

# Space Science Investigator



**Be a Space Science Investigator!**

- 1. Circle the Sun**
- 2. Dance the Earth's Year**
- 3. Calculate your age on other planets**
- 4. Write a letter to your future self or make a scrapbook of your trips around the sun**
- 5. Share @gsnnj**

**Let's discover the magic of space science and complete step two of your badge! Learn how to measure a year, how many times you have orbited the sun, and complete your birthday walk. Share with us @gsnnj**

**Supplies:**

- Ball or lamp (to represent the Sun)
- 12 pieces of paper
- Markers, pencils, crayons etc.

**Circle the Sun**

- What is a year?
- How do we measure a year?
- How many times have YOU orbited the Sun?

**Dance the Earth's Year**

- Complete your birthday walk (directions are found on the following page)
- Discover how long it takes each planet in our solar system to orbit around the Sun in Earth days.

**Calculate your age on other planets and write a letter to your future self.**





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## Circle the Sun

The Earth orbits (moves around) the Sun, and one orbit is equal to one year.  
(It actually takes the Earth 365.24+ days to revolve once around the Sun.)

## Dance the Earth's Year

1. Make 12 signs with the name of one month on each (January, February, March, etc.)
2. Place the ball or lamp (the Sun) in the center of an open area. Then place the month signs in a circle around the Sun in order (January, February, March, etc.)
3. Start at the month January and walk counterclockwise to make one complete revolution around the Sun—just like the Earth!
4. Now take a birthday walk! Start at your birthday month and walk once around the Sun back to your birthday month. That means you are a year older! Get your family and pets Involved too!

Earth is not the only planet orbiting the sun. The other planets in our solar system take different amounts of time to make one trip around the sun.

How long does it take each of the planets in our solar system to orbit around the Sun (in Earth days)?

Mercury: 88 days  
Venus: 225 days  
Earth: 365 days  
Mars: 687 days  
Jupiter: 4,333 days  
Saturn: 10,759 days  
Uranus: 30,687 days  
Neptune: 60,190 days



## Find your age on other planets!

Your age is the number of orbits you have taken around the Sun, but each planet is a different distance from the Sun, and they all orbit at different speeds. Today you are going to discover how old you would be on other planets by using the following website:

<https://www.exploratorium.edu/ronh/age/index.html>

How old are you on Mars? Jupiter?  
Did any of your discoveries surprise you?

For more FUN: Pick an age at least 10 years from now and write your future self a letter. What do you think will change once you have made more trips around the Sun?

## Show your years in pictures

Make a scrapbook of your trips around the Sun. Be sure to include important days, maybe birthdays, holidays, and proud moments in your life. Be as creative as you would like.