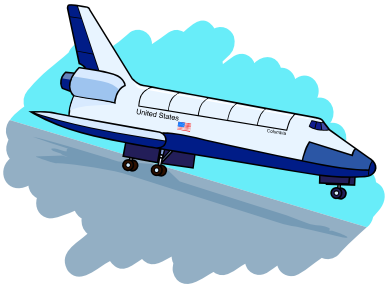
# Land Your Shuttle!

Upon return from space, the Space Shuttle re-enters Earth's atmosphere and is able to fly like an airplane. At this point, flight computers fly the Shuttle. The Shuttle makes a series of S-shaped turns to slow its descent speed as it begins its final approach to the runway.

At 25 miles (40 km) out, the Shuttle's landing computers give up control to the commander. The commander flies the Shuttle around an imaginary cylinder to line the orbiter up with the runway and drop the altitude. During the final approach, the commander steepens the angle of descent (almost seven times steeper than the descent of a commercial airliner).

When the Shuttle is 2,000 ft (610 m) above the ground, the commander pulls up the nose to slow the rate of descent. The pilot deploys the landing gear and the orbiter touches down. The commander brakes the Shuttle and a parachute is deployed from the back to help it stop. The Shuttle stops about midway to three-quarters of the way down the runway.

In this activity, you and your child will build a paper model of the Space Shuttle and try to land it safely on a runway.



## What You Need:

- Shuttle template
- 2 Styrofoam plates
- Scissors
- Paper clips
- Hula-hoop
- Runway drawn on butcher paper and taped to the floor

## What To Do:

- Cut out the templates on a Styrofoam plate and experiment with different sized wings, etc.
- Using paper clips, experiment with the flight of your Shuttle!
- Try to land your Shuttle on the runway by flying it through the hoop!

## Parent Prompts:

Which design worked best? Why?

Were you able to land your Shuttle safely?

What does the Shuttle do upon descent to help it slow down?
(It makes several S-shaped turns.)