

Area and Perimeter Build-a-Zoo

Ages 9+

This Really Good Stuff® product includes:

- *Build-a-Zoo Game Board*
- *Build-a-Zoo Spinner*
- *8 Area Animal Cards*
- *7 Perimeter Animal Cards*
- *30 1-foot-long Build-a-Zoo Fence Pieces*
- *20 2-foot-long Build-a-Zoo Fence Pieces*
- *10 5-foot-long Build-a-Zoo Fence Pieces*
- *Center Task Card*
- This Really Good Stuff® Instructional Guide

Thank you for your purchase of this Really Good Stuff® Area and Perimeter Build-a-Zoo a fun and unique game that challenges students to use area and perimeter to build fence enclosures for escaping zoo animals.

Area and Perimeter Build-a-Zoo

Number of Players: 2

Object: To apply the area and perimeter formulas to create rectangular enclosures for zoo animals.

Materials: *Build-a-Zoo Game Board; Build-a-Zoo Spinner; 8 Area Animal Cards; 7 Perimeter Animal Cards; 1ft., 2ft., and 5ft. Build-a-Zoo Fence Pieces; Answer Key*

How to Play:

- Both players:
 - Sit so that you can see the *Build-a-Zoo Game Board*.
 - Place the *Area Animal Cards*, *Perimeter Animal Cards*, and *Build-a-Zoo Fence Pieces* on the *Game Board*.
 - Take one *Area Animal Card* and one *Perimeter Animal Card*. Look carefully at the perimeter or area listed on the back.
 - Decide who goes first.
- Player 1:
 - Player 1 spins and takes the correct *Fence Piece*.

3. Player 2:

- Repeat Step 2.

4. Both players:

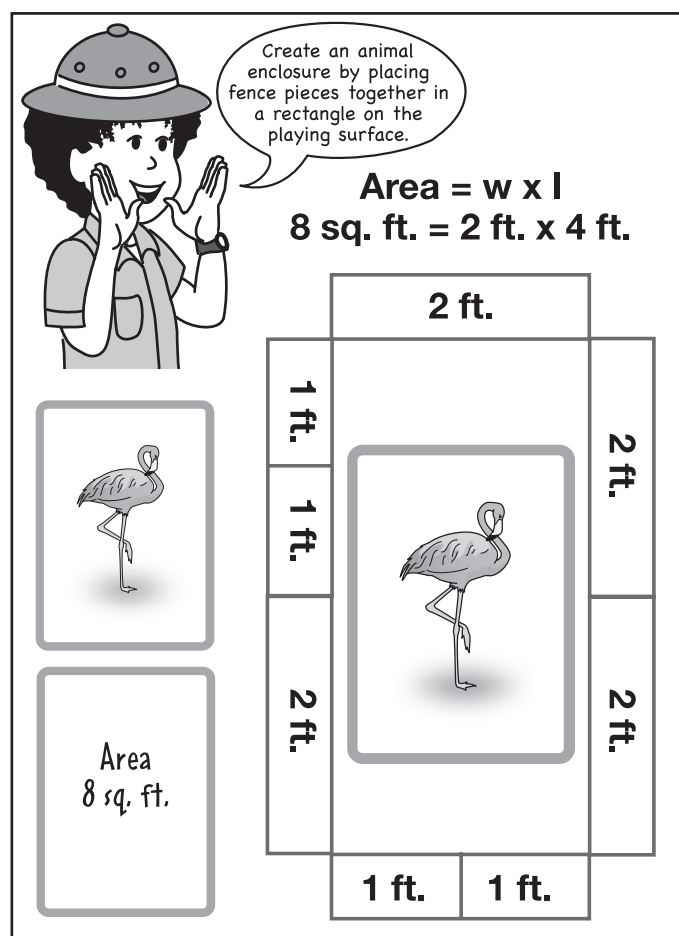
- Continue to spin and take *Fence Pieces* until one of you has the correct lengths to build an enclosure the correct size to match your *Card*. Then use your next turn to complete a rectangular animal enclosure and place the *Animal Card* inside—but you do not spin or collect a *Fence Piece*.
- The next player uses the *Answer Key* to make sure the dimensions of your completed enclosure match the area or perimeter on your *Card*.
- Continue to spin and take *Fence Pieces* until one of you has the correct sizes to build both enclosures.

5. The player who completes both of his or her animal enclosures first wins.

Variations:

- Focus on a single skill: Play with either *Area Animal Cards* or *Perimeter Animal Cards*.
- Each player takes two *Area Animal Cards* and two *Perimeter Animal Cards*. The player who completes all four of his or her animal enclosures first wins.

Area and Perimeter Build-a-Zoo



Introducing the Area and Perimeter Build-a-Zoo

Before introducing the Area and Perimeter Build-a-Zoo, make copies of this Really Good Stuff® Instructional Guide and file the pages for future use. Or, download another copy of it from our Web site at reallygoodstuff.com.

Carefully demonstrate and explain how to create an animal fence enclosure. Show students how they can use a variety of Fence Pieces to create a length of fence. For example, if they need one side of a fence to be 4 feet long, they could use four 1-foot-long pieces, two 2-foot-long pieces, or a combination of both.

Show students the Answer Key. Explain how a perimeter or an area can have a variety of rectangular dimensions. Create several

enclosures for the same area or perimeter to show students the options they have.

Choose a couple of students to play Area and Perimeter Build-a-Zoo with you for the class. Explain the object of the game and how to play to the volunteers. With the rest of the class gathered around, encourage the volunteers to play the game. Showing students the *Center Task Card*, indicate that it will be in the center with the game if they need to be reminded of how to play.

Center Task Card

Post the *Center Task Card* at the center where students will be able to see it easily. Remind students to refer to the shaded section at the top of the Card to be sure that they have all the needed materials.

Answer Key Reproducible

Copy the *Answer Key Reproducible* and place it by the numeracy center materials for student reference during play.

Area and Perimeter Poster Reproducible

Copy the *Area and Perimeter Poster Reproducible* on cardstock, and laminate it. Use this reproducible as a resource while teaching or reviewing the concepts of area and perimeter. Also, leave a laminated copy of the reproducible in your Area and Perimeter Build-a-Zoo. Encourage students to use the *Area and Perimeter Poster Reproducible* as a resource while playing Area and Perimeter Build-a-Zoo.

| Animal | Area/Perimeter | Answers in Feet |
|---------------|-----------------------|--|
| Lion | Perimeter 20 ft. | 1x9, 2x8, 3x7, 4x6, 5x5 |
| Rhinoceros | Perimeter 18 ft. | 1x8, 2x7, 3x6, 4x5 |
| Zebra | Perimeter 22 ft. | 1x10, 2x9, 3x8, 4x7, 5x6 |
| Kangaroo | Perimeter 16 ft. | 1x7, 2x6, 3x5, 4x4 |
| Polar Bear | Perimeter 30 ft. | 1x14, 2x13, 3x12, 4x11, 5x10, 6x9, 7x8 |
| Ostrich | Perimeter 12 ft. | 1x5, 2x4, 3x3 |
| Giraffe | Perimeter 24 ft. | 1x11, 2x10, 3x9, 4x8, 5x7, 6x6 |
| Flamingo | Area 8 sq. ft. | 1x8, 2x4 |
| Orangutan | Area 24 sq. ft. | 1x 24, 2x12, 3x 8, 4x6 |
| Tiger | Area 36 sq. ft. | 1x36, 2x18, 3x12, 4x9, 6x6 |
| Elephant | Area 25 sq. ft. | 1x25, 5x5 |
| Hippo | Area 20 sq. ft. | 1x20, 2x10, 4x5 |
| Alligator | Area 16 sq. ft. | 1x16, 4x4, 2x8 |
| Tortoise | Area 9 sq. ft. | 1x9, 3x3 |
| Panda | Area 21 sq. ft. | 1x21, 3x7 |



Area and Perimeter



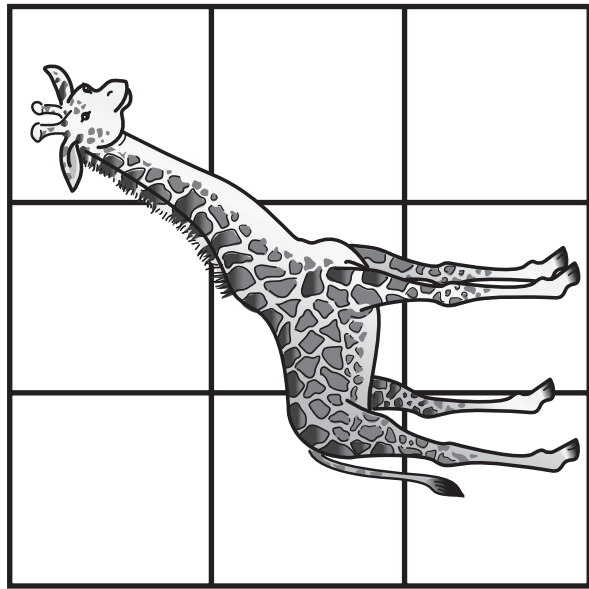
Area is the number of square units it takes to cover a shape. Area is measured in square units.

Perimeter is the distance around the outside of a shape.

Area = width x length

Perimeter = Sum of all sides

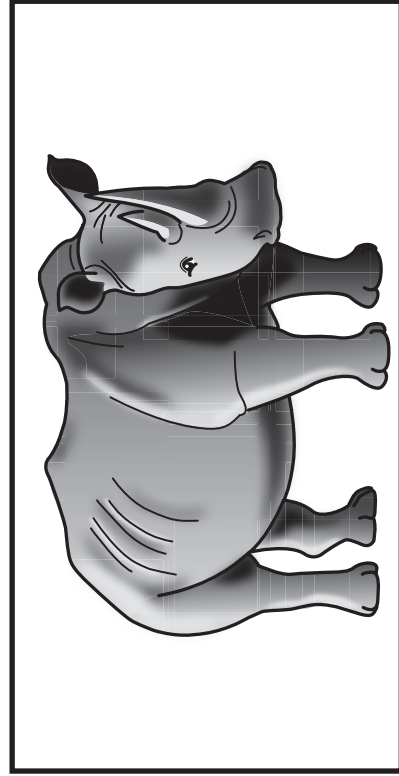
3 ft.



3 ft.

$$3 \text{ ft.} \times 3 \text{ ft.} = 9 \text{ sq. ft.}$$

4 ft.



2 ft.

2 ft.

4 ft.

$$4 \text{ ft.} + 4 \text{ ft.} + 2 \text{ ft.} + 2 \text{ ft.} = 12 \text{ ft.}$$