Planet Time
From Harcourt TE

Problem:
Is the length of one year the same for all planets?

Prior Knowledge:
What is an orbit? What is the order of planets from closest to farthest from the sun?

Materials:
Large sheet of paper, markers, string, scissors, field watch

Directions/Procedure:
1. Take the class outside and place a large sheet of paper on the ground
2. In the center of the paper, draw a circle representing the sun
3. Cut the different lengths of string to form nine circles around the "sun" representing the other planet's orbit
4. Have nine students stand on the circles-each holding a sheet of paper with the planet's name printed on it-Mercury, Venus, Earth, Mars, Jupiter, Uranus, Neptune, and Pluto (Pluto is optional, great subject for debate)
5. Starting at the same time, have each student walk heel to toe around the orbit of his or her planet. Time how long each "planet" takes to revolve around the sun. This amount of time reflects the "year" for that planet. Record your observations in the data table.

Data/Observations:

Planet	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune	Pluto
Time (minutes)									

The smaller the circle, the faster the planet will take to orbit around the sun.
The larger the circle, the longer the planet will take to orbit the sun.

Analysis:

The closer planets have less distance to travel compared to the planets farther away from the sun. If you straighten out the string of each orbit and measure you will see that Mercury has the shortest string (distance to travel/orbit around the sun, and Pluto has the longest string.

Conclusion:
The length of one year is not the same for all planets due to their distance from the sun.