

SPACE SHUTTLE STEM ACTIVITIES

TEAM TASKS

This is a 1:200 scale model of the Spacecraft flown by American astronaut **Sally Ride** and her crew. It takes a tight-knit team to pull off a space mission. There are many different jobs astronauts do to help the team succeed. Sally Ride was a **mission specialist**, collecting data and performing specific tasks on the shuttle. There is also a **commander** who is the leader and is responsible for all that happens on the mission, a **pilot** who flies the ship, and several **engineers** that create and build machinery used on the mission. These jobs require skills from art and design to chemistry and math!

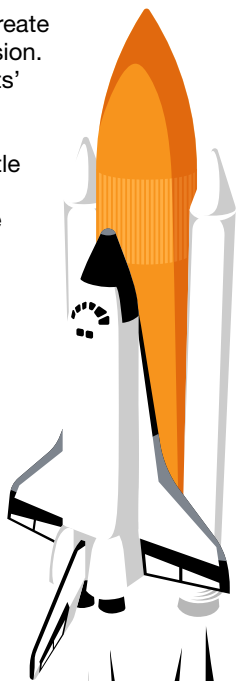
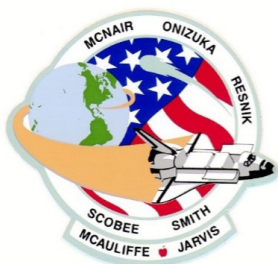
Based on your interests, which job could you picture yourself doing in space?

Imagine yourself doing that job and draw a picture of you completing your space tasks.

MISSION PATCH

One of the first things astronaut teams do is create a special mission patch to represent their mission. The mission patch is sewn on all the astronauts' suits.

Design your own mission patch for your shuttle launch. Include your mission goal, names of the people you want on your crew, and unique qualities of the mission. Be creative and have fun with it!



GROOVY GLIDERS

When launched, your shuttle will blast into the sky using the thrust from the engine. Once it reaches apogee, the highest point, something really cool happens: the shuttle will separate from the rocket body and glide back to earth! Lift will keep your shuttle in the air and help it coast to a safe landing.

Create your own paper airplane to experiment with lift (visit www.foldnfly.com for some awesome templates).

Collect data by throwing your paper airplane and measuring both the distance it flies and how long it stays in the air (use your steps to measure the distance, and count or use a stopwatch to find the glide time).

Engineer by making changes to the shape of your airplane or trying new designs. Does it fly differently now? How? Make notes about what you observe.



BEFORE YOUR LAUNCH

Use what you learned from the paper airplane to predict how far your shuttle will land from the launch pad, and how long its glide time will be.

DURING YOUR LAUNCH

Watch your shuttle glide to the ground and time its descent. Do you see any similarities between it and your paper airplane? Differences? How close was your time prediction?

AFTER YOUR LAUNCH

Measure the distance between where your shuttle landed and the launch pad. Was your prediction correct? How did it compare to the paper airplane?