

# FOSS EARTH AND SUN MODULE—WEEK 3

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**Hello Students, Teachers, and Families,**

This package includes **Home/School activities for Earth and Sun Module, Investigation 3—Earth’s Atmosphere**. During school closures, the FOSS team will be expanding the **Home/School Connection Center** on the FOSS website <https://www.fossweb.com>.

Families can access Home/School Connections and many other resources (multimedia, streaming video, and *FOSS Science Resources* interactive e-book) on FOSSweb through the class pages set up by the teacher. The teacher will need to provide the class username and password for full access. .

If the teacher has not set up Class Pages, families can still access the **Home/School Connections Center** page from the main FOSSweb login page. No registration is necessary for this access.

The Home/School Connections for each module are active investigations that can be conducted at home (inside or outdoors). New activities are added to FOSSweb each Friday.

**For reading science content at home** when you can’t get to a library, we **recommend NSTA’s Interactive eBooks**. Many of these books are on our recommended books lists, and all of these books are full of fantastic content. As of today, NSTA has made this content entirely free for the time being. No login required!

<https://www.nsta.org/ebooks/>

In addition, we recommend going to the website for your local city or county library. Many libraries offer ebooks through multiple providers.

**If you haven’t used FOSSweb resources before, here’s how.**

**For Students and Families:** To sign in to FOSSweb, use the user name and password provided by your teacher. This might be a Common Class or Individual Student login. Here’s a short video to get you started on FOSSweb

**For Student Sign in Video:** <https://youtu.be/Fcfjbt7Li2k>

**For FOSSweb help:** <https://www.fossweb.com/student-parent-help>.

**FOR TEACHERS:** For help in setting up and using Class Pages, use the Walk-through Videos on FOSSweb: <https://www.fossweb.com/fossweb-walkthrough-videos>

Visit the Home/School Connection for each module you teach, select the specific assignments that will be most relevant to your students at this point in instruction. Communicate with families about which content you are assigning through the Class Pages Notes on FOSSweb or through any other established parent communication channel your school has in place.

**Tech support on FOSSweb:** <https://www.fossweb.com/contact-us#jotform>

Sincerely, The FOSS Team at the Lawrence Hall of Science

# HOME/SCHOOL CONNECTION—WEEK 3, A

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## Investigation 3: Earth’s Atmosphere

**Online Resources on FOSSweb** (Must log in to FOSSweb with username and password.)

Use these online resources to help review content from Investigation 3 of Earth and Sun. The tutorials and virtual investigations provide interactive resources that review concepts from the FOSS active investigations. The virtual investigations often mimic the active investigations that were done in class.

For the articles in *FOSS Science Resources*, access the **interactive eBook** and make sure to click on the interactive links within the readings. Be sure to take notes on what you learn from all online resources and answer the questions from the articles in your science notebook.

### Investigation 3 Resources:

#### Online Activities

- Tutorial—Air and Atmosphere
- Weather Grapher

#### Media Library

##### • eBook readings (Interactive eBook)

- What is Air?
- Earth’s Atmosphere
- Weather Instruments

##### • Streaming Videos

- *Ball on a Scale*
- *Fizz Keeper Experiment*
- *Soda Can Experiment*
- *Earth’s Atmosphere*
- *All about Meteorology*

# HOME/SCHOOL CONNECTION—WEEK 3, B

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## Investigation 3: Earth’s Atmosphere

### **Focus Question: What is weather lore and is there any truth to them?**

“Lore” refers to traditions and knowledge on a subject that gets passed from person to person by word of mouth. In the case of “weather lore,” these sayings have been passed down over centuries that groups of people believe would predict the weather in the next day or two, in the next season, or over several years.

### **Instructions:**

1. Research weather lore on the Internet. You can start with these sayings.
  - a. When smoke descends, good weather ends.
  - b. When the dew is on the grass, rain will never come to pass.
  - c. Clear Moon, frost soon.
  - d. A cloud with a round top and flat base carries rainfall on its face.
  - e. Red sky in the morning, sailor take warning; red sky at night, sailor’s delight.
2. Make a list of the sayings.
  - a. Where did the saying originate?
  - b. What do they mean?
  - c. Is there any truth to them?
3. Are there any weather lore sayings that your family often quotes? What are they? Are they accurate?

# HOME/SCHOOL CONNECTION—WEEK 3, C

## Investigation 3: Earth’s Atmosphere

**Focus Question: How does the weather change in my area from day to day? How does my weather compare to weather in other parts of the world on the same day?**

**Materials:**

- A source to get daily weather reports such as radio or TV reports, newspapers, or an online weather source such as Weather Underground.

**Instructions:**

1. Choose a source to get daily weather reports for your area, another location in the United States (not near you), and a third location in a part of the world you’re interested in.
2. Create a separate chart in your science notebook to record the weather occurrences for each of your three locations. It could look something like this.

Location #1 – Berkeley, California						
Date	High Temperature	Low Temperature	Precipitation	Sky Cover	Humidity	Visibility

3. Record weather data for each of your three locations daily for 2–3 weeks.
4. Analyze your weather data. You can create graphs to look for patterns and relationships in daily and seasonal data.
5. Compare your data across your three locations.
6. What patterns do you notice?

# HOME/SCHOOL CONNECTION—WEEK 3, D

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## Investigation 3: Earth's Atmosphere

### **Focus Question: How can a falling object be slowed down?**

Use the properties of air to slow the descent of a falling object.

#### **Materials:**

- 1 plastic fillable egg (you may need extra eggs if they break during trials)
- Small objects such as small washers, screws, marbles
- Materials to design how to slow the descent of your falling egg. Look for a variety of materials around your house.
- Chair

#### **Instructions:**

1. Fill the plastic egg half-full with your small objects.
2. Snap the egg closed. Do not use anything to secure the seam of the egg such as glue or tape.
3. Take a chair outside along with your egg.
4. Set the chair on a flat portion of the ground.
5. Carefully stand on the chair. Have a family member hold the chair to keep it stable.
6. Raise your arm with the egg in your hand. Release the egg and let it fall to the ground.
7. Observe what happens. Did the egg burst open and its contents spill on the ground?
8. Use materials around the house and design a structure that will allow the egg to fall to the ground more slowly so that it does not break open when it reaches the ground.
9. Draw your designs in your science notebook as you build them.
10. Test your design by dropping the egg from the same height as your first test height.
11. Did your design protect the egg by slowing its descent? If not, re-design your structure and modify it.
12. Keep re-designing and testing until you have a design that is successful.
13. Explain why you think your design works.