Space Science Investigator Badge for the Junior Group

Space & Time: An Orbit Makes Up a Year
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The following instructions represent additional resources for continued study of the topics covered in our "Space Science Adventurer Badge for the Junior Group" online class. All materials are the property of Planetarium Educator Hannah Buckner who created them. Any websites included are the property of the individual website owners and have been reviewed by a Fairbanks Museum & Planetarium educator.

Overview & Purpose

Students will be able to describe what a planet's motion around the Sun is called an orbit and that one complete revolution along that orbital path determines a year on that planet.

Objectives

Know that a year is determined by the length of time it takes to complete a single revolution around a star.

Highlights of this Lesson

1. One complete orbit, or revolution, around a star is a year
2. One year on one planet will be different for another planet
3. A planet's year is directly related to how far it is from its star

Lesson Vocabulary

1. Orbit → the curved path, usually elliptical, described by a planet, satellite, spaceship, etc., around a celestial body, such as the Sun
2. Revolution → a moving in a circular or curving course, as about a central point and in a single cycle

3. Earth Hour/Day → a unit of time used to compare the length of time on another planet to understandable and comprehendible lengths of time on Earth

Materials

1. https://www.exploratorium.edu/ronh/age/

Activity

This activity will help you see how different years are on different planets--so break out the birthday candles!

Using the Exploratorium link, input your birthdate and see how old you would be on each planet. Fill in the information below:

1. Mercury: _____ Days _____ Years
2. Venus: _____ Days _____ Years
3. Earth: _____ Days _____ Years
4. Mars: _____ Days _____ Years
5. Jupiter: _____ Days _____ Years
6. Saturn: _____ Days _____ Years
7. Uranus: _____ Days _____ Years
8. Neptune: _____ Days _____ Years

Is there anything you are surprised about? What do you think your life would have been like so far on each of these planets, assuming you could actually live on the other ones?