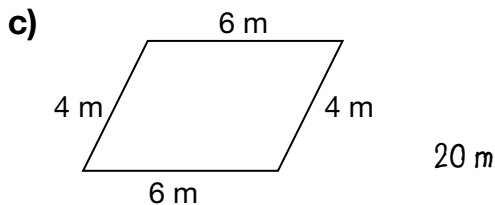
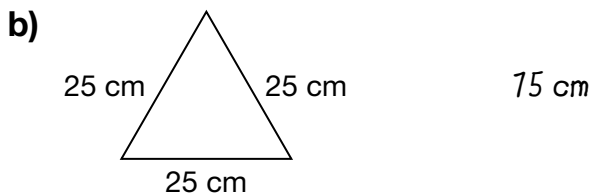
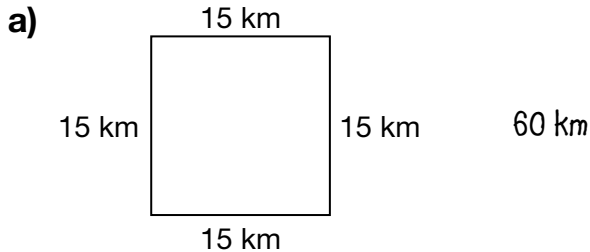
- 3 km \_\_\_\_\_ a hiking trail  
\_\_\_\_\_ distance to a shopping mall
- 3 m \_\_\_\_\_ length of a room  
\_\_\_\_\_ length of a wall unit
- 3 cm \_\_\_\_\_ width of a ruler  
\_\_\_\_\_ width of a cellular phone

# Measuring Perimeter

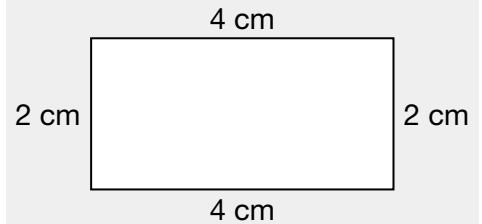
**Goal**

Estimate, measure, and compare perimeters.

1. Calculate each perimeter. Show your work.


**At-Home Help**

**Perimeter** is the distance around the outside of a shape.



This rectangle has a perimeter of 12 cm.

$$2 \text{ cm} + 4 \text{ cm} + 2 \text{ cm} + 4 \text{ cm} = 12 \text{ cm}$$

2. Draw 2 shapes each with 4 straight sides and no openings.

Measure each side to the nearest centimetre.

Label the side lengths on your drawings.

Calculate the perimeters of your shapes.

Tell which shape has the greater perimeter.

**Shape 1**

**Shape 2**

Answers will vary.

# Telling Analog Time

**Goal** Tell and write time using a clock with hands (analog clock).

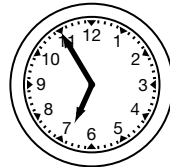
1. Complete each time.

a)



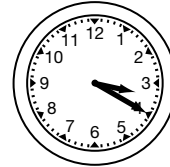
5 minutes after 4

b)



5 minutes before 8

e)



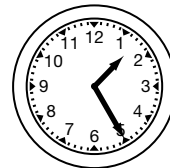
20 minutes after 3

c)



10 minutes before 5

f)



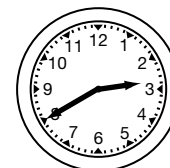
25 minutes after 1

d)



15 minutes after 8

g)



20 minutes after 3

2. Write each time in 2 ways.

a)



30 minutes before 8

30 minutes after 7

b)



15 minutes before 9

45 minutes after 8

## At-Home Help





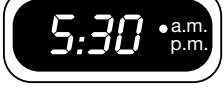



The shorter hand is the hour hand and the longer hand is the minute hand.

# Telling Digital Time

**Goal**
**Tell and write time using a digital clock.**
**At-Home Help**

 a.m. starts at midnight.  
 p.m. starts at noon.

1. Match the times on the clocks to the times on the right.

a) 	25 minutes after 9 in the morning
b) 	15 minutes after 10 at night
c) 	12 minutes after 2 in the afternoon
d) 	20 minutes before 9 in the evening
e) 	24 minutes after 6 in the morning
f) 	4 o'clock in the afternoon
g) 	30 minutes after 5 in the morning
h) 	10 minutes after 1 in the night

2. Write each time the way it would look on a digital clock.  
Use a.m. or p.m.

- a) 25 minutes to 10 in the morning 9:35 a.m.
- b) 15 minutes after 7 at night 7:15 p.m.
- c) 20 minutes to 11 in the morning 10:40 a.m.
- d) 16 minutes after 4 in the afternoon 4:16 p.m.
- e) noon 12:00 p.m.

# Measuring How Time Passes

**Goal** Estimate and measure the passage of time in minutes.

Kelly and Marco spent a summer day together. Here is what they did.

Activity	Start	Finish
biked to the beach	10:30 a.m.	11:00 a.m.
swam	11:00 a.m.	12:00 p.m.
ate lunch	12:00 p.m.	
built a sand castle		12:45 p.m.
played volleyball	12:45 p.m.	1:30 p.m.
biked home	1:30 p.m.	

1. How long did it take Kelly and Marco to bike to the beach?

30 minutes

2. How long did they swim?

1 hour

3. They ate lunch for 20 minutes. When did they finish?

12:20 p.m.

4. How long did they play volleyball?

45 minutes

5. Which activity took the longest time?

swimming

6. It took them 40 minutes to bike home. At what time did they get there?

2:10 p.m.

7. How long did they spend together that day?

3 hours 40 minutes

## At-Home Help

To figure out how long something takes, you can think of hands moving on an analog clock.

For example, from 9:45 a.m. to 11:00 a.m. is 1 hour and 15 minutes.



+ 1 hour



+ 15 minutes





# Solve Problems Using Charts

**Goal**

Use a chart to solve problems.

The chart at the bottom of the page shows a television schedule from 6:00 p.m. to 9:00 p.m. Use the chart to answer these questions.

**At-Home Help**

Charts are useful tools for organizing information. A television schedule is a common type of chart.

- How many nights is the Game Show on? 3
- How long is the Movie on Friday night? 2 hours
- On which night is the Hockey Game? Saturday
- How many shows are on Sunday between 6:00 p.m. and 9:00 p.m.? 3
- Which shows are on Thursday between 6:00 p.m. and 9:00 p.m.?  
News, Sports, Game Show, and Comedy Show
- At what time do the Monday Night Music Videos start? 7:00 p.m.
- At what time do the Monday Night Music Videos end? 9:00 p.m.
- Make up a question about the television schedule.  
For example: Which nights is the Comedy Show on?

Television Schedule for the Week

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
6:00	News Hour	News	News	News	News	News Hour	News Hour
6:30		Sports	Sports	Sports	Sports		
7:00	Extinct Animals	Monday Night Music Videos	Game Show	Game Show	Game Show	Movie	Hockey Game
7:30			Comedy Show	Real TV	Comedy Show		
8:00	Mystery Show						
8:30							

# Measuring Temperature

**Goal** Estimate, read, and record temperature.

Match each item with the correct temperature below. Write the letter above each temperature. What did you spell?

**At-Home Help**

**Degree Celsius (°C)** is a unit of measurement for temperature. Some common temperatures are  
 100°C boiling water  
 37°C body  
 7°C inside a refrigerator  
 0°C ice water

1. temperature at which water freezes    **T** 0°C

2. room temperature    **M** 22°C

3.     **E** 10°C

8. a hot drink    **H** 55°C

9.     **R** -20°C

4. a cold winter day    **E** -10°C

5. body temperature    **R** 37°C

6. temperature at which water boils    **T** 100°C

10. a hot summer day    **M** 30°C

7.     **O** 85°C

11.     **E** 40°C

T    H    E    R    M    O    M    E    T    E    R

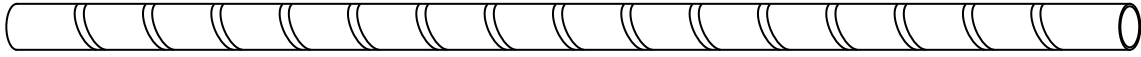
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100°C    55°C    40°C    37°C    30°C    85°C    22°C    10°C    0°C    -10°C    -20°C

# Test Yourself

Circle the correct answer.

1. Use a centimetre ruler to measure this drinking straw.



- A. 10 cm      B. 12 cm      **C. 15 cm**      D. 18 cm

2. Which item could have a length of about 2 m?

- E. a computer      G. a computer mouse  
**F. a computer desk**      H. a computer mouse pad

3. Which set of items could have a length of about 1 km?

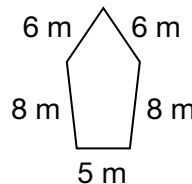
- A. 100 children holding hands      C. 100 paper clips  
**B. 1000 children holding hands**      D. 1000 paper clips

4. A flower stem could be about 30 \_\_\_\_\_ long.

- E. centimetres**      F. metres      G. kilometres

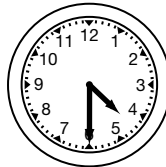
5. What is the perimeter of this shape?

- A. 19 m      C. 27 m  
 B. 28 m      **D. 33 m**



6. What time is shown?

- E. 6:20      **G. 4:30**  
 F. 4:03      H. 6:40



7. What time is shown?

- A. 20 minutes after 10 in the morning**  
 B. 20 minutes before 10 in the morning  
 C. 20 minutes after 10 at night  
 D. 20 minutes before 10 at night



8. Which temperature is a comfortable room temperature?

- E. 31°C      **F. 21°C**      G. 12°C      H. -1°C