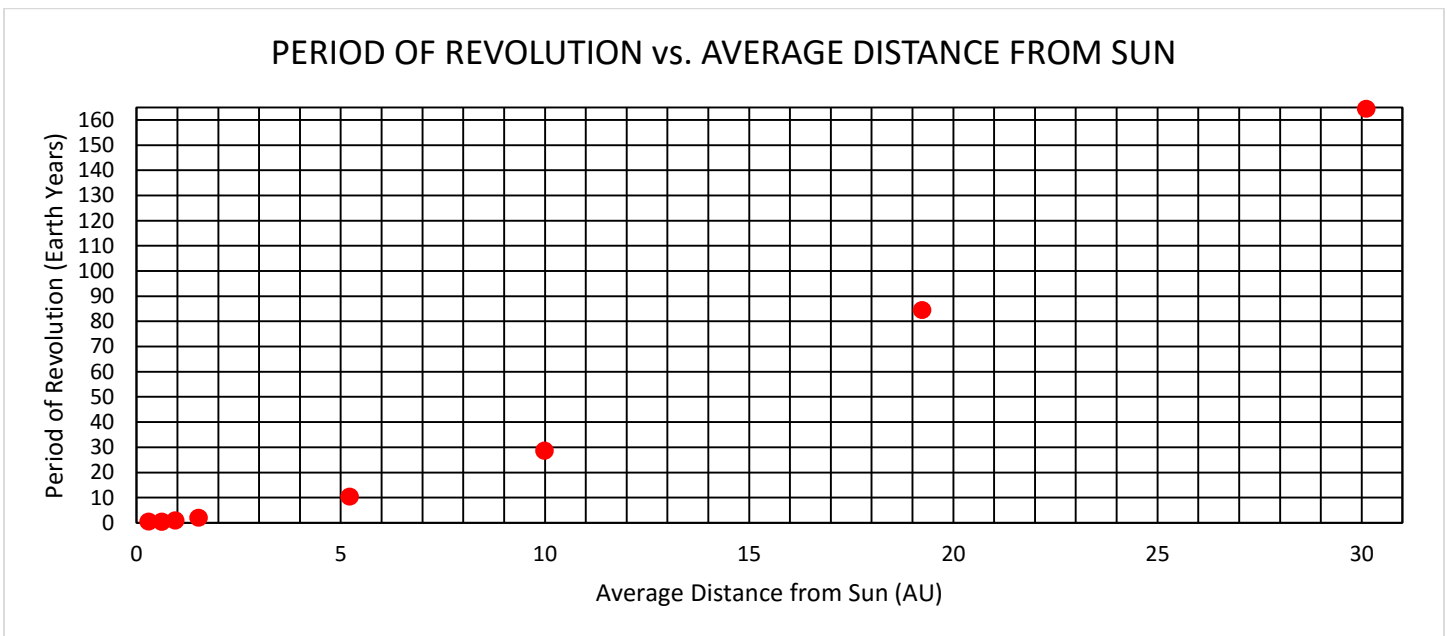


Graphing the Planets' Orbits

Below, you will find a data table with information about the orbits of the eight planets. Use the data table to create a graph comparing the planets' PERIOD OF REVOLUTION to their AVERAGE DISTANCE FROM THE SUN. Then, answer the questions based on this relationship.

PLANET	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
AVG. DISTANCE FROM SUN (AU)	0.39	0.72	1.00	1.52	5.20	9.58	19.20	30.05
PERIOD OF REVOLUTION (Earth Years)	0.24	0.62	1	1.9	11.9	29.4	84.0	164



1) A - What relationship do you see between a planet's distance from the Sun and how long it takes for one revolution?

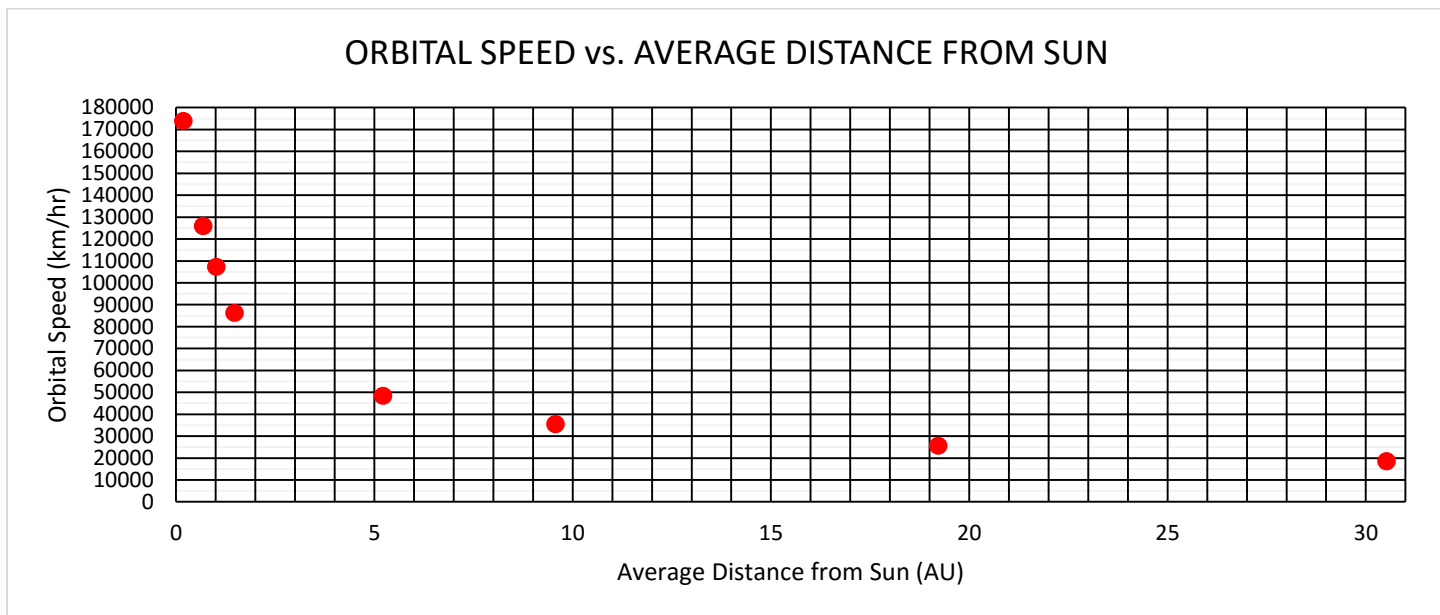
The further a planet is from the Sun, the longer it takes to complete a revolution.

B - What reasons can you think of to explain this relationship?

This makes sense because planets that are farther from the Sun have larger orbits; they must travel much greater distances to complete their revolution.

Below, you will find a data table with information about the orbits of the eight planets. Use the data table to create a graph comparing the planets' ORBITAL SPEED to their AVERAGE DISTANCE FROM THE SUN. Then, answer the questions based on this relationship.

PLANET	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
AVG. DISTANCE FROM SUN (AU)	0.39	0.72	1.00	1.52	5.20	9.58	19.20	30.05
ORBITAL SPEED (km/hr)	173,200	125,000	107,300	85,900	46,900	35,000	24,500	19,600



2) A - What relationship do you see between a planets distance from the Sun and how fast it moves in its orbit?
The closer a planet is to the Sun, the faster it moves along its orbital path.

B - What reasons can you think of to explain this relationship?
This makes sense because planets that are closer to the Sun experience a greater force due to the Sun's gravity. The stronger gravitational pull causes these planets to move faster in their orbit.