

FOSS AIR AND WEATHER MODULE—WEEK 4

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Hello Teachers and Families,

This package includes **Home/School activities for Air and Weather Investigation 4—Looking for Change** 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.

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 activities 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 4, A

Investigation 4: Looking for Change

Here are things to do at home with this investigation.

Look at the Home School Connection for Investigation 4. (See teacher master 33 on the next page.)

Students finish a story about Harry (who was always wearing the wrong clothes for the weather conditions) by designing and drawing a picture of Harry’s all-weather wardrobe.

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?

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Air and Weather Module
Investigation 4: Looking for Change
No. 33—Teacher Master

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.

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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?
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- How can Harry wear the same thing in all kinds of weather?

HOME/SCHOOL CONNECTION—WEEK 4, B

Investigation 4: Looking for Change

Look at the Math Extensions for Investigation 4.

(See Math Extension A, teacher master 31, on the next page.)

Math Problem A summary: How much did it rain? Which town is rainier—Dripsville, Puddleton, or Misty? Students organize data from several rainstorms to find the total rainfall for a season in each town.

Notes on the problem. Discuss how to set up the bar graph and organize each storm in a different color. Remind students to check off each rainstorm as they record it. Misty is the rainiest.

Name _____ Date _____

MATH EXTENSION A
Investigation 4: Looking for Change

Students in three towns recorded the rain that fell in seven storms.
Which town had the most rain?
cm = centimeters

Town	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7
Dripsville	1 cm	1 cm	3 cm	5 cm	2 cm	1 cm	2 cm
Puddleton	1 cm	2 cm	2 cm	4 cm	5 cm	1 cm	1 cm
Misty	1 cm	2 cm	4 cm	4 cm	3 cm	2 cm	1 cm

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Air and Weather Module
Investigation 4: Looking for Change
No. 31—Teacher Master

Name _____

Date _____

MATH EXTENSION A

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Investigation 4: Looking for Change

Students in three towns recorded the rain that fell in seven storms.
Which town had the most rain?

cm = centimeters

Town	Storm 1	Storm 2	Storm 3	Storm 4	Storm 5	Storm 6	Storm 7
Dripsville	1 cm	1 cm	3 cm	5 cm	2 cm	1 cm	2 cm
Puddleton	1 cm	2 cm	2 cm	4 cm	5 cm	1 cm	1 cm
Misty	1 cm	2 cm	4 cm	4 cm	3 cm	2 cm	1 cm

HOME/SCHOOL CONNECTION—WEEK 4, C

Investigation 4: Looking for Change

Math Extensions B (See Math Extension B, teacher master 32, on the next page.)

Math Problems B summary: Students graph 2 weeks of daily temperatures to determine the season represented by each week.

Notes on the problem. This problem can be difficult for some students, so you may want to work together, step-by-step.

Teacher master 32 shows students a way to graph data for comparison. First, orient your child to the sheet. Two boxes show the temperatures for 2 weeks. Below that are two grids for making two line graphs.

Discuss how the grid is set up. The bottom has numbers for days from 1 to 7. The numbers on the side represent temperatures.

Discuss how to indicate each temperature reading on the bar graph. Show a few examples, finding the day line first, then moving up it to the appropriate temperature line. Ask your child if they think they can record for weeks 1 and 2. You may want to do week 1 together, and then let your child do week 2 on their own. [Week 1 = winter; Week 2 = summer]

When the graphs are completed, discuss which bar graph shows the hottest temperatures and which shows the coldest. Write an initial on each graph line to show which one they think is the summer (*S*), and which one the winter (*W*). Discuss how they knew which set of temperatures belonged with which season.

Name _____ Date _____

MATH EXTENSION B
Investigation 4: Looking for Change

A class in Denver, Colorado, recorded temperatures for 2 weeks during the year. They forgot to label which temperatures went with which month. Make a line graph to show the temperatures recorded for each week. Then decide which week was recorded in the winter and which was recorded in the summer.

Week 1	Week 2
1 40°F	1 80°F
2 25°F	2 90°F
3 20°F	3 90°F
4 35°F	4 95°F
5 40°F	5 80°F
6 50°F	6 85°F
7 55°F	7 75°F

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Air and Weather Module
Investigation 4: Looking for Change
No. 32—Teacher Master

Name _____

Date _____

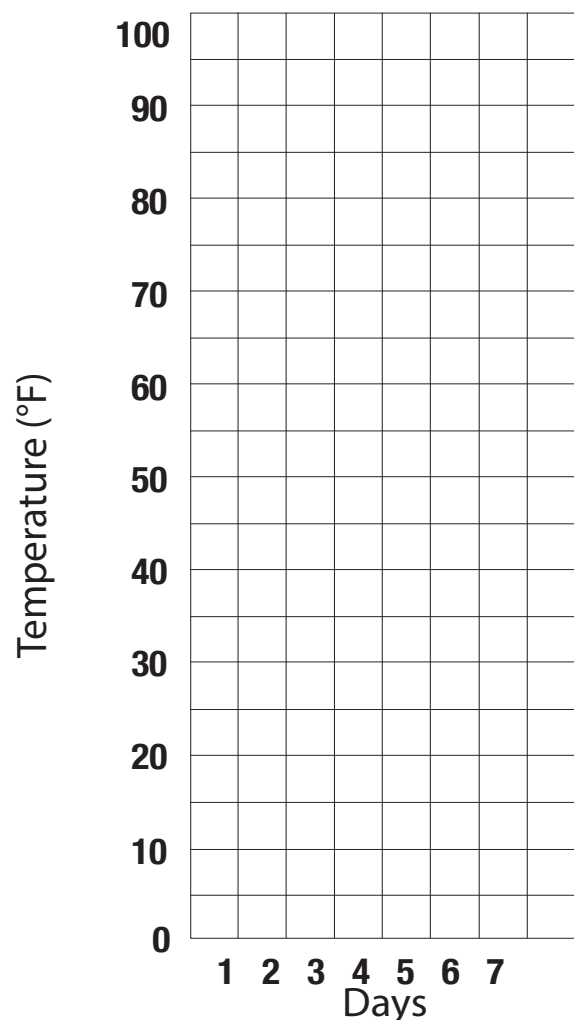
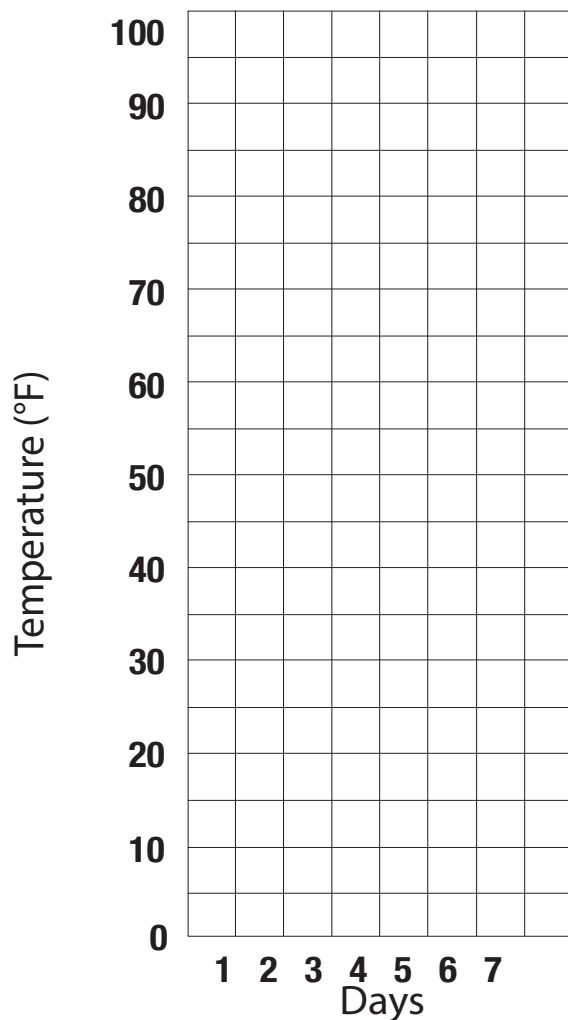
MATH EXTENSION B

Investigation 4: Looking for Change

A class in Denver, Colorado, recorded temperatures for 2 weeks during the year. They forgot to label which temperatures went with which month. Make a line graph to show the temperatures recorded for each week. Then decide which week was recorded in the winter and which was recorded in the summer.

Week 1	
1	40°F
2	25°F
3	20°F
4	35°F
5	40°F
6	50°F
7	55°F

Week 2	
1	80°F
2	90°F
3	90°F
4	95°F
5	80°F
6	85°F
7	75°F



HOME/SCHOOL CONNECTION—WEEK 4, D

Investigation 4: Looking for Change

Read "Seasons" in FOSS Science Resources: Air and Weather eBook

To access the interactive eBook, login to FOSSweb with the user name and password provided by your teacher. Click on the "Seasons" reading.

Ask your child what they know about the four seasons. How are they different? How do they know when it's one season or another? Tell them that this article will explain more about the four seasons.

Let your child preview the text by looking at and talking about the photographs.

Read aloud or have your child read independently.

Make a content grid on paper to help your child organize the information from the text. You can use the following questions to deepen student understanding and elicit responses for the content grid.

- What changes the most from season to season?
- How do the seasons affect our activities?

Seasons	Weather conditions	Clothes	Activities	Plants	Animals	Amount of sunlight
Fall						
Winter						
Spring						
Summer						

Here are additional questions you can discuss at the end of the reading.

- What other types of weather conditions can be present in each season? Consider temperature, precipitation, wind, and clouds in each season.
- How do humans react to seasonal changes? [Discuss clothing, ways people travel from one place to another, kinds of activities.]
- Animals aren't mentioned in every description. What did the animals do in fall, winter, and spring? What do you think they would do in summer?
- Seasons are different in different parts of the world. Are the seasons where you live like the descriptions, or are they different? How are they the same or different?

Look at the last two pictures. Which season do you see in each picture? How can you tell?

HOME/SCHOOL CONNECTION—WEEK 4, E

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Investigation 4: Looking for Change

Engage with online activity—“What’s the Weather?”

To access the Online Activities, login to FOSSweb with the user name and password provided by your teacher. Click on the Air and Weather Module, and go to the Online Activities.

Have your child engage with the online activity “What’s the Weather?” It provides students with opportunities to plan what to wear for different kinds of weather.

Read “Getting through the Winter” in *FOSS Science Resources: Air and Weather eBook*

To access the interactive eBook, login to FOSSweb with the user name and password provided by your teacher. Click on the “Getting through the Winter” reading.

Ask your child to describe the local winter weather conditions. If your winter weather is mild, explain that in some parts of the world, the winter is cold and harsh. Ask,

- How does nature react to seasonal changes? What do plants do? What do animals do to get through the winter?

Explain that this article will give them more information about how plants and animals survive in the winter. Let your child preview the text by looking at and discussing the photographs.

Read aloud or have your child read independently.

Use these questions to discuss the reading.

- What do many plants do in the winter? [They become dormant. The plants lose their leaves.]
- What does hibernate mean? What are some of the animals that hibernate in the winter? [Hibernate is when an animal goes into a resting state during harsh weather. Bears and ground squirrels hibernate.]
- Do all animals hibernate in the winter? If not, what do they do? [Some animals migrate—the animals move to distant places where the weather is better and there is more food. Some birds and insects migrate. And some animals remain active where they are.]
- What animal described in the reading was the most interesting to you and why?

HOME/SCHOOL CONNECTION—WEEK 4, F

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Investigation 4: Looking for Change

Moon Calendar Analysis

Focus Question: What does the Moon look like at different times during month?

Some weeks ago you started the Moon investigation at home. Each day you located the Moon in the sky during the day or night and noted the Moon's shape. You and your child recorded this information on a calendar.

When you have 4 weeks of Moon shape-data, work with your child them to look for patterns.

- What have you observed about the shape of the Moon? [It changes a little bit each day.]
- Does the Moon appear to be getting bigger or smaller? [Getting smaller now.]
- Can you predict what the Moon will look like tomorrow?
- How long did it take for the Moon to get back to the shape that we observed on the very first day? [About a month.]
- How does the Moon change over a single day? [Appears to rise in the sky from the east and sets in the west. This can happen at different times during the day but forms a pattern over a month.]

It is a lot to expect primary students to fully understand Moon phases, but they should show some beginning understandings of how the Moon changes each day over a 4-week period, getting smaller then bigger in a pattern that repeats each month. They should be able to draw several different shapes of the Moon, and say that the Moon can be seen sometimes at night and sometimes during the day.

Re-Read "Changes in the Sky" in *FOSS Science Resources: Air and Weather eBook*

To access the interactive ebook, login to FOSSweb with the user name and password provided by your teacher. Click on the Air and Weather Module, and go to the Media Library. Click on the eBook and go to the "Changes in the Sky" reading.

Read aloud or have your child read independently. You read this earlier, but now that you have observed the Moon for a month, it will convey new meaning. At the end, ask,

- When you look up at the sky, what do you see?
- Where do you see the Sun in the morning? [In the east.]
- Where do you see the Sun just before it gets dark? [In the west.]
- When do you see other stars in the sky? [At night.]
- When can we see the Moon? Does it look the same every day when we see it?