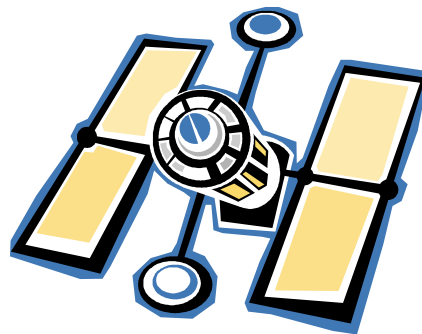


# Spacecraft Design

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A space probe is an unmanned craft that is sent into space to gather information and send back data. There are three types of probes- Interplanetary, orbiters, and landers. Each one is designed for a particular purpose, but all have similar parts and construction that help them to be effective in extreme environments.



Spacecraft are typically constructed in stages, where the shape of the probe changes during the mission. Space probes do not have a consistent shape because they shed layers and pieces as the mission progresses. As the probe leaves the atmosphere of Earth it has one shape. Then, when it reaches cruising speed and sheds some pieces, it begins to look different. Finally, when it enters the atmosphere of the planet, it sheds more pieces and looks very different from how it started.

Because this process is so complicated, you will work with your team to design only the last stage- the one that will enter the atmosphere of the planet.

## The Challenge:

Design and build the last stage of a space probe that will gather data about Mars.

## Rules:

1. Your space probe must be no larger than 20 centimeters (8 inches) in any dimension.
2. Design your probe system so that it always lands bottom down.

## Materials

- Index cards or card stock
- Notebook paper
- Tape
- Scissors
- Paper clips
- Ruler
- Protractor

Work with your team to construct your space probe. Then, record your data in your Science Notebook.