# Create the Solar System in Your Living Room

## What You'll Need:

Paper
Crayons
Scissors
Measuring tape
Washable marker (optional)

## What to Do:

Print and cut out the eight planets included at the end of this activity. (NOTE: The planets are pretty close to scale with one another in terms of size.) Or for added fun, have the kids draw and color each planet. As an alternative, if you do this activity outside, use objects that won't blow away, such as four marbles, two golf balls, and two baseballs.

Pick an open area—for example, 20 feet of space—where you want your solar system to be. Choose a spot at one end of this area to be the sun. If you have a hardwood floor or another washable surface, mark this spot with a washable marker. You can also have a child draw a picture of the sun, and place it there.

According to NASA, the planets are, on average, about the following distances from the sun:

| Planet | Distance (miles, rounded up) |
|---|---|
| Mercury | 36 million |
| Venus | 67 million |
| Earth | 93 million |
| Mars | 142 million |
| Jupiter | 484 million |
| Saturn | 891 million |
| Uranus | 1,780 million |
| Neptune | 2,790 million |

If you have 20 feet of space, one inch equals about 12 million miles. (See "Do the Math" section.) Using the provided chart, measure the distance from the sun for each planet. For example, Mercury is 36/12, which equals 3 inches from the sun. Place your representative object for Mercury 3 inches from the sun. Venus is 67/12, or about 5.5 inches from the sun. (The answer key for all the planets follows the "Do the Math" section.)

This is excellent math work for kids, even if you have to walk them through it. It is also a good way to reinforce the differences and distances involved in the solar system.

NOTE: The activity will only be to scale in terms of distance—and very roughly at that. The size of the planets is not even close, relative to the space. (The planets would be indescribably small at this scale.)

*Continued on next page.*

## Bonus Activity:

Help the kids figure out how far away everyone's favorite dwarf planet, Pluto, is. Spoiler alert: Pluto's average distance from the sun is 3.67 billion miles, so you're going to need a lot more room!

## Do the Math:

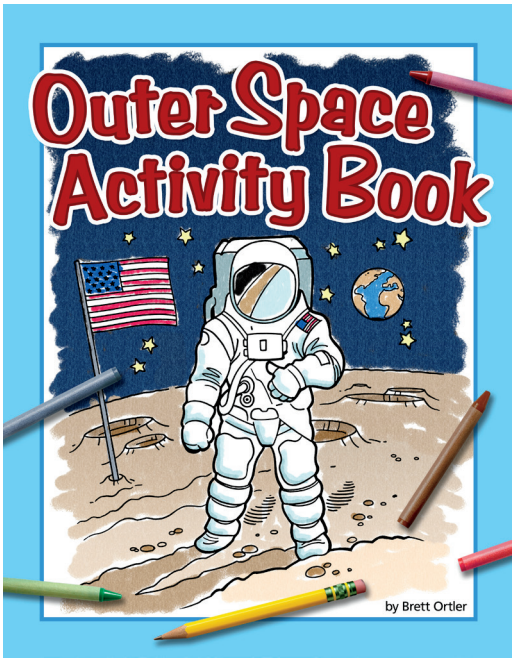
Measure the distance of space you are using, from one end to the other. In our example, we use 20 feet of walkable space. To get the total number of inches, multiply the number of feet times 12 (since a foot = 12 inches). So 20 x 12 = 240 inches of space.

One end of your area is the sun, and the other end is Neptune. As the chart tells us, the distance between them, for the sake of our activity, is 2,790 million miles. So we divide that number by our total number of inches. Here, it's 2,790 million / 240. This equals 11.625 million. To keep it simple, we round that number up to 12 million. So one inch of our 20-foot space equals 12 million miles.

You can use a different amount of space. Simply adjust your total number of inches and redo the math accordingly. (For example, at 15 feet, the math looks like this: 15 x 12 = 180 and 2,790 / 180 = 15.5. You might want to round that up to 16, so every inch equals 16 million miles.)

| Planet | Inches from the Sun (in 20 feet of space) |
|---|---|
| Mercury | 3 |
| Venus | 5.5 |
| Earth | 8 |
| Mars | 12 |
| Jupiter | 40 |
| Saturn | 74 |
| Uranus | 148 |
| Neptune | 233* |

**Since we rounded up from 11.625 inches to 12 inches, our answer is a bit short of the full 20 feet. But if you want to leave Neptune at 240 inches, feel free.*

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- Engaging information about astronauts, space exploration, and the solar system
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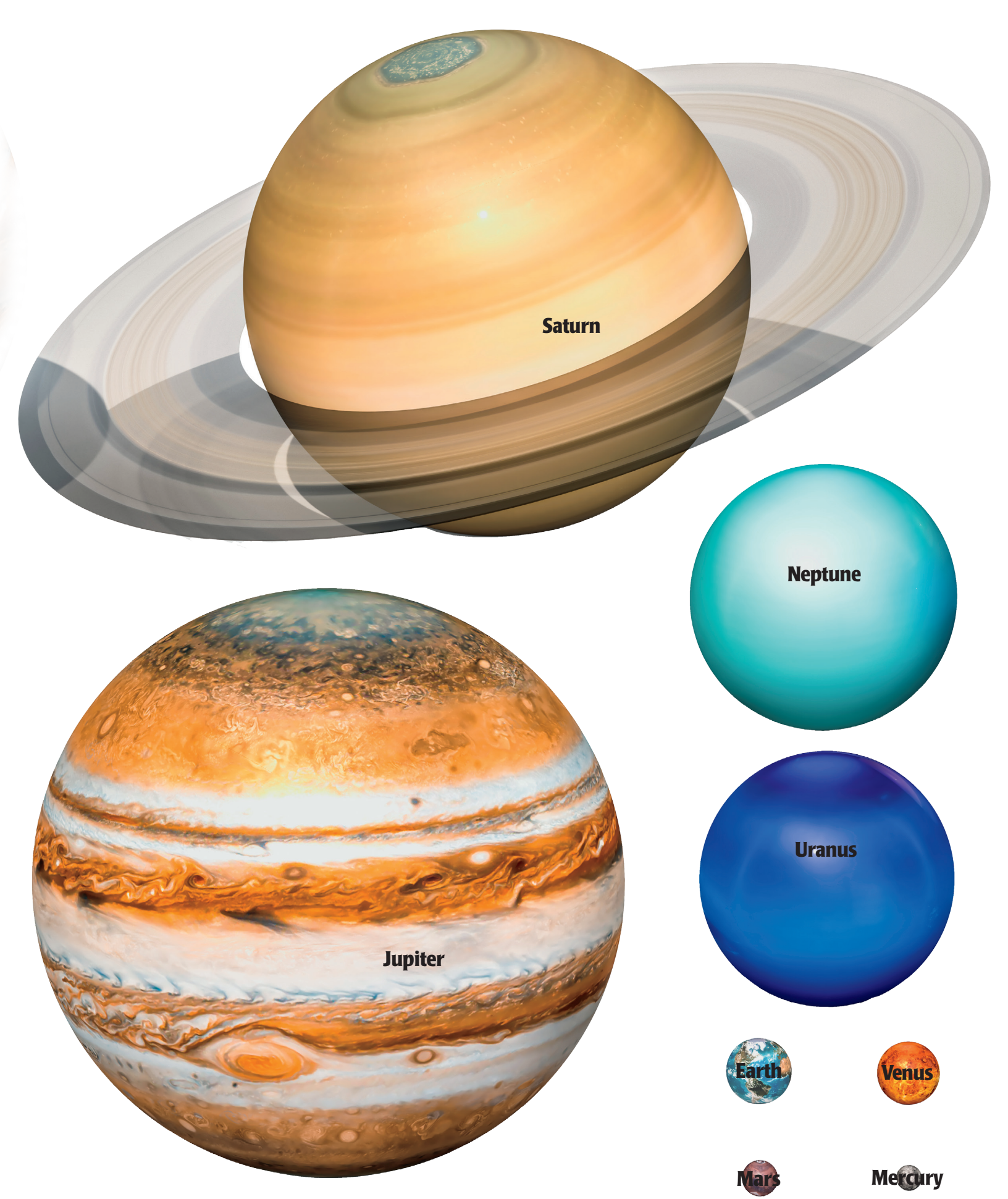


The eight planets of our solar system, to scale (approximate) with one another.
*Photo credit: AlexLMX/shutterstock.com*