DIY Solar System Walk

When exploring the solar system, we have to start with 2 main ideas--- the planets and the incredible space between them.

What is a planet?
We have 8 planets in our solar system—Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune. To be a planet, an object has to meet all 3 of the points below:

1. Be round
2. Orbit the sun
3. Be the biggest object in your orbit.

The Earth is a planet. The moon is not a planet because it orbits the Earth not the sun. Pluto is not a planet because it fails #3. On its trip around the sun, it crosses paths with the planet Neptune. The two won't hit, but Neptune is much bigger than Pluto.

Distances in the Solar System
Everything in the solar system is very far apart. The Earth is 93 million miles from the Sun. If you traveled 65 miles per hour, it would take 59, 615 days to get there. Instead of using miles, astronomers measure distances in Astronomical Units (AU). 1 AU = 93 million miles, the distance between the Earth and the Sun.

It's really hard to imagine how far apart things are in space. To help understand these distances, we can make a scale model. In our solar system model, you are going to measure distances using your own steps.

Directions:
Start at your picture of the sun. For each planet, count your steps following the chart. Then place your picture of the planet at that spot.

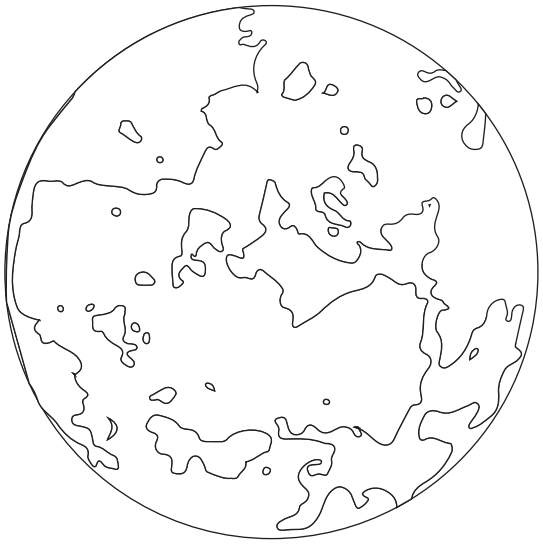
1 step = 12 million miles

Planet	Steps	Total Steps from Sun
Mercury	3	3
Venus	2.5	5.5
Earth	2	7.5
Mars	4	11.5
Asteroid Belt	9	20.5
Jupiter	19	39.5
Saturn	33	72.5
Uranus	73.5	140
Neptune	83.3	229
Pluto	72	301

Math problem!
To figure out how far away each planet is from the sun, multiple the last column by 12 million.

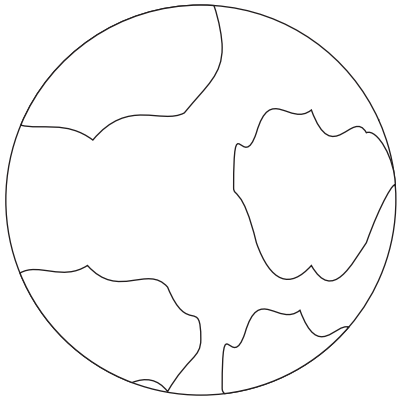
For the Earth:
7.5 x 12 million = 90 million miles.

Our model is close, but not perfect. That is ok.



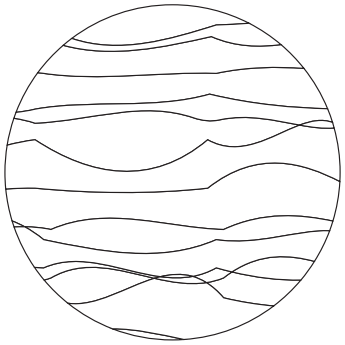
The Sun

Ka Lā



Mercury

Ukaliali‘i

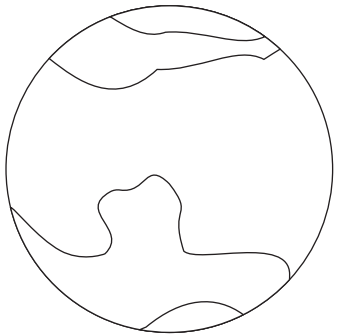


Venus

Hōkūloa

Earth

Honua

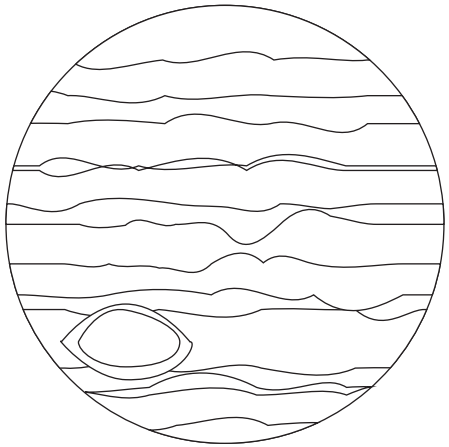


Mars

Hōkūʻula

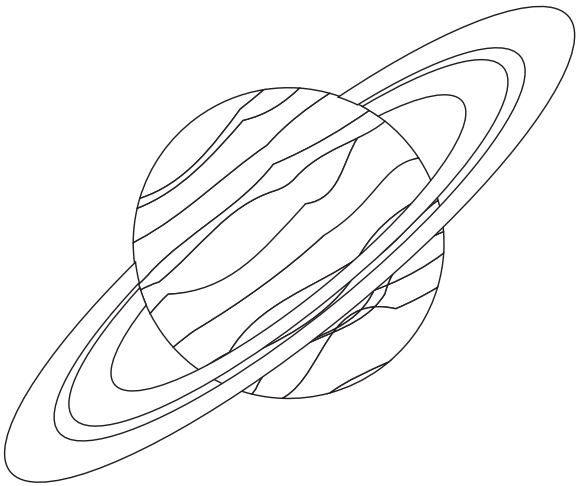
Asteroid Belt

Kāʻei Hōkūnaʻi



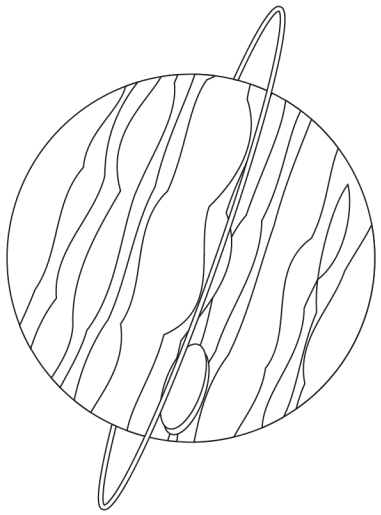
Jupiter

Kaʻāwela



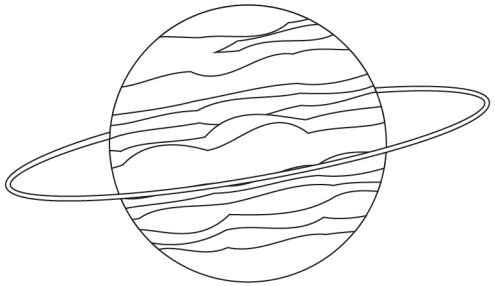
Saturn

Makulu



Uranus
Hele‘ekala

Pluto and the Kuiper Belt
‘Ilikoi a me ke Kā‘ei
Hōkūna‘i ‘O Kuiper



Neptune
Nepekune

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Mahalo Leinani and Alexis!

MAUNAKEA OBSERVATORIES