HPS – Solar System Organization 2019 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Objective 3

[Solar System to Scale Clip](https://www.youtube.com/watch?v=Kj4524AAZdE)

1. **Planet Characteristic Chart**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Size**Large or small | **Density**High or low | **Atm**Thick or thin | **Main Comp**Rock/metals or gases | **Grav**High or low | **Orbital speed**Slow or fast | **Orbital period**Shorter or longer |
| **Mercury** |  |  |  |  |  |  |  |
| **Venus** |  |  |  |  |  |  |  |
| **Earth** |  |  |  |  |  |  |  |
| **Mars** |  |  |  |  |  |  |  |
| **Jupiter** |  |  |  |  |  |  |  |
| **Saturn** |  |  |  |  |  |  |  |
| **Uranus** |  |  |  |  |  |  |  |
| **Neptune** |  |  |  |  |  |  |  |

1. **Solar System – Football Field: LABEL! Add the Kuiper Belt and Oort Cloud**<https://www.nasa.gov/audience/foreducators/5-8/features/F_Solar_System_Scale.html>



|  |  |
| --- | --- |
| **C. Solar System Formation** | **Notes and Sketches - Ch 29.4**<http://www.windows2universe.org/our_solar_system/formation.html> |
| 1. Nebula Collapses |  |
| 2. Nebula Spins |  |
| 3. Sun Forms |  |
| 4. Planetesimals Form |  |
| 5. Planets Form |  |

D. Temperature and Formation of Our Solar System

Introduction:

During for formation of our Sun and the surrounding planets, there is a definite line at about 3 AU from our Sun (an AU – Astronomical Unit – is the average distance between Earth and Sun), when it was cold enough for hydrogen and helium gas to freeze into ice pellets. Closer to the Sun than this, hydrogen and helium stays in gaseous form whereas farther than this, hydrogen and helium freeze. This impacts what our planets are predominantly composed of.

Instructions:

Consider the information provided in the graph and table below. The graph shows the temperature (expressed in Kelvin) at different distances from the Sun (expressed in astronomical units or AU) in the solar system during the time when the planets were originally forming.

***Does this make sense? Is this normal compared to the rest of the solar systems we have found??***

Read the article found at the link below, and be prepared to discuss.
<http://www.npr.org/blogs/krulwich/2013/05/06/181613582/our-very-normal-solar-system-isn-t-normal-anymore>

**Is our solar system the odd one out? Explain.**

E. **Extrasolar Planets** - <https://www.space.com/17738-exoplanets.html>

INQUIRING MINDS WANT TO KNOW!!