

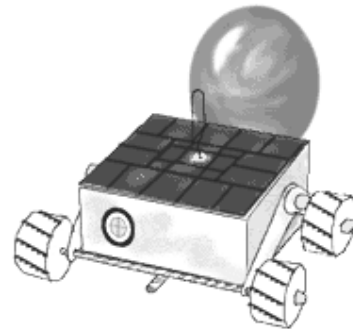
## Make Your Own Robotic Rover

Why send robots to another planet? NASA is not yet ready to send humans to Mars or other planets—we need to learn more about the conditions to prepare for visiting and working in these places. Orbiting spacecraft, probes, landers, and rovers help scientists and engineers SAFELY gather data about the temperatures and radiation and resources that occur on a planet's surface. They help us test our technology for getting to, and living on, other planets and moons. Sending robots is less expensive than sending a human mission and more efficient for the initial exploration. Once the robots have provided the initial information, humans are better prepared to follow and learn more than robots can do alone. Space exploration is about humans and robots working together.

You and your child will learn about the different parts of a rover as you build one out of various craft items.

### What You Need:

- ✦ One Chinette plate
- ✦ Two wooden dowels
- ✦ Four wooden spools
- ✦ Pea-sized blobs of white clay or Play-doh©
- ✦ One party balloon
- ✦ Tape
- ✦ Pencil
- ✦ Scissors
- ✦ Lots of patience and, maybe, a grown-up (or teen) assistant!
- ✦ Demo model



### What To Do:

- ✦ Cut a rectangle out of the chinette plate – this will be the body of your rover.
- ✦ Place two of the wooden spools onto each of the two wooden sticks.
- ✦ Cover the ends of the sticks with the Pea-sized blobs of white clay or Play-doh© (hubcaps), to keep the spools (wheels) from coming off the sticks.
- ✦ Move the wheels toward the ends of the sticks and place another blob of the clay in the center of the stick – this will act as glue for the rover template.
- ✦ Stick the template to the wheel axel (sticks) by pressing the plate to the center blob of clay (see Demo model).

What To Do (cont'd):

- ✦ Tape the party balloon to one end of the rover and inflate the balloon. Release the air to make the rover move.
- ✦ Test how well it moves around the landscape.

Parent Prompts:

What is supplying the power to the rover?

What does a robotic rover need to have in order to move?

Why would we want to send a rover to another world?