

# Exploring Pi

You will need to measure at least 10 different circular objects. Carefully measure the circumference of each object with a piece of string. Then use a metric ruler to measure the length of string in millimeters. Also measure the diameter of each object in millimeters.

Create a spreadsheet with three columns. In column A, enter the circumferences of the items you measured. In column B, enter the diameter. In column C, create a formula for the value of  $\pi$  using the circumference and diameter. (=A1/B1)

Your spreadsheet should look like this:

	A	B	C
1	27	8	3.375
2	13	4	3.25
3			

**Use your spreadsheet to answer the following questions.**

1. What is the value of  $\pi$  used by your spreadsheet?
2. How close are your calculations to the actual value of  $\pi$ ? To how many decimal places are your calculations correct?
3. What could cause your calculations of  $\pi$  not to be exact?
4. What could make your calculations more exact?
5. Suppose you created another spreadsheet with the same columns as this one. The new spreadsheet calculates the diameter when given the circumference and the value of  $\pi$ . What formula would you enter in column B?
6. If you create another spreadsheet that calculates the circumference when given the diameter and the value of  $\pi$ , what formula would you enter in column A?