



STEM Teaser Family Activities | **Outer Space**

Space Suit Designs

Grade Levels
3–5

Did You Know?

Can you picture all of the clothing that you would have to wear if you were outside in Antarctica? You would wear this clothing for protection, so your body could keep functioning like it does when you're in a warmer environment.

Astronauts wear a space suit for a similar reason when they travel to outer space. Space suits try to help astronauts feel like they are still on Earth! For instance, every space suit has a special backpack called the Primary Life Support System (PLSS), which holds an oxygen tank and a system to keep the astronaut cool. Astronauts also wear special EVA gloves that protect their hands from debris and extreme temperatures. From head to toe, every part of a space suit has an important job.

Help Them Lead at Home

Talk: Your child has learned about space suits in school and has considered how one of its parts could be improved for a female astronaut. Look through these [NASA space suit images](#) together and discuss what you see. Ask your child to tell you about the space suit part they improved or *optimized*. What jobs does this space suit part have? How did your child redesign it to make it even better?

Do: Today's space suits are specially designed for travel to the Moon... but what if an astronaut could travel even farther?

With your child, choose a planet other than Earth and use this [NASA website](#) to learn more about it. As you read about the planet together, ask yourselves: What conditions on this planet would an astronaut need to be protected from?

Then work together to brainstorm how you could design a space suit to accomplish this. For instance, Saturn is made entirely of gas so astronauts couldn't walk on its surface. But could special shoes be designed that lift the astronaut just above the planet's surface? Be creative and imagine that any kind of design or technology is possible as long as it protects the astronaut.

Once you and your child have an idea in mind, sketch your design on the *Design a Space Suit* sheet.

For More Tips

Check out real-life photographs and even more facts about your planet by visiting [NASA's Solar System Exploration website](#). Scroll down to the "More Destinations" section at the bottom of the page and click the arrows until you find the planet that you and your child focused on—or explore an entirely new one!

Check out no-cost resources for you and your girl to extend the learning at home: <http://bit.ly/GirlScoutsDE>

Design a Space Suit

Directions: Pretend that the astronaut below will be the first person to ever travel past the Moon! Sketch their space suit on top of the body outline, and then add details using crayons, markers, or colored paper to create the final product.

