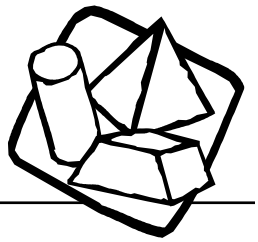
Peppy's Day in the Park



Build Peppy the Dog the best trail and park for running around.

What you need

20 small square tiles or paper
30 cm metric ruler
Small plastic dog or picture of a dog "Peppy"
Paper and pencils

What to do

Peppy is a small dog who loves to play and walk in the park. At the park, you are allowed to walk on the trail along the outside as long as Peppy has his leash. You may let Peppy play and run without a leash in the park area inside the trail.

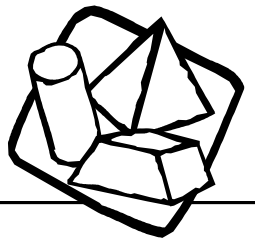
1. Arrange the tiles to make a park for Peppy.
2. Take Peppy for a walk on a trail around the outer edge of the park.
3. What is the distance that he walked? This distance is the PERIMETER. Record your results.
4. Peppy can't wait to run! If you let him off his leash, how much area would he have to run around inside the park?
5. Measure the AREA, the amount of space inside the park. Record your results.
6. What would happen if you changed the shape of the park?
7. You can make the park any shape you want: a triangle, zigzag, even X-shaped.
8. Measure the PERIMETER of the new park.
9. Write down your answer.
10. Measure the AREA of the new park.
11. Write down your answer.

What to ask

- Which measurement is bigger – perimeter or area? Is this always true?
- If you know only the perimeter, can you figure out the area?
- If you know only the area, can you figure out the perimeter?
- Imagine that you doubled the size of the park. How would it affect the perimeter? How would it affect the area?
- Is the PERIMETER of the new park the same as the first park? Why or why not?
- Is the AREA the same as the first park? Why or why not?

Did you know?

These skills help you make decisions about how to design projects like a deck, clubhouse or model in order to make the most out of the space and materials available. When you buy a house or rent an apartment, knowing how to measure the area and perimeter will help you figure out if your new home is big enough for your furniture.



What's next?

- Use more or fewer tiles. How does that affect PERIMETER and AREA?
- Make a park that will have the most PERIMETER for Peppy to walk around.
- Make a park that will have the most AREA for Peppy to run around.

To learn more

Flatland: A Romance of Many Dimensions

by Edwin A. Abbott

A. Square, the slightly befuddled narrator, is born into a place which is limited to two dimensions—irrevocably flat—and peopled by a hierarchy of geometrical forms. This book will give you a glimpse of what living in a two dimensional world might look like, and also an idea of what the fourth dimension might have in store in a logical manner. It also has a fantastic story and description of a two-dimensional culture, government and relationships.

Spaghetti for All

by Marilyn Burns

In this silly story written specifically to think about math, the table arrangements get all mixed up as more guests arrive and more tables and chairs are added.

How it helps with school

Texas Essential Knowledge and Skills (TEKS) Standards

Measurement: 3.11A-C, 3.13; 4.12; 5.11A
Underlying Processes and Mathematical Tools: 3.15A,C; 4.14A,C; 5.14A,C

National Council of Teachers of Mathematics (NCTM) Standards

Measurement, Geometry, Problem Solving

Activity inspired by: "Using area representations to explore perimeter and area". Teaching Children Mathematics, September 2001.