

Grandpa's Pool

Summary

This is Core Academy task created in 2012. This can be an introductory lesson on area and perimeter. Students will use square blocks or tiles to determine Grandpa's pool of 24 square units.

Main Core Tie

Mathematics Grade 3

[Strand: MEASUREMENT AND DATA \(3.MD\) Standard 3.MD.6](#)

Time Frame

1 class periods of 60 minutes each

Group Size

Pairs

Life Skills

Thinking & Reasoning

Materials

centimeter cubes/tiles

graph paper

pencil/paper

Background for Teachers

Students should have a good understanding of multiplication for this task. Students will incorporate what they know about multiplication to determine area. Students will also be asked to determine perimeter. This is a great beginning task for beginners!

Student Prior Knowledge

Students should have an understanding of multiplication. If they have been taught using arrays/area they will get this quickly.

Intended Learning Outcomes

Students should be able to determine area from 2 side lengths. Students should be able to explain how to find the largest area given 2 side lengths.

Mathematical Practice #1 - Make sense of problems and persevere in solving them.

Mathematical Practice #3 - Construct viable arguments and critique the reasoning of others.

Instructional Procedures

Introduction to the task:

Grandpa is building a swimming pool in his backyard. The pool will be 24 square units with 4 straight sides. You are asked to help them find different shapes the pool could be. How many different shapes can you make?

After students have found the area they will be responsible to find the perimeter for each shape for fencing. Write an equation to represent the area and the perimeter for each shape.

Questions to be asked as the teacher walks around to select models and determine understanding:

What does that mean?

What does your model show?

What tools help you determine what you need to find out?

What have you discovered about area so far?

What challenges are you finding?

Explain what you are doing?

How is what you have done the same or different than your partner/group?

Students can do a gallery walk around the desks to find other ways students solved the problem. They can compare their answers with others. Does looking at a new strategy change their way of thinking?

When students have finished, they can figure out how many tiles would be needed to placed around the pool?

During the discussion have students defend their solutions or look for other ways to solve the problem.

Strategies for Diverse Learners

For struggling learners:

Remind students to not over think, but to follow the guidelines. What materials could you use to get started? What are possible options? Is there more than one possibility?

For a challenge, have students find another way to solve the problem. If the tile around the pool was \$2 a square foot how much would it cost to go around the pool? Write an equation for the solution.

Bibliography

2012 Core Academy task Lesson

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