



# Space Capades

## A Pre-Visit Information Guide for Teachers

**Meets Rhode Island Grade Span Expectations: ESS2(K-2)-7**

Students will have a BLAST learning about space and space travel in this exciting workshop. Students will learn the basics of space exploration - Why do astronauts have to wear space suits? What is it like to live and work in space? How do rockets launch into space? After learning the basic parts and functions of a rocket, students will construct their own rockets from craft materials and use their imagination to blast off into space!

## OBJECTIVES

- **Living and working in Space:**  
Students will discuss the differences between living on Earth and living in space. What is it like to live in microgravity? Why do astronauts wear space suits? What are some of the jobs astronauts have to perform in space?
- **Rocketry Demonstration:**  
How do rockets propel astronauts into space? Students will discover the basic parts of a rocket, and learn how rockets are launched into space through a demonstration of rocketry principles.
- **Build Your Own Rocket:**  
Using various craft supplies, students build rockets to bring home. Their imagination takes them into space, and to the planet of their choice. Students will be challenged to answer such questions as "Where will your rocket go?" and "What might astronauts expect to find there?"

## ACTIVITIES

Teachers are encouraged to conduct pre-visit and post-visit classroom discussions with their classes to make the most of their experience. How big is the Solar System? Take your students outside to see! Go to: [http://nssdc.gsfc.nasa.gov/planetary/education/schoolyard\\_ss/](http://nssdc.gsfc.nasa.gov/planetary/education/schoolyard_ss/) for the distance measurements based on a hundred feet to the Dwarf Planet Pluto model. Before students are given the actual measurements, 10 students are instructed to represent the Sun, the eight planets, and the Dwarf Planet, Pluto. Next, they are told to stand where they think the Sun and planets are located. Give the next group of ten students the accurate distances. The remaining students will perform the measurements, putting the Sun, each of the planets and Pluto in their proper places. Surprised? \*New extension: Calculate and demonstrate the distances for the three new Dwarf Planets, Ceres, Makemake and Eris.

## HELPFUL VOCABULARY

**Astronaut** – A person trained for spaceflight.

**Atmosphere** – The layer of gases surrounding the Earth.

**Gravity**- The force of attraction between two objects.

**Microgravity** – A condition, especially in space orbit, where objects act as though weightless.

**Orbit**- The circular or elliptical path of a body around another body; to move in a circular or elliptical path around a body.

**Rocket**- An engine that burns chemicals to produce hot gases that escape through a rear opening to propel a spaceship forward.

## WEBSITES

### **NASA Kids:**

<http://kids.msfc.nasa.gov>

### **NASA Human Space Flight:**

<http://spaceflight.nasa.gov/home/index.html>