



Program: Scream Machines

Post-Visit Activities

Grades 3-5



Developed 10/07

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These activities are intended for use after your visit to the Virginia Air and Space Center. Your students should recall the information, demonstration, and activities from the Scream Machines program in order to do these activities. All of the activities can be tailored to your specific classroom needs, and the procedures listed are suggestions for teaching.

Activity 1: Identifying Simple Machines

Materials- For this activity you will need pencils, butcher paper, an in-class works sheet, a homework work sheet, magazines, drawing paper, and a book on the simple machines.

Prep Work- For this activity you will need to analyze your classroom and any other areas you are going to allow your students to work in during this activity. Once you have analyzed these areas you can gear the work sheets for your specific students. You will also need to create a home work sheet for them to take home. Before beginning you will need to hang several long sheets of butcher paper up along the walls in the classroom. You will also want to make sure that your students have some back ground knowledge of the six simple machines.

Procedures:

1. Have your students work in groups or with a partner. Instruct each group to write down the names of the six simple machines on the in-class worksheet you created.
2. When groups are finished have volunteers come up and write the six machines on the butcher paper. Tape these up in the front of the class, or around the room.
3. Have students make guesses as to how many simple machines they can find in the classroom. Write these numbers down on their worksheets.
4. Have students walk around the classroom or other areas of the school to find as many simple machines as they can. Explain that each group will need to be able to explain how and why each object is a simple or compound machine.
5. Give the students a time limit for their “machine hunt” but explain that it is not a contest to see who can do it the quickest. It is an experiment to see who can discover how many machines are in their environment and surroundings.
6. Give each group a few minutes to document and collect their findings. Then have each group come together to discuss their findings. Have each group record their findings on the butcher paper as they share it with the rest of the class. Make sure the students feel free to dispute whether another group’s findings are really a machine. This will cause some debate but it will allow the students to reinforce their work. Is it a machine? If it is, why and what makes it a machine? Is it more than one machine? Does it do more than one job? Is it a compound machine? Why?
7. Have students compare the number of machines they found to the number they predicted. How close were their predictions?
8. Pass out the homework sheets you assembled. Have students repeat this “hunt” at home with the help of family. Have students bring in drawings and magazine pictures of simple machines.
9. Have students use the drawings and pictures to make a collage on the butcher paper of the simple machines. When finished share the collages as a class. Display them around the room. Children may work in groups on this project.

Activity 2: Potential Versus Kinetic

For this activity you will organize a group discussion with your students on energy. Ask them “What is energy?” Accept all answers and add that energy is stored to be released to do work. “Do our bodies need energy?” “Why?” Explain that potential energy is energy at rest and that kinetic energy is energy in motion being released. Give your students a homework project. Have them come up with ten examples of potential energy being converted into kinetic energy that they experience everyday. You can give them as much time as you want with whatever restrictions you would like. Once they have completed the project, have them share at least three of their examples with the rest of the class. In each example have the students answer these questions: a.) Was potential energy released? b.) Was work done? c.) Was energy lost? d.) Can energy be lost?

Resources

Websites:

<http://www.eia.doe.gov/kids/energyfacts/science/formsofenergy.html>

<http://www.fi.edu/qa97/spotlight3/spotlight3.html>

http://www.physics4kids.com/files/motion_intro.html

http://www.biology4kids.com/files/studies_scimethod.html

<http://www.energyquest.ca.gov/projects/index.html>

<http://www.emints.org/ethemes/resources/S00001453.shtml>

Books:

Energy In Motion. Melissa Stewart. 2006.

Machines We Use. Sally Hewitt. 1998.

Pass The Energy, Please. Barbara Shaw McKinney. 2003.

Simple Machines. Deborah Hodge. 1997.

The Magic School Bus Plays Ball: A Book About Forces. Joanna Cole. 1998.

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