

Solar System Research Lab (Two Classes)

Goal: Investigate a specific planet in detail and make a planetary “cheat sheet” poster with interesting information about it, which we will use during our Solar System Size and Scale Lab.

Agenda:

Class 1: Teams will research their planet and assemble 8-10 color pictures that they would like printed.

Class 2: Teams will assemble the “cheat sheet” posters.

Groups:

1. Mercury
2. Venus
3. Mars
4. Asteroid Belt
5. Jupiter
6. Jupiter’s Moons (specifically the Galilean Moons Io, Europa, Callisto and Ganymede)
7. Saturn
8. Saturn’s Moons (specifically Titan, Mimas, Iapetus, Encelatus)
9. Uranus
10. Neptune
11. Kuiper Belt and Outer Solar System

Required components for poster:

1. Distance from the sun in AU, kilometers and miles
2. Size in kilometers, miles and earth radii
3. Mass in kilograms and earth masses
4. Density in grams per cubic centimeter (and compare to water, rock, ice)
5. Composition (Rock? Gas? Ice? Combination?)
6. How many missions (NASA and other space agencies) have been there and when? What did they discover?
7. What interesting features does this planet moon, or belt have? How is it similar to and/or different from Earth?
8. If your group has a planet other than Jupiter or Saturn: How many moons does this planet have? Is there anything interesting about them?
9. What superlatives (most + an adjective (i.e. biggest, smallest, coldest, oldest, etc.)) can this planet, moon(s) or belt claim?
10. What is the structure of the planet – show a diagram of its internal structure
11. Does the planet or moon have an atmosphere? Is it thick or thin? What gases is it composed of? How is it different from Earth’s?
12. Is there any geologic activity on this planet (volcanoes, geysers, storms, etc?)