



Mission to Mars



Next Generation Science Standards (NGSS)

Engineering Design

Lesson Overview

Students will read the magazine *Planet Power* and learn about a new Mars rover. Then they'll build a lander for a team of astronauts.

Materials

- Paper or plastic cup
- Coffee filter or tissue paper
- String or yarn
- Cotton balls or marshmallows
- Paper
- Tape or glue
- Unifix Cubes or other small objects to represent astronauts
- Class set of "Safe Landing" resource

A Safe Landing

Prep Work

1. Print a copy of the "Safe Landing" resource for each student.
2. Provide students with the necessary materials for building their Mars lander, or create a materials table they can access.

Lesson Flow

1. Start the lesson by asking students what astronauts do. Then engage the class in a discussion about whether they think exploring space is important.
2. As a class, read the magazine *Planet Power* and discuss the topic of space. Direct students to "Space Explorer," on the back page. Ask: How do you think the Mars 2020 rover will get to Mars? (Answers include: "It could be sent on a rocket and dropped off" and "A team of astronauts could take it up to Mars.")

3. Explain that students are going to imagine that a group of astronauts has to find a way to gently land a spacecraft and a rover on Mars. Students will build a craft that holds the astronauts and lands them safely.
4. Show students the materials they have to work with. Provide them with the resource "Safe Landing," and allow them time to draw a design of their craft. Once their design is complete, allow them time to construct it using the materials provided. They should also test their design and modify it if necessary.
5. After students have constructed their crafts, have them compare and contrast their designs in groups of four.

Discussion

Would you feel safe being an astronaut in the lander you designed? Why or why not?

Name Date

Safe Landing

Read “Planet Power” (February 2020). Then use the space below to draw and label your space craft.

