**Solar System Interactive** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:** Use the Solar System Scope App to answer the following questions in **complete sentences**. If math is required you need to **SHOW YOUR WORK**. This can be done in partners (2) and is **DUE Thursday, November 7th** at the beginning of class.

**Solar System**

1. Draw a picture of the inner solar system from a bird’s eye view. Include the sun, planets, and asteroid belt. Be sure to label each part. Draw your picture to scale as much as possible.
2. Zoom out a little more. Draw a picture of the outer solar system from a bird’s eye view. Include the planets and Kuiper belt. Be sure to label each part. Draw your picture to scale as much as possible.
3. What are some differences between the inner and outer solar system?

**The Sun**

1. How massive is the sun?
2. How long would it take for people on Earth to realize the sun burnt out?
3. What is the sun’s composition?
4. Draw a diagram of the structure of the sun. Label each part and add a short description about each layer.

**Inner Planets**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Planet** | **Diameter**  **(km)** | **Average Distance to Sun (AU)** | **Period of Rotation (Earth days)** | **Period of Revolution (Earth years)** |
| **Mercury** | **4,880** | **0.39** | **59** | **0.24** |
| **Venus** | **12,204** | **0.72** | **243** | **0.62** |
| **Earth** | **12,576** | **1.00** | **1.00** | **1** |
| **Mars** | **6,794** | **1.52** | **1.03** | **2** |

**Mercury**

1. Description:
2. Distance from the sun. (Show your work!)
   1. AU-
   2. Km-
3. Diagram of Structure- Label each part and add a short description about each layer. Color the outermost layer the color of the planet.
4. Number of Moons:
5. Interesting Fact:

**Venus**

1. Description:
2. Atmosphere:
3. Distance from the sun. (Show your work!)
   1. AU-
   2. Km-
4. Diagram of Structure- Label each part and add a short description about each layer. Color the outermost layer the color of the planet.
5. Number of Moons:
6. Interesting Fact:

**Earth**

1. Description:
2. Distance from the sun. (Show your work!)
   1. AU-
   2. Km-
3. Diagram of Structure- Label each part and add a short description about each layer. Color the outermost layer the color of the planet.
4. Number of Moons:
   1. Look at the structure of the moon. How does it compare to the structure of the Earth? How does this relate to the theory of how the moon formed?
5. Interesting Fact:

**Mars**

1. Description:
2. Distance from the sun. (Show your work!)
   1. AU-
   2. Km-
3. Diagram of Structure- Label each part and add a short description about each layer. Color the outermost layer the color of the planet.
4. Number of Moons:
   1. List one interesting fact about each of Mar’s moons.
5. Interesting Fact:
6. Determine the amount of days it takes Mercury and Venus to complete one revolution around the sun. How does this compare to Earth?

**Outer Planets**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Planet** | **Diameter**  **(km)** | **Average Distance to Sun (AU)** | **Period of Rotation (Earth days)** | **Period of Revolution (Earth years)** |
| **Jupiter** | **142,984** | **5.20** | **0.41** | **11.86** |
| **Saturn** | **120,536** | **9.54** | **0.44** | **29.46** |
| **Uranus** | **51,118** | **19.19** | **0.72** | **84.10** |
| **Neptune** | **49,528** | **30.06** | **0.67** | **164.86** |

**Jupiter**

1. Description:
2. Atmosphere:
3. Distance from the sun. (Show your work!)
   1. AU-
   2. Km-
4. Diagram of Structure- Label each part and add a short description about each layer. Color the outermost layer the color of the planet.
5. Number of Moons:
   1. List one interesting fact about each of Jupiter’s largest moons.
6. Interesting Fact:

**Saturn**

1. Description:
2. Distance from the sun. (Show your work!)
   1. AU-
   2. Km-
3. Diagram of Structure- Label each part and add a short description about each layer. Color the outermost layer the color of the planet.
4. Number of Moons:
   1. List one interesting fact about 2 of Saturn’s moons.
5. Interesting Fact:

**Uranus**

1. Description:
2. Distance from the sun. (Show your work!)
   1. AU-
   2. Km-
3. Diagram of Structure- Label each part and add a short description about each layer. Color the outermost layer the color of the planet.
4. Number of Moons:
   1. List one interesting fact about 2 of Uranus’s moons.
5. Interesting Fact:

**Neptune**

1. Description:
2. Distance from the sun. (Show your work!)
   1. AU-
   2. Km-
3. Diagram of Structure- Label each part and add a short description about each layer. Color the outermost layer the color of the planet.
4. Number of Moons:
   1. List one interesting fact about 2 of Neptune’s moons.
5. Interesting Fact:

**Pluto**

1. Description:
2. Tilt:
3. Moons:
4. Interesting Fact:

**Concluding Questions:**

1. Order the planets from smallest to largest. (Based on their diameter.)
2. What do you notice about the composition of ALL of the inner planets? What do you notice about the composition of ALL of the outer planets?
3. Determine the number of hours it takes for each of the gas giants to rotate on its axis. Which one rotates the fastest?
   1. Order the planets from the least amount of time to the most of time that it takes the planet to rotate on its axis.
4. What is the connection can be made between the distance from the Sun and the revolution period?