

Standard	Standards: 4.NBT.5, 4. MD.3	
Objectives	<p>CO: SWBAT Demonstrate understanding of area and perimeter formulas by solving multi-step real world problems.</p> <p>LO: SWBAT justify their answers by explaining their work using formulas.</p>	
Materials	<ul style="list-style-type: none"> ● Powerpoint Presentation ● Seesaw Platform ● Eureka Math-- Module 3, Lesson 3 ● Student Consent Spreadsheet 	
Key Understandings	<ul style="list-style-type: none"> ● Students apply their understanding of area and perimeter to word problems; they will come to understand how perimeter and area are tools of measurement that can be used in real life. 	
Vocabulary Practice	<ul style="list-style-type: none"> ● Perimeter: the distance around a given shape; we add all of the side lengths to find it ● Area: the number of unit squares that cover the surface of a closed figure; we multiply the length and width of a shape to find it ● Formulas: equations that can be used to solve for area and perimeter: <ul style="list-style-type: none"> ○ Perimeter (P)= LxW ○ Area (A)= W + W + L + L 	
Potential Misunderstandings	<ul style="list-style-type: none"> ● Students will not be able to distinguish if they are solving a problem involving perimeter or area. ● They might not use the formulas for area and perimeter correctly or understand how to extend their knowledge of these in multi-step word problems 	
I Facilitate* (I Do)	<p>Problem 1: The rectangular projection screen in the school auditorium is 5 times as long and 5 times as wide as the rectangular screen in the library. The screen in the library is 4 feet long with a perimeter of 14 feet. What is the perimeter of the screen in the auditorium?</p> <ul style="list-style-type: none"> ● Using RDW strategy: <ul style="list-style-type: none"> ○ Read: Let's read this problem; what do we know? What are we looking for? 	<p><u>Student actions & language:</u></p> <ul style="list-style-type: none"> ● Why should we multiply the length and width by five? <ul style="list-style-type: none"> ○ The dimensions of the larger screen were 5 times bigger-- we have to multiply each side by 5 to find the dimensions of the screen ● How will we use this information to find the perimeter of the screen in the auditorium? ● Students use the dimensions to find the perimeter of the larger screen. Look for students to use formulas for perimeter other than

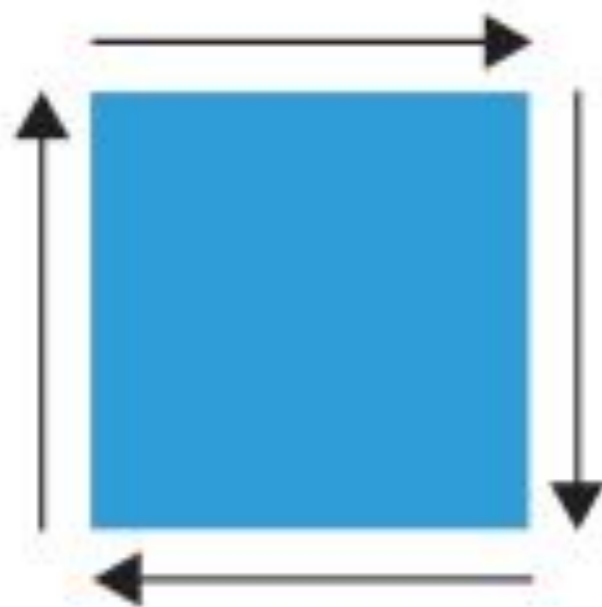
	<ul style="list-style-type: none"> ○ Draw: How can I draw a picture to help me visualize the problem? ○ Write: write an equation and statement for the problem. 	<p>$2 \times (l + w)$ for this problem, such as the formula $2l + 2w$.</p>
<p>All Minds On* (We Do)</p>	<ul style="list-style-type: none"> ● Problem 2: The width of David's rectangular tent is 5 feet. The length is twice the width. David's rectangular air mattress measures 3 feet by 6 feet. If David puts the air mattress in the tent, how many square feet of floor space will be available for the rest of his things? 	
<p>Productive Struggle (You Do)</p>	<ul style="list-style-type: none"> ● Problem 3: Jackson's rectangular bedroom has an area of 90 square feet. The area of his bedroom is 9 times that of his rectangular closet. If the closet is 2 feet wide, what is its length? 	
<p>Lesson Debrief</p>	<ul style="list-style-type: none"> ● How can we use the RDW strategy to solve math story problems? ● How can we tell if a problem involves area? How can we tell it involves perimeter? 	



CO: I can expand my understanding of area and perimeter by solving multi-step real world problems.

LO: I can use the RDW strategy and describe how I used the formulas for area and perimeter to solve my problem.

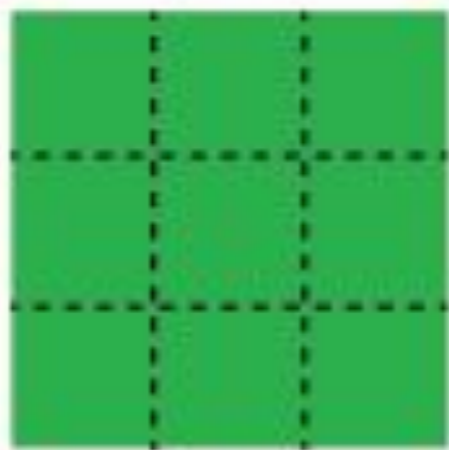
- ❖ **Perimeter: the distance around a given shape; we add all of the side lengths to find it**



PERIMETER

The distance around the edge of a shape

- ❖ **Area: the number of unit squares that cover the surface of a closed figure; we multiply the length and width of a shape to find it**

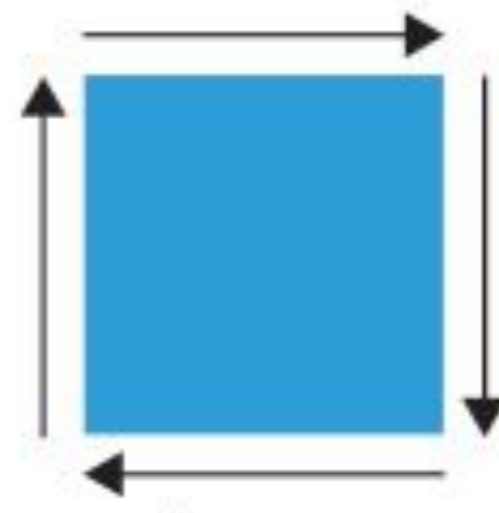


AREA

The amount of space inside a shape

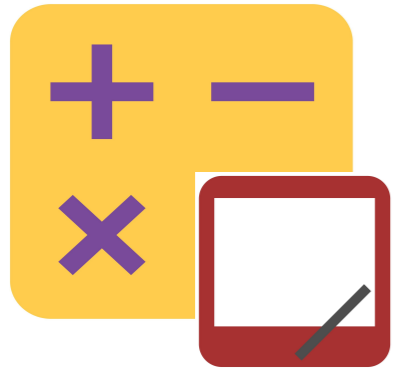
❖ **Formulas: equations that can be used to solve for area and perimeter:**

Perimeter (P) = 2 x (L + W)



Area (A) = L x W





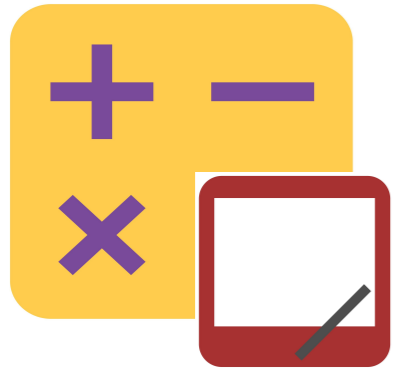
Fluency Practice

Find the Area and Perimeter

This is a square.
Say the length of each side

6 cm

A large square with a dark gray border. The left side of the square is labeled with the text "6 cm".



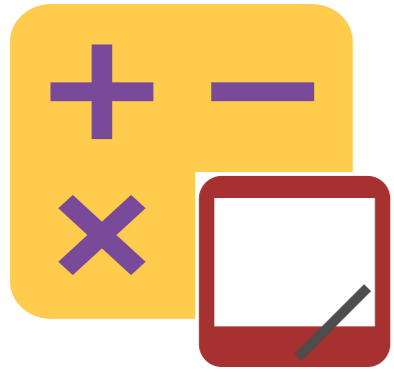
Fluency Practice

Find the Area and Perimeter

On your personal white board, write a multiplication sentence to find the **area.**

6 cm





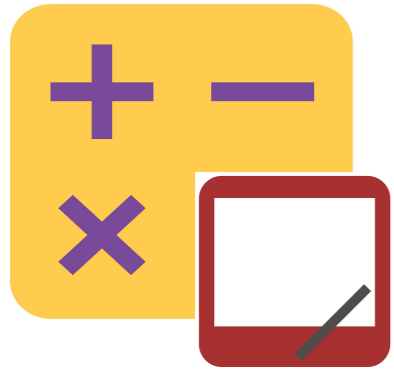
Fluency Practice

Find the Area and Perimeter

Use the **formula** for perimeter to solve.

6 cm





Fluency Practice

Find the Area and Perimeter

The area is 42 square cm.

Write the division equation to find the width.

6 cm



Problem 1: The rectangular projection screen in the school auditorium is 5 times as long and 5 times as wide as the rectangular screen in the library. The screen in the library is 4 feet long with a perimeter of 14 feet.

What is the perimeter of the screen in the auditorium?

Problem 2: The width of David's rectangular tent is 5 feet. The length is twice the width. David's rectangular air mattress measures 3 feet by 6 feet. If David puts the air mattress in the tent, how many square feet of floor space will be available for the rest of his things?

Debrief

- **Can David fit another air mattress of the same size in his tent?**
- **How did you use the RDW strategy to solve?**
- **What formulas did you use to solve the problem?**