Program: Robot Garage
Grade Level: 3 to 8
Group Size: Max. 36
Length: 2 Hours
Location: At your site

OVERVIEW

Students are introduced to basic robotics concepts, including the history of robots and the latest achievements of robots in space and on Earth. Working in teams, participants apply engineering and critical thinking skills to design, construct, and test extraterrestrial rovers.

BIG IDEAS

- Robots are machines that do specific jobs for humans
- Rovers are robotic vehicles that can help explore places like Mars and the Moon. They often have specialized equipment for communication and scientific tests

OUTCOMES – What will the students know or be able to do at the end of the lesson?

- Give a basic definition for a robot
- Create a rover that can perform simple tasks

Vocabulary

- Robot
- End effector
- Degrees of freedom: pitch, roll, yaw
- Rover

Extended Learning

In your classroom:
- Follow Curiosity: get the latest news from NASA’s Mars Science Laboratory
- Robonaut: check out the NASA’s robotic astronauts working in the International Space Station

At the Museum:
- Sky-bots: A Look at Unmanned Aerial Vehicles: an exhibit about Unmanned Aerial Vehicles (UAVs)
- Viking Lander Flight Capsule: Viking Lander prototype on display in the Space: Exploring the New Frontier exhibit
Standards Supported – NGSS/CCSS/21st Century Skills

**Next Generation Science Standards (NGSS)**

- Engineering Design: K-2-ETS1-1, K-2-ETS1-3
- Motion and Stability: 5-PS2-1

**Common Core State Standards (CCSS)**


**21st Century Skills**

- Creativity and Innovation
- Communication and Collaboration

**Reservations**

For reservations, please call **206-768-7175** or email: outreach@museumofflight.org. For grant assistance, please visit [www.museumofflight.org/education/grant-assistance](http://www.museumofflight.org/education/grant-assistance).