Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_\_\_

**\*\*IN CLASS Monday 5/1 - The Universe: How the Solar System was made (DVD)**

1. What are the factors that influence the strength of an object’s gravity?

2. The solar system began as a cloud of dust and gas. What happened to the cloud when it got disturbed by energy from a supernova?

3. What object accounts for most of the mass in the solar system?

4. Accretion is the process by which planets formed and grew bigger. How does accretion work?

5. What is a planetesimal?

6. The outer planets are larger than the inner planets because they had more material to form with. The gravity on those planets was able to attract \_\_\_\_\_\_\_\_\_ making them much, much bigger than the inner planets.

7. Scientists begin to think of the sun as a full-fledged star when it does what?

8. Was Earth always alone? What happened?

9. Is our solar system the only one in the universe or are there others?

10. According to the video, why is our solar system considered to be an “odd ball?”

|  |  |
| --- | --- |
| **Nebular Theory****Solar System Formation** | Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per\_\_\_\_\_**Notes and Sketches\*\*HW Mon 5/1: Read Ch 29.4 GEO\*\*** |
| 1. Nebula |  |
| 2. Nebula Spins |  |
| 3. Sun Forms |  |
| 4. Planetesimals Form |  |
| 5. Planets Form |  |

**Ch 29.4 Nebular Theory** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per\_\_\_\_\_\_

**\*\*IN CLASS Tuesday 5/2\*\***

**Planet Characteristic Chart**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Planet**Jovian or Terrestrial | **Size**Large or small | **Density**High or low | **Atmosphere**Thick or thin | **Main Composition**Rock/metals or gases | **Gravity**High or low |
| **Mercury** |  |  |  |  |  |
| **Venus** |  |  |  |  |  |
| **Earth** |  |  |  |  |  |
| **Mars** |  |  |  |  |  |
| **Jupiter** |  |  |  |  |  |
| **Saturn** |  |  |  |  |  |
| **Uranus** |  |  |  |  |  |
| **Neptune** |  |  |  |  |  |

**\*\*IN CLASS Tuesday 5/2\*\*** 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>

Be able to describe the formation of our solar system in your own words. Use the link as optional resource.

 <http://www.windows2universe.org/our_solar_system/formation.html>

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??*

**Ch 28.1 Honors Notes** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per\_\_\_\_\_\_

**\*\*HW Tuesday 5/2 - Complete Q’s 1-10\*\***

Space Study and Tools of Astronomy

1. How do astronomers study the deep cosmos of space when spacecraft can’t travel that far?
2. Why is the electromagnetic spectrum important to astronomers?
3. Describe the EM spectrum in terms of wavelength, color, and energy.
4. What are the three types of spectra? How are they different?
5. Why do astronomers analyze spectra?
6. What happens to the wavelength of an object moving toward you? Away from you? What is this known as?

Tools

1. What are the 4 benefits of using a telescope?
2. What are the two types of optical (visible light) telescopes? Make a t-chart comparing and contrasting them.
3. Describe the telescopes astronomers use to observe the universe at wavelengths the human eye cannot detect.
4. Why do you think we study space? Do you support space exploration?

**\*\*IN CLASS Wednesday 5/3\*\*** Read the article found at the link below, and be prepared to discuss the importance of light. How do we collect light?

 <http://www.abc.net.au/science/articles/2010/10/07/3012690.htm>

**\*\*IN CLASS (finish at home) Wednesday, 5/3 🡪 The Search for Life Assignment (not in packet)**

**Ch 28.1 Telescope Questions** Name: Per:
**\*\*IN CLASS Thursday 5/4 Complete this page\*\***

Use the websites to answer the following questions.

<http://www.space.com/6716-major-space-telescopes.html>

 <http://imagine.gsfc.nasa.gov/science/toolbox/emspectrum_observatories1.html>

Find a telescope that is used to observe each part of the electromagnetic spectrum, and briefly describe its primary target.

Radio -

Microwave –

Infrared –

Visible –

UV –

Xrays –

Gamma –

MISC QUESTIONS:

1. Why are some telescopes used on Earth while others are launched into orbit above Earth's atmosphere?

2. What information can be obtained from a conventional photograph of a human body that cannot be obtained from an X-ray, a thermograph (an image taken with an infrared camera that records temperature variations on the surface of the body), and a magnetic resonance image (MRI) (an image of internal organs and soft tissues that is produced by using magnetic fields and radio waves)?

3. Are the images of the human body described in question 2 a useful analogy for someone learning to understand why it's helpful to create different kinds of images of objects in space? Why or why not?