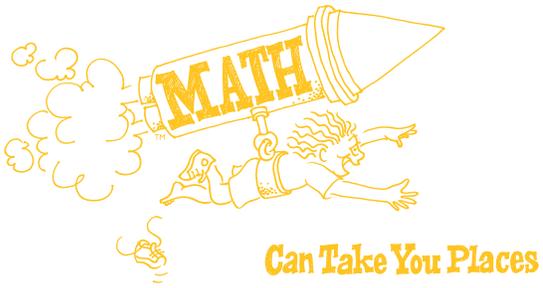


Tall Order

3rd - 6th Grade



FOCUS AREA

Measurement

ACTIVITY TYPE

Budgeting/Life Skills

MATH GOAL

To find area and perimeter

RECOMMENDED NUMBER OF STUDENTS

Up to 10 pairs of children
(20 children maximum)

TIME NEEDED

30 minutes

OBJECTIVE

To design the layout of a room to accommodate a 7 1/2-foot basketball player by investigating the measurement concepts of perimeter and area.

MATERIALS

- One-inch grid paper - one per pair
- Cheese snack crackers - 100 per pair
- Ruler - one per pair
- Markers - various color selections per pair
- *Optional Introduction Activity: Math Can Take You Places* video, Episode 4: "The Long and Tall of It" (Measurement)

BEFORE YOU START

- You may want to do the "Figure This Out" *Math Can Take You Places* After School activity first and save one of the 7 1/2-foot silhouettes created during the activity for reference. If not, you can use a tape measure to mark off the height of 7 1/2 feet on a nearby wall for children to reference.
- Each pair will need about 100 cheese snacks. Be sure to have extras so that the students can eat some afterwards.
- Each pair will also need a sheet of one-inch grid paper that has about 15 by 15 inches worth of space.
- Be sure to say "square feet" when referring to area and "feet" when referring to perimeter.

HOW TO START

Spark students' interest by introducing the sports team scenario. Say: "Professional sports teams take trips and stay in hotels quite often. No big deal, right? There are plenty of hotels in almost every city." Ask the children about how tall they are. Now ask about the basketball players: "How tall are they?" Ask, "Do you think the basketball players would be as comfortable in their bedrooms?" Then ask, "What are some problems that a player may have trying to use a regular size hotel room?"

Optional Introduction Activity: (Cue *Math Can Take You Places* video, Episode #4: “The Long and Tall of It” (Measurement) to the basketball players getting off the bus. Play the video until the classroom teacher asks, “... how we can make a bed in the room more comfortable?” Ask students, “What are some problems that this player may have trying to use a regular-size hotel room?”

STEPS

Step 1

Discuss the legend that they will use on their grid paper. Have them measure the length and width of one square. Tell them that, in this problem, one square inch is going to equal one square foot. Tell the children that they will need to create a bed that fits the 7 1/2-foot player with as few of the cheese snacks as possible. At the end, they can eat any cheese snacks they do not use.

Step 2

Give them time to create a plan and set up the room on the grid paper however they choose. Ask them to also use markers to color in a dresser, nightstand, and a doorway. The students can use estimation to figure out how many squares to use to create these.

Step 3

When all pairs are done, discuss the areas and perimeters they decided to use for their beds as well as the size of the dresser, nightstand, and doorway opening width. Make sure that the bed is at least eight feet long. Have pairs justify the width they use. Possibly use the measurement of a regular bed and the tape measure to help show the children if their solutions are unreasonable. (Note: a regular-size mattress is 5 feet by 6 2/3 feet)

Step 4

Ask students to trace the beds they created with a pencil. Allow them to color and decorate the bed and the hotel room, writing in the areas and perimeters of the furniture and the space left for the player to walk around.

WRAP UP

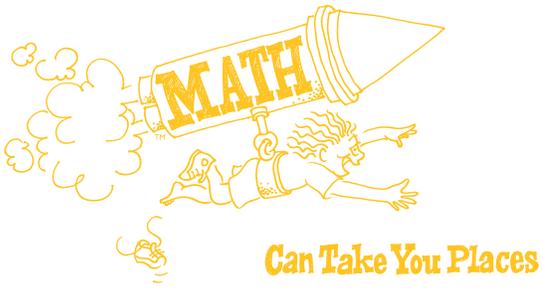
Allow students to share their floor plans. Then discuss how the rooms would change if it were a room for smaller people, for example, a nursery school floor plan.

OPTIONAL ACTIVITIES

- Assign students exercises for finding the perimeters and areas. Examples: Find the area and perimeter of a pool table, a TV screen, a window, a door, a cabinet top, etc.
- Research the average height of typical NBA players. (See Web Resources.)

SUGGESTED *MATH CAN TAKE YOU PLACES* CONNECTIONS

From *Math Can Take You Places* Classroom Materials, lesson plan: “Figure This Out” (Measurement)



Activity Cue Card

- Facilitator will distribute cheese crackers, one-inch grid paper and rulers.
- Instruct pairs to create a floor plan that can accommodate a 7 1/2-foot basketball player.
- When all pairs are finished, discuss why they chose the areas and perimeters for their rooms.
- Then, give pairs an opportunity to decorate their rooms.