

How long is a year? - Inquiry activity

A year is how long it takes for a planet to orbit the Sun once.

Is there a connection between the length of a year and the distance of the planet from the Sun?

In science, we can use line graphs to see if there is a relationship. If there is a straight line or a smooth curve on the graph, then there is probably a relationship between the two **variables** that you have plotted.

The table shows the distance of each planet from the Sun (in millions of kilometres) and the length of its year.

Planet	Distance (1 000 000 km)	Length of year (Earth year)
Mercury	58	0.25
Venus	108	0.6
Earth	150	1.0
Mars	230	1.9
Jupiter	780	11.8
Saturn	1430	29.5
Úranus	2870	84.0
Neptune	4500	164.8
Pluto	5900	248.5

Questions

- ① Plot a line graph to show the information on the table. Use graph paper, put distance on the horizontal x axis and length of year on the vertical y axis.
- ② Do you think there is a relationship between the distance of a planet from the Sun and its length of year? Describe this relationship.
- ③ What other type of graph could be plotted from the data above?