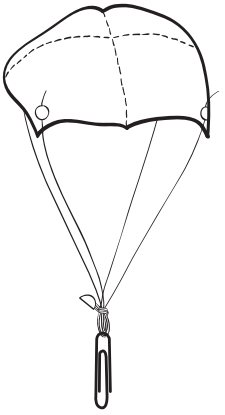
LETTER TO FAMILY

Cut here and paste onto school letterhead before making copies.

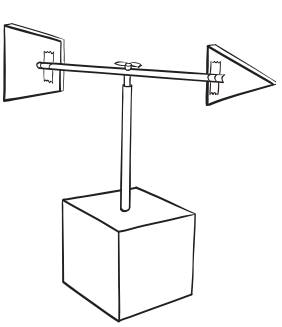
Science News

Dear Family,



Our class is beginning a study of air and weather that involves observing patterns in the day and night sky. Students will be looking for evidence that air is matter—that it is something real. Students will explore the properties of air using parachutes that they engineer to deliver cargo safely to the ground. Students will work with plastic syringes and tubing and observe how air can be captured, how air can be compressed, and how air under pressure can move things around. Students will observe daily weather conditions such as temperature, cloud cover, and wind conditions, and will analyze the number of hours of daylight over the year. They will be recording all this information on a class calendar and in a science notebook. Students will also observe and record daily changes in the appearance of the Moon over a month. They will be observing the Moon during the daylight hours and at home during the evening.

You can help your child learn more about patterns in the day and night sky. Share with your child the time of sunrise and sunset each day and try to observe these outdoors at least once during each month. Look at the night sky several times during the night and observe the movement of the stars and the Moon in the sky. You might discuss weather reports in the newspaper, on the Internet, or on television. If you have an indoor or outdoor thermometer, read and record the temperature at about the same time each day and look for patterns. Or, you may want to watch the temperature change over the course of one day. Does it happen that way every day? Weather is an ever-changing story. You can guide your child's scientific inquiry by helping him or her make observations and by nurturing his or her natural ability to ask questions based on those observations. Don't be surprised if you end up with a list of questions much longer than the initial observations.



You can get more information on this module by going to www.FOSSweb.com.

Sincerely,

HOME/SCHOOL CONNECTION

Investigation 1: Exploring Air

Look around your home and see if you can find a toy that uses air to make it work. If you can't find one, see if you can invent one.

Draw a picture of the toy you found or the one you invented.

Explain how it works.

Name _____

NIGHT-SKY LETTER TO FAMILY

Dear Family,

We have been observing the day sky. Now it is time for us to study the night sky. Since we aren't in school at night, this must be a homework assignment. As a bridge to what we have been studying in class, we have asked students to make observations of the night sky at home.

To make night-sky observations, take your child outside at about the same time each evening (when it's dark) and observe the sky. Take a few minutes to enjoy the night sky together. Discuss what you see. For example, if it's cloudy, you won't see anything but clouds. If it's clear, you will see stars (you might want to point out a constellation or two), planets (points of light that appear larger and brighter than stars), and the Moon (if it is visible). Discuss the changes in the night sky from night to night, especially the changing appearance of the Moon and where you see it in the sky. (If you don't see the Moon during the night, you might look for it during the day. You can check your local newspaper or the Internet to find out when it rises.)

Have your child record his or her observations on the *Night-Sky Home Log* (attached) during the week and bring it to school on Friday morning. Have your child write a few sentences about what he or she observed and draw a picture to show what the Moon looks like. To complete an entry, your child will record the date and time.

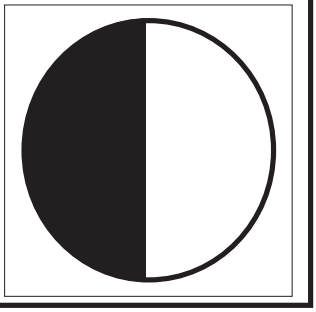
Thanks for your help!

Sample Night-Sky

Monday, February 28 6:10 p.m.
Date and time

Half of the Moon is bright (the right side).

The sky is clear. I can see stars.



Name _____

NIGHT-SKY HOME LOG

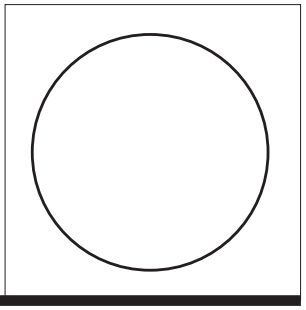
Monday, _____

Date and time

_____

_____

_____



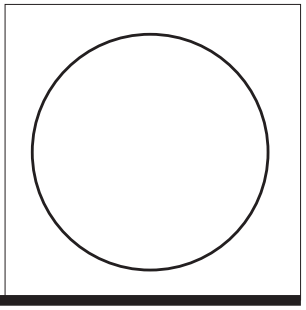
Tuesday, _____

Date and time

_____

_____

_____



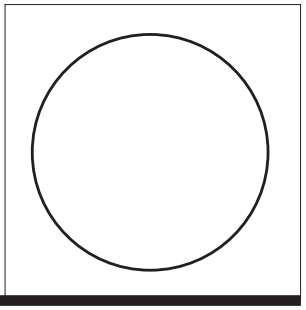
Wednesday, _____

Date and time

_____

_____

_____



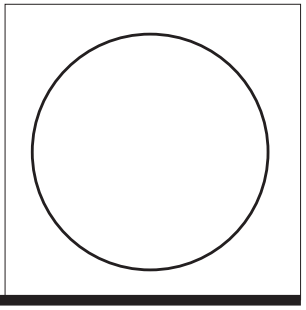
Thursday, _____

Date and time

_____

_____

_____



Bring this sheet back to school on Friday morning.

HOME/SCHOOL CONNECTION

Investigation 2: Observing the Sky

A. Find out about sunrise and sunset. Date tomorrow: _____

What time is sunrise tomorrow? _____

What time is sunset tomorrow? _____

How many hours of daylight will there be tomorrow? _____

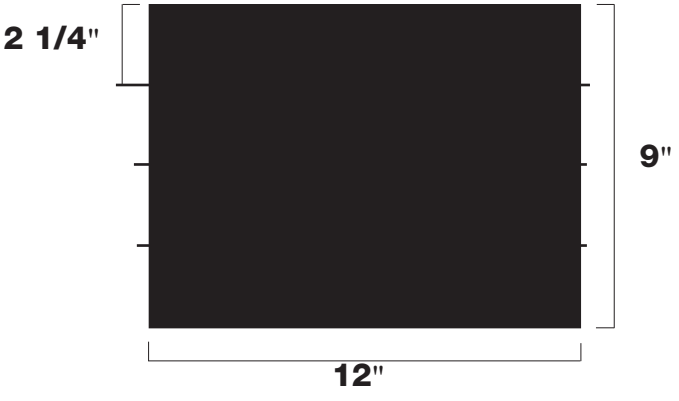
We'll record the number of hours of daylight in class tomorrow.

B. Make a cloud window with your child, using these directions.

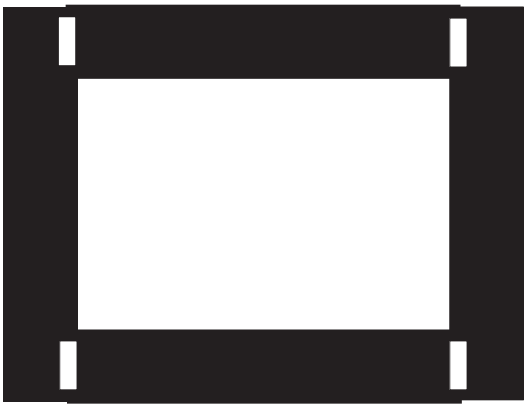
Materials: Construction paper, scissors, tape

Procedure

1. Cut a 9" × 12" sheet of dark construction paper (a shopping bag will do) into four equal strips (2 1/4" × 12").



2. Form a rectangle with the four strips, overlapping one edge 1/4" over another. Tape it together.



3. Tape the cloud window to a glass window in your house. It will provide a reference point to help your child detect movement of the clouds in the sky.

HOME/SCHOOL CONNECTION

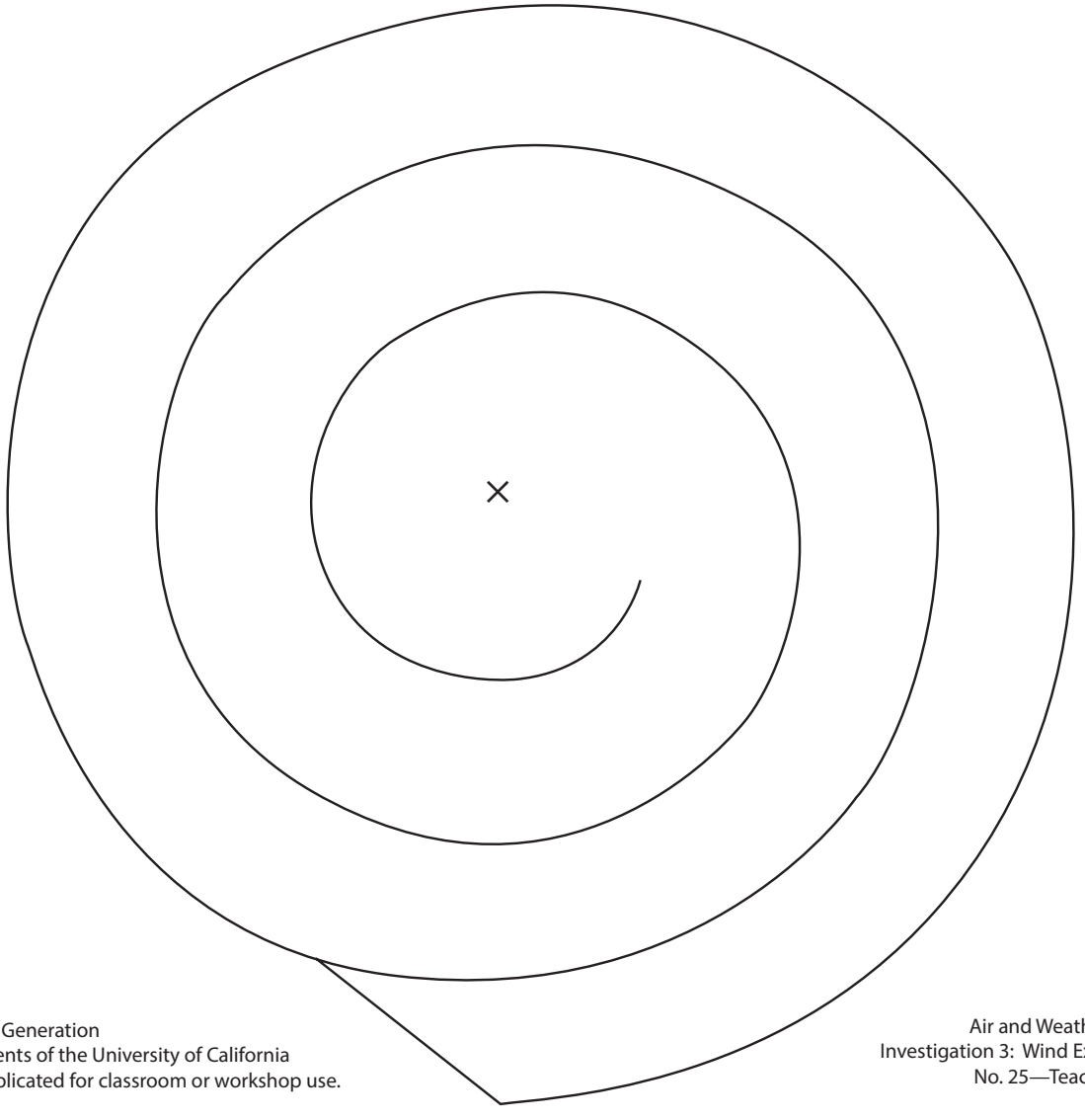
Investigation 3: Wind Explorations

Make a whirligig with your child, using these directions.

Materials: Scissors, tape, string

Procedure

1. Cut out the whirligig along the spiral line.
2. Tape a piece of string to the *X* in the middle of the whirligig.
3. Hang the whirligig by the string and blow on it. What does it do?
4. Use the whirligig to find places where the air is moving. Try outside, by a window, or in front of a fan. Where does it move the fastest?



HOME/SCHOOL CONNECTION

Investigation 4: Looking for Change

Read this story with your child. Then have him or her draw a picture of Harry in his new clothes.

Harry was always wearing the wrong clothes. When he put on his raincoat, it was warm and sunny outside. When he wore his shorts, the outside temperature was cold. When he decided not to take a jacket with him to school, the wind blew hard.

So Harry decided he wasn't going to go outside. Soon Harry became very, very lonely. All of his friends wanted to play outside. Harry was left alone, wearing the wrong clothes for the weather.

Then Harry got a grand idea! He would design a set of clothes that he could wear outside at any time and in any weather. If it were sunny and warm, Harry could wear his new clothes. If it were windy and rainy, Harry could wear his new clothes. Even if it were snowing, Harry could wear his new clothes!

So Harry set about designing his new wardrobe.

Finish the story and draw a picture of Harry's all-weather wardrobe. Use the back side of this page.

- What kind of clothing would Harry need?
- What kinds of weather would Harry need to think about?
- How can Harry wear the same thing in all kinds of weather?