

Activity #4: Discover π

Schedule a measurement and long division day in your class.

Bring, or ask students to bring, circular objects that the class can measure. (kitchen pots, large coins, cans, bicycle tires, etc.) It helps to use objects that are a little thick so that a cloth measuring tape will not slip off of their circumferences.

Let's students discover that π appear as the ratio between the distance around circular object and their diagonals.

Students often have difficulty measuring the increments between inches and this is a good way to reinforce reading a tape measure ... a much needed life skill. You may also use metric or have some kids use customary and others use metric, the ratio will come out the same either way. If you don't have cloth-measuring tapes, students can use string and then measure the string against a meter or yardstick.

1. Try to accurately record the circumference and diameter of several circular objects. Record your data below. For the last row find the ratio of the circumference to the diameter that is, divide the circumference by the diameter.

Object	Circumference	Diameter	Quotient of Circumference / Diameter

2. What do you notice?
3. What does this value represent?
4. Were any of your calculations different than the rest? Why might this have happened?
5. Why might it be a good idea to measure more than one object when trying to find this ratio?
6. If you know the diameter of a circle, how can you find the circumference of that same circle without measuring it? Give an example and explain.
7. If you know the circumference of a circle, how can you find the diameter of that same circle without measuring it? Give an example and explain.