

# FAIRBANKS MUSEUM & planetarium

## Space Science Adventurer Badge for the Brownie Group

*The Solar System*

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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 Brownie 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

Develop and use a model to describe and represent the order of our Solar System and the celestial bodies that exist within it.

## Objectives

1. Understand that the Solar System orbits around the Sun.
2. Be able to state the names of the 8 planets.
3. Be able to know the types of planets in Our Solar System.

## Materials Needed

1. <https://www.solarsystemscope.com/>
2. One (1) long paper strip, about the length of your body. If not available, cut strips of paper and tape the ends together to form one long paper strip.
3. Pencil or pen
4. Colored pencils, crayons or markers

## Highlights for this Lesson

*Steps to check for student understanding*

1. The Sun is a Star!
2. There are 8 planets. Try to name them all without looking them up!

- a.
  - b.
  - c.
  - d.
  - e.
  - f.
  - g.
  - h.
3. Some planets have moons and some do not.
    - a. Earth has 1
    - b. Mars has 2
    - c. Jupiter has 79
    - d. Saturn has 82
    - e. Uranus has 27
    - f. Neptune has 14
  4. There are at least 5 dwarf planets
    - a. Pluto
    - b. Ceres
    - c. Makemake
    - d. Haumea
    - e. Eris

## Activity

*Today, you will be making a Pocket Solar System! It will demonstrate the distance between the Sun, each planet, and the various "belts" that exist in the Solar System. Using a pen or pencil, write down the labels during each step. At the end, get creative and make your Pocket Solar System colorful!*

1. Label one end of the paper "Sun" and the other end "dwarf planets."
2. Fold the paper in half and crease it, then open it up again and place a mark on the crease. This point is "Uranus" (UR-in-us). Write the name near the mark.
3. Now fold the paper back in half, then in half again. Unfold and lay it flat. Label the crease closest to the Sun as "Saturn" (SAT-urn). The crease closest to "dwarf planets" is "Neptune" (NEHP-tune).
4. Fold the Sun to Saturn and crease it. Label this new crease "Jupiter" (JU-pit-ehr).
5. Fold the Sun to Jupiter. Unfold it and label this crease "asteroid belt".
6. Now fold the Sun to the asteroid belt. Unfold it and label the crease "Mars."

7. Fold the Sun to Mars. Keep it folded, and fold that section in half.
8. Unfold the paper. You should have 3 new creases.
9. Label the crease closest to Mars "Earth."
10. Label the middle crease "Venus" (V-nus)
11. Label the crease closest to the Sun "Mercury" (Mehr-cure-e).
12. Take a step back and look at your Pocket Solar System. Does anything surprise you? Are some planets closer or further away from each other than you thought they'd be?

