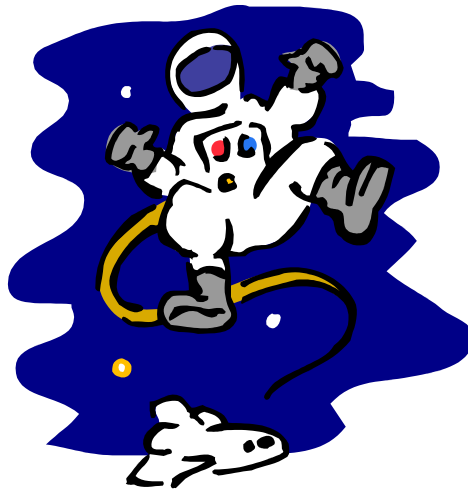


Space Cadets

Pre-Visit Activities

Grades K-2

Revised January 2005



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Standards of Learning

The following Standards of Learning are addressed in the Space Cadets program.

Science

- K.1 The student will conduct investigations in which
- basic properties of objects are identified by direct observation;
 - objects are described both pictorially and verbally;
 - a set of objects is sequenced according to size;
 - a set of objects is separated into two groups based on a single physical attribute;
- K.4 The student will investigate and understand that the position, motion, and physical properties of an object can be described. Key concepts include
- colors
 - shapes
 - relative size and weight
 - position and speed
- K.6 The student will investigate and understand basic needs and life processes of plants and animals. Key concepts include
- living things change as they grow and need food, water, and air to survive
- 1.1 The student will conduct investigations in which
- differences in physical properties are observed using the senses;
 - objects or events are classified and arranged according to attributes or properties;
 - predictions are based on patterns of observation rather than random guesses;
 - inferences are made and conclusions are drawn about familiar objects and events.
- 1.5 The student will investigate and understand that animals, including people, have life needs and specific physical characteristics and can be classified according to certain characteristics. Key concepts include:
- life needs
- 2.1 The student will conduct investigations in which
- observation is differentiated from personal interpretations, and conclusions are drawn based on observations;
 - two or more attributes are used to classify items;
 - conditions that influence a change are defined;

Math

- K.2 The student, given a set containing 10 or fewer concrete items, will
- tell how many are in the set by counting the number of items orally.
- K.17 The student will sort and classify objects according to similar attributes (size, shape, and color).
- 1.17 The student will identify and describe objects in his/her environment that depict plane geometric figures (triangle, rectangle, square, and circle)
- 1.20 The student will sort and classify concrete objects according to one or more attributes, including color, size, shape, and thickness.
- 2.20 The student will identify, describe, and sort three-dimensional (solid) concrete figures, including a cube, rectangular solid (prism), sphere, and cylinder according to the number and shape of the solid's faces, edges, and corners.

Activities

These activities are intended for use before your visit to the Virginia Air and Space Center. It is beneficial for the students to have some prior knowledge about the content area covered in the program. All of the activities can be tailored to your specific classroom needs, and the procedures listed are suggestions for teaching.

Activity 1: Solar System Simon Says

Ask the students why we have a sunrise and sunset, and why we have seasons. After accepting answers, explain that the sun isn't what is moving, we are! Define the words **rotation** and **revolution**, demonstrate the motions (using your body or a globe), and explain the differences between them. Tell the students that they will practice being the earth revolving and rotating around the sun.

Split class into groups of 4 or 5. Have a cone or stationary object for each group. Have the group stand around the cone forming a loose circle. Tell them they will each be the earth, and the object or cone is the sun. Review rotation with the students and have them rotate their bodies. Review revolution and have students walk around the cone until they get back to their original spot.

Play Simon Says with rotation and revolution. Suggested commands: rotate right or left, revolve right or left, revolve and rotate right or left, hop while rotating, rotate on one foot, clap while revolving, etc. Have groups sit if they do not go in the right direction or don't follow the command.

The last group standing has won the game.

Activity 2: What Do You Need?

Have the students brainstorm in class or keep a 1 day journal about all of the things they do in a day. Have some students share, or older students can form groups and compare with each other.

Focus the students and narrow to the activities that keep them alive, clean and healthy: **eating, drinking, sleeping, dressing, brushing teeth, going to the bathroom, exercising.**

Ask the students: How would an astronaut do all of these things in space?

Get students' ideas and discuss

Have them draw pictures or write a story about an astronaut doing these things in space.

Resources

Books

I Want to be an Astronaut. Byron Barton. 1992

Astronaut, Living in Space. Kate Hayden. DK Readers Level 2, 2000

Rockets and Spaceships. Karen Wallace. DK Readers Level 1, 2001

Up, Up, and Away. Margaret Hillert

Let's Go to the Moon. National Geographic Books for Young Explorers

If You Were an Astronaut. Virginia Schomp

Places

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**Many posters, lithographs and activities are available through the ERC. Please come in, call or e-mail your requests.

Websites

www.nasa.gov

www.spacelink.nasa.gov/

www.nasa.gov/audience/forchildren/home/index.html

www.nasa.gov/audience/foreducators/k-4/features/

<http://kids.msfc.nasa.gov/Rockets/Living.asp>

www.pbs.org/spacestation/station/living_spacesuit.htm

www.classzone.com/books/earth_science/terc/content/visualizations/es0404/es0404page01.cfm?chapter_no=visualization

www.classzone.com/books/earth_science/terc/content/visualizations/es0408/es0408page01.cfm?chapter_no=04

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