

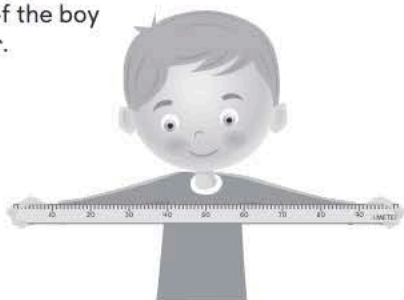
Chapter 5 LENGTH

Chapter Overview

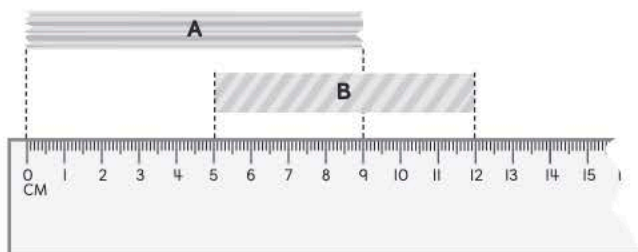
In this chapter, your student's foundational knowledge of length from Grade 1 will be extended to using specific units to measure and compare lengths in both metric and customary units. Your student will measure lengths using rulers and strings. Your student will also apply measurement concepts to solve one-step, two-part, and two-step word problems using bar models. Your student will:

- measure and **estimate the length** of objects in meters and centimeters.

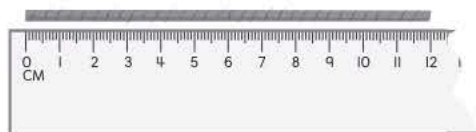
The arm span of the boy is about 1 meter.



- **measure objects by starting at zero** on the measuring tool or by **finding the difference** of the measurements.



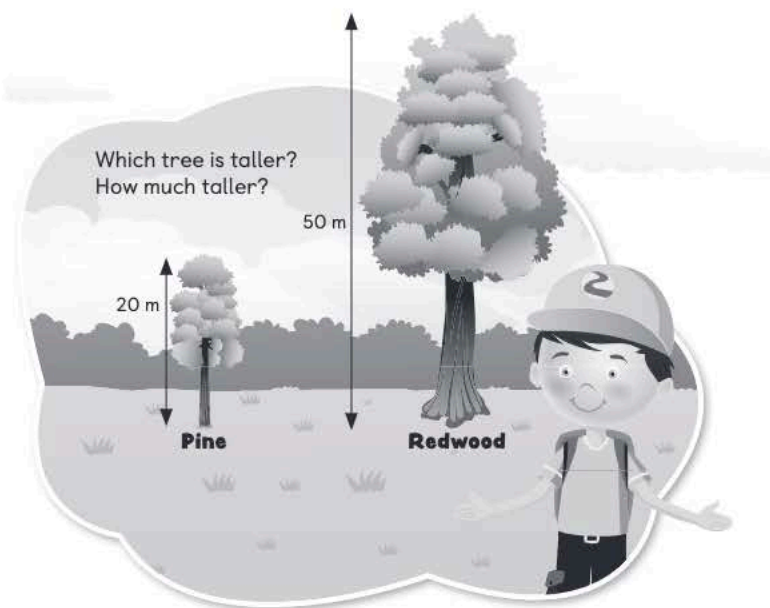
- use a ruler to find the **length of lines** and a string to find the **length of curves** by making it a line.



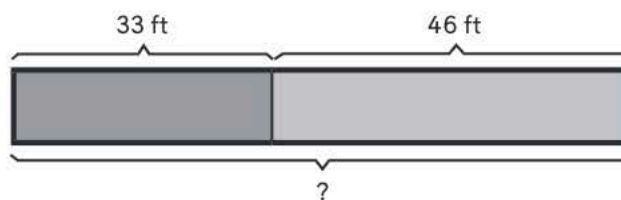
- use customary units of **inches, feet, and yards** to find the length of objects.



- compare lengths in **metric and customary units** by finding the difference or counting on.

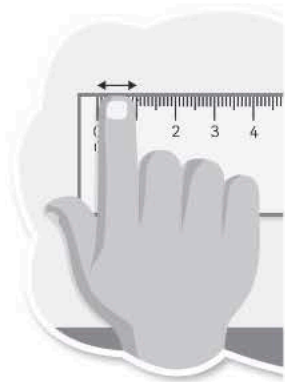


- solve **one-step, two-part, and two-step** word problems involving measurement using bar models.

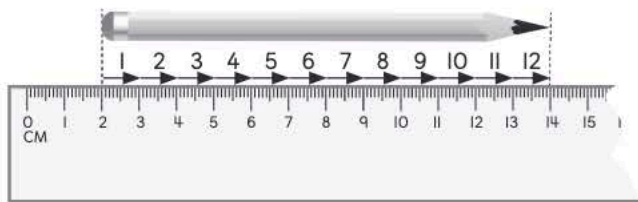


Key Ideas

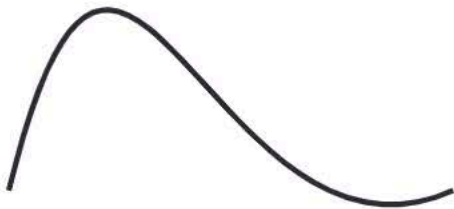
- We can estimate and measure the length of objects in meters and centimeters.



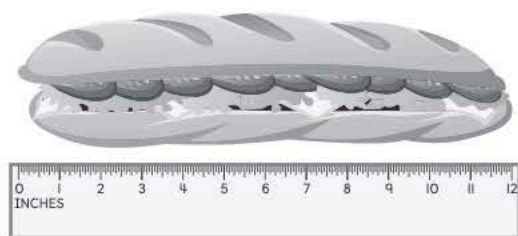
- We can find the length of objects by finding the difference between the two numbers on a ruler.



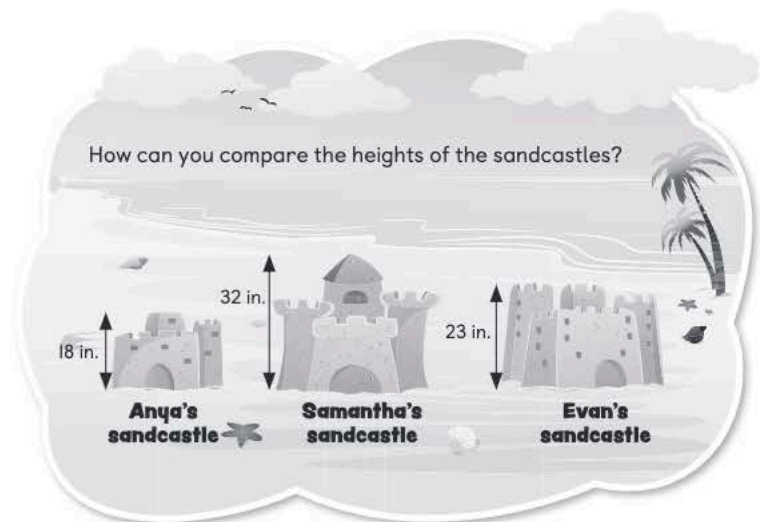
- We can use a ruler to measure the length of a line and a string to find the length of a curve.



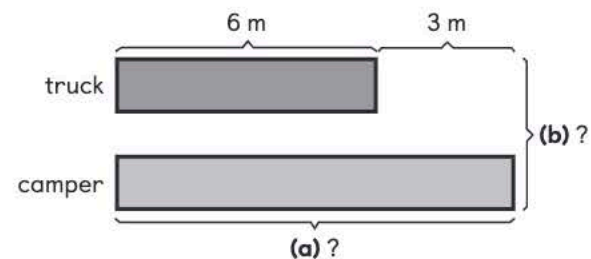
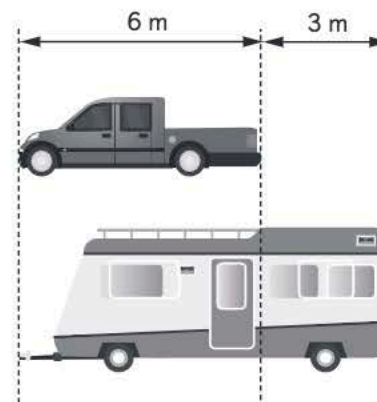
- We can use inches, feet, and yards to measure objects and compare these units to metric units.



- We can use a subtraction equation to compare lengths in metric and customary units.



- We can solve one-step, two-part, and two-step word problems involving measurement using the problem-solving method.



Materials You Will Need

- measuring tapes
- 1 meter stick
- 1 20-centimeter ruler
- 1 12-inch ruler
- 1 20-centimeter string
- 1 quarter
- 1 yardstick
- 1 base-ten set
- 1 set of connecting cubes
- 1 set of paper clips
- 1 set of unit cubes

Chapter at a Glance

Day	Learning Objective(s)	Vocabulary	Resource(s)	Material(s)
Chapter Opener / Recall Student Book, pp. 1–2	1 of 18			<ul style="list-style-type: none"> • measuring tapes • meter sticks • rulers • string • yardsticks • 1 set of connecting cubes • 1 set of paper clips • 1 set of unit cubes
Section 5A Measure and Estimate Length in Metric Units (1): Measure and Estimate Length in Meters Student Book, pp. 3–6	2 of 18	<ul style="list-style-type: none"> • meter stick • meter (m) 	<ul style="list-style-type: none"> • Additional Practice 2B, Exercise 5A (1) • Reteach 2, Exercise 5A (1) • Extension 2, Exercise 5A (1) 	<ul style="list-style-type: none"> • 1 meter stick
Section 5A Measure and Estimate Length in Metric Units (2): Measure and Estimate Length in Centimeters Student Book, pp. 7–10	3 of 18	<ul style="list-style-type: none"> • ruler • centimeter (cm) 	<ul style="list-style-type: none"> • Additional Practice 2B, Exercise 5A (2) • Reteach 2, Exercise 5A (2) • Extension 2, Exercise 5A (2) 	<ul style="list-style-type: none"> • 120-centimeter ruler • 1 meter stick
Section 5A Measure and Estimate Length in Metric Units (3): Measure and Estimate Lines and Curves Student Book, pp. 11–14	4 of 18	<ul style="list-style-type: none"> • Use measuring tape to measure lengths of lines and curves. 	<ul style="list-style-type: none"> • Additional Practice 2B, Exercise 5A (3) • Reteach 2, Exercise 5A (3) • Extension 2, Exercise 5A (3) • Mastery and Beyond 2B, Chapter 5, Practice 1 	<ul style="list-style-type: none"> • 120-centimeter ruler • 120-centimeter string

7A Tell Time (2)

Learning Objective(s)

- Use a.m. and p.m. to tell time.

Vocabulary

- midnight
- noon
- a.m.
- p.m.

Material(s)

- 1 gear clock
- 1 copy of Hours and Minutes Cards (TRI9)

USE A.M. AND P.M. TO TELL TIME (Student Book, pages 99 to 102)

Lesson Opener

Task (Student Book, page 99)


Show your student the **Lesson Opener** and cover the rest of the page. Discuss the question with your student. Do not show your student how to do the task and allow him/her to explore reading the time using the clock.

Refer your student to **Learn** and **Learn Together** in the Student Book for reflection after your student has explored the concepts. Use questions to build understanding and direct instruction to refine understanding.

Lesson Development


Learn (Student Book, page 99)

Invite your student to use a gear clock to represent the time Jaxon wakes up and goes to bed. Have your student consider how these times differ on the clock based on the sun and moon outside. Point out the differences in the pictures and explain that as the minute and hour hand move around the clock, it resets at midnight with a.m. and noon with p.m. You may wish to ask these questions:

-  **What time does Jaxon wake up? 6:30 What time does Jaxon go to bed? 8:30 How do these times differ?** *The number representing the hour is different. Does Jaxon only stay awake for 2 hours? No, he stays awake for the whole day. How do you know?* *The picture shows other activities he did during the day. How does that show on the clock?* *The hour and minute hands on the clock go around completely before landing on 8:30. How is that recorded in the digital time?* *He wakes up at 6:30 a.m. and goes to bed at 8:30 p.m.*

Guide your student to observe that a.m. is used to tell times from midnight to noon and p.m. is used to tell times from noon to midnight.

Focus Question

-  **What is the difference between a.m. and p.m.?**

Invite your student to ponder this question as you go through the lesson. Revisit this question when you reach the end of the lesson to check his/her understanding.

Learn Answers

(Student Book, page 99)




6:30; 10:10; 4:30; 8:30;
6:30; 8:30

Teaching Tip

Help your student conceptualize a.m. and p.m. by using the picture in **Learn** on page 99 of the Student Book to help your student think about things he/she does during the day. Make a schedule of your daily activities and invite your student to express the times using a.m. and p.m.

Chapter Self-Reflection

Check (✓) to show what I can do.

I Can	 Yes	 Not Sure	 No
identify 2-D shapes (quadrilaterals, pentagons, and hexagons) by the number of sides, vertices, and angles.			
draw 2-D shapes given the name or the number of sides, vertices, or angles.			
identify faces, edges, and vertices of 3-D shapes (cubes and rectangular prisms).			
partition a rectangle into rows and columns of squares of the same size.			
find the number of same-sized squares in the rectangle.			
partition a circle, rectangle, or triangle into 2, 3, or 4 equal parts.			
describe equal parts of a 2-D shape using “halves,” “thirds,” and “fourths.”			
recognize that equal parts of same wholes can have different shapes.			

I can show...

MY JOURNAL

I still wonder...


Solve! Heuristics (Student Book, pages 185 and 186)

Heuristic: Make a List

Go through the four-step problem-solving model to guide your student to solve the problem.


Step 1 Understand

Look at the triangle on page 185 of the Student Book. Invite your student to study the triangle and replicate using pattern blocks, if necessary.

 **What do you notice about the triangle?** *There are different in sizes. There is a big triangle and there are smaller ones inside of it.*


Step 2 Plan

Encourage your student to consider how a list would help to find the total number of triangles.

 **How can a list help you to find the total number of triangles?** *It can help me keep track of the triangles that are counted by size. It can keep information organized.*


Step 3 Do

Make a table as shown on page 185 of the Student Book and invite your student to make a list of the number of each sized triangle. It may help to trace the different-sized triangles with a different color highlighter or marker to help your student count.

 **What different-sized triangles are there?** *The large triangle formed with all 9 triangles, a smaller triangle formed with 4 triangles, and the individual triangles. How can you find the total number of triangles in the figure?*
add each total

Step 4 Look Back

Encourage your student to check the answer to ensure that it makes sense.

 **Does your answer make sense? Why or why not? What is another way to solve the problem?**

Teaching Tip

Trace the triangle figure on a piece of paper. Encourage your student to use different color highlighters to highlight the different sized triangles that could be considered.

Alternative strategy

Heuristic: Act it out

Use triangle attribute blocks to re-create the figure. Encourage your student to represent the figure and count the triangles each time.