Brownie Space Science Adventurer Badge

The Stars

This one-sheet provides basic facts about the stars to help you and your girls embark on the Space Science Adventurer badge.

Words to Know-

Here is some vocabulary to get you started . . .

Sun: Our local star at the heart of our Solar System

Solar System: Our star, the Sun, and all the objects that travel in orbit around the Sun. Other stars that are orbited by planets and their moons are called planetary systems.

Orbit: The path one object takes around another

Star: A very bright ball of extremely hot gas

Galaxy: A system of dust, gas, and millions to billions of stars, held together by gravity. Our Sun is just one star in the Milky Way Galaxy.

Light-year: The distance light travels in one year, almost 6 trillion miles

KEY FACTS-

- The Sun is the nearest star to Earth. It makes its own light and heat.
- It takes light about eight minutes to travel from the Sun, through space, to arrive at our Earth.
- Stars represent the most basic building blocks of galaxies. Their age, place in the galaxy, and physical makeup tell us the history of that galaxy.
- Our Solar System is made up of planets, moons, asteroids and comets that all orbit one star, the Sun.
- Small red dwarf stars are not as hot as the Sun. They are reddish, have very long lives (trillions of years), and are the most common type of star. Proxima Centauri, the closest star to the Sun, is a red dwarf star.
- The Sun is a medium-size, 5-billion-year-old star. Medium-size stars are yellowish and live about 10–12 billion years.
- Huge stars are hot, bluish, have shorter lifespans of millions of years, and are uncommon. These are the ones we see in our night sky.

FUN FACTS TO SHARE WITH GIRLS-

- Light from the Sun takes eight minutes to get to the Earth, five hours to reach Pluto, and more than four YEARS to reach the nearest star, Proxima Centauri.
- Stars in the night sky are much farther away than the most distant part of our solar system. They are trillions of miles away, light-years away.
- Stars form recognizable patterns in the sky that we call constellations.
- The brightest star we see at night, Sirius, is more than eight light-years away. This means light left Sirius the same year our eight-year-old Girl Scouts were born!
- As the Earth makes its orbit around the Sun, and the seasons change as the year progresses, we see different constellations in the night sky.

DIGGING DEEPER-

If you'd like to know more about the stars, check out this helpful link—

http://science.nasa.gov/astrophysics/focus-areas/how-do-stars-form-and-evolve