

Building a Lunar Lander

Read a Story—*Here We Are* by Oliver Jeffers ([you can find a version here](#))

Step 1: Inspiration

Ask your kiddos what they know about space. How big is it? What's in space? What do they know about the Moon? Have we ever been to the Moon? How did we land on the Moon? Is the surface hard or soft?

NASA's Lunar Module: <https://youtu.be/oX8-IXdABuc>

The First Walk on the Moon: <https://youtu.be/oX8-IXdABuc>

Step 2: Think about the problem

Today, we're going to be engineers. We're going to design our own lunar lander. This means we need to think about a problem. **Our problem is: how can we get our astronauts (marshmallows, ping pong balls, tiny action figures, etc.) to land safely on the moon without falling out?** Remember: our lunar lander is coming from the Earth, through SPACE.

Step 3: Gather Materials

The supply list for this activity is limitless. You will need to think of three different categories:

1. Astronauts (marshmallows, ping pong balls—even toy action figures could work)
2. The body of the lander (any sort of container is usually good starting material)
3. A parachute (coffee filters, paper, etc.)*

*The trick is thinking of how to ATTACH the parachute to the lander without weighing it down.

Step 4: Build, Test and Document

Now, it's time to build your lander module! Think about what you want to achieve: you want your lander to be able to land on the ground safely. You'll know you've landed safely if your astronauts haven't flown out onto the surface of the Moon—or your living room floor.

Ways to extend? Was your first run successful? How many test runs do you think NASA Engineers did before they sent someone to the Moon? How can you improve your design?

