| Name | | |
|------|--|--|

TESTING THE VOLUME OUT THERE!

length x width x height

In this activity, you will choose your own boxes and determine their volumes. Choose four boxes such as those that hold cereal, crackers, shoes, or oatmeal. the volume of each box and write the number in the chart below. Then find the volume of each box. Record the volumes in the chart and find the differences.

Have the partner guess the volume. The partner with the smallest difference wins the game!

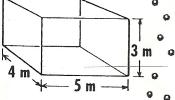
| | * * * | ESTIMATED VOLUME | ACTUAL VOLUME | DIFFERENCE ° |
|------|--------------|---------------------------------------|---------------|--------------|
| Box_ | you | - | | • |
| | your partner | | | |
| Box_ | you | · · · · · · · · · · · · · · · · · · · | | affarance. |
| | your partner | | | |
| Box_ | you | | | |
| | your partner | | | |
| Box_ | you | | | |
| | your partner | | | Q |

Is the surface area of each of these boxes the same as its volume? To find out, find the surface area of each box and compare.

Example:

$$volume = 4 \times 3 \times 5 = 60 \text{ m}^3$$

surface area =
$$15 + 15 + 20 + 20 + 12 + 12 = 94$$
 m



VOLUME

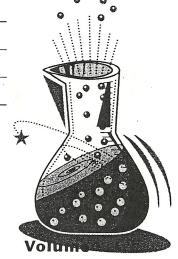
SURFACE AREA

box box

box box

More Measurement Fun! - Optional

Find boxes at home that are 30 cubic centimeters, 50 cubic centimeters, and 100 cubic centimeters. What are the boxes used for? -



BONUS!

Length

Treasure Map

Measuring the circumference of a circle (perimeter) is accomplished using a formula discovered by the Greeks. They found that for any size circle, the circumference is determined by multiplying the length of the diameter (distance of any line from one side of the circle through the center to the other side) by pi (approximately 3.14).

Example: circumference = diameter × pi

 $C = 12 \text{ cm} \times 3.14$

C = 37.68 cm



Use your skills to find your way to Sportsland. Write the lengths of the lines and circumferences of the circles. When you reach Sportsland, add up all of the figures to find a total distance.

