FOSS AIR AND WEATHER MODULE—WEEK 3

Hello Teachers and Families,

This package includes **Home/School activities for Air and Weather Investigation 3—Wind Exploration** 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.

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 3, A

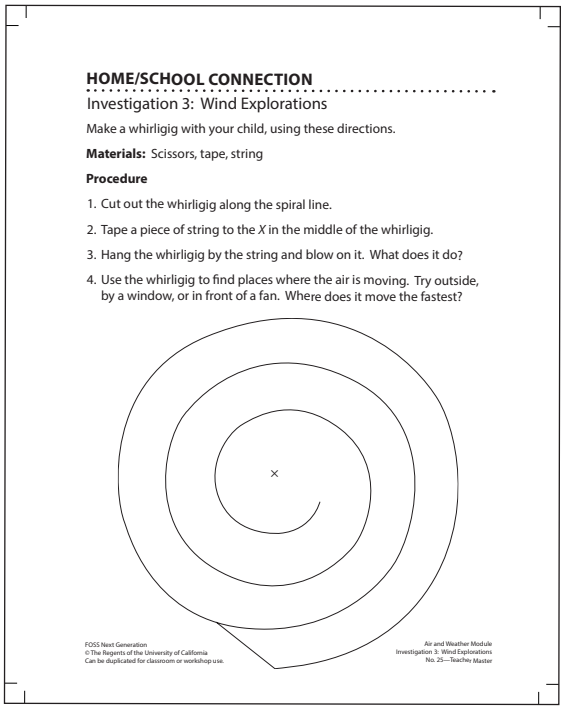
Investigation 3: Wind Explorations

Here are things to do at home with this investigation.

Look at the Home School Connection for Investigation 3. (See teacher master 25 on the next page.)

Whirligigs hang from strings and twirl as the air moves past. Students make whirligigs and hang them in a sheltered spot outside, inside near a fan, or by an open window. They look for locations where the air moves to make their whirligigs whirl.

Print teacher master 25, *Home/School Connection* for Investigation 3.



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 3: Wind Explorations

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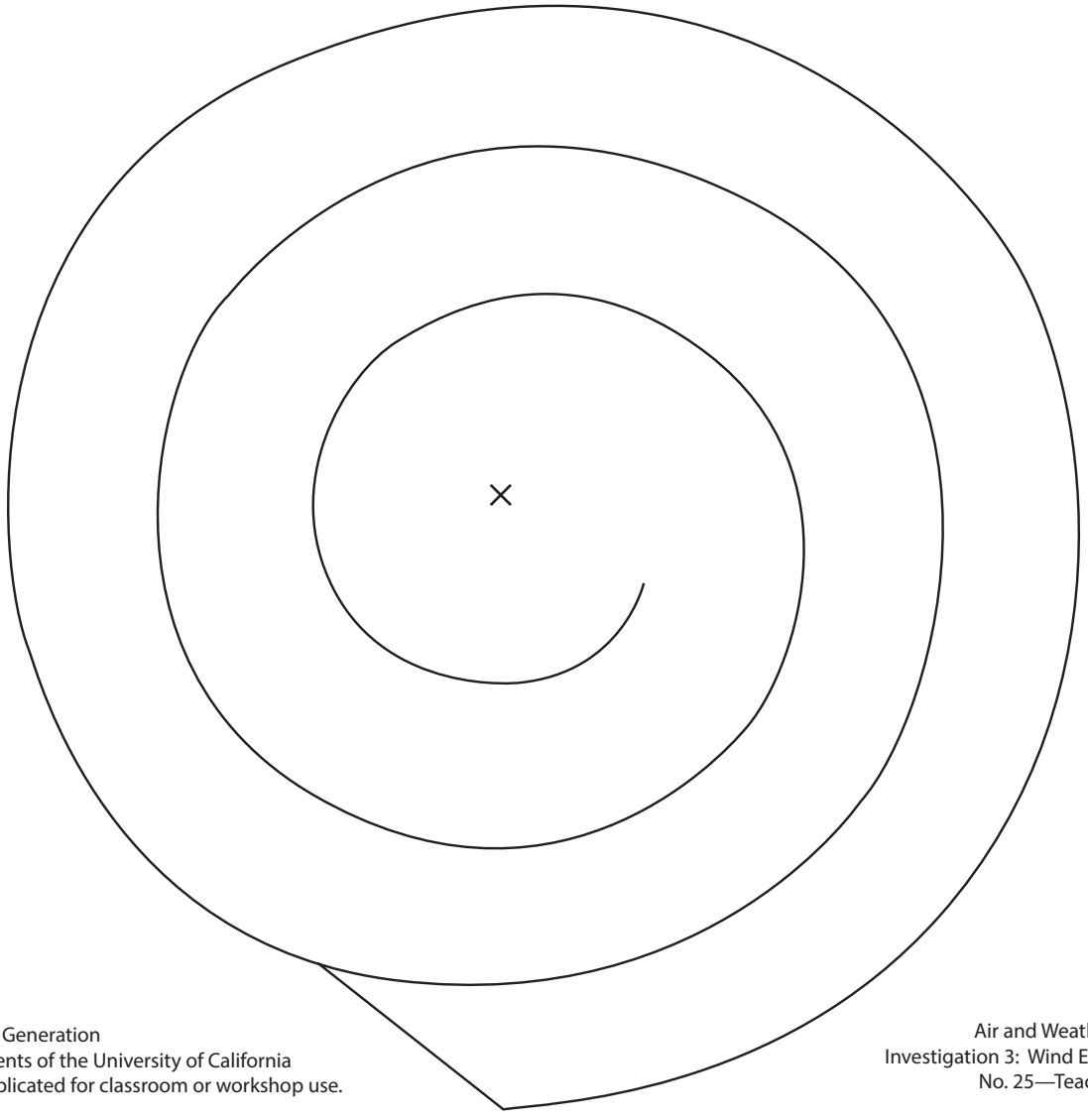


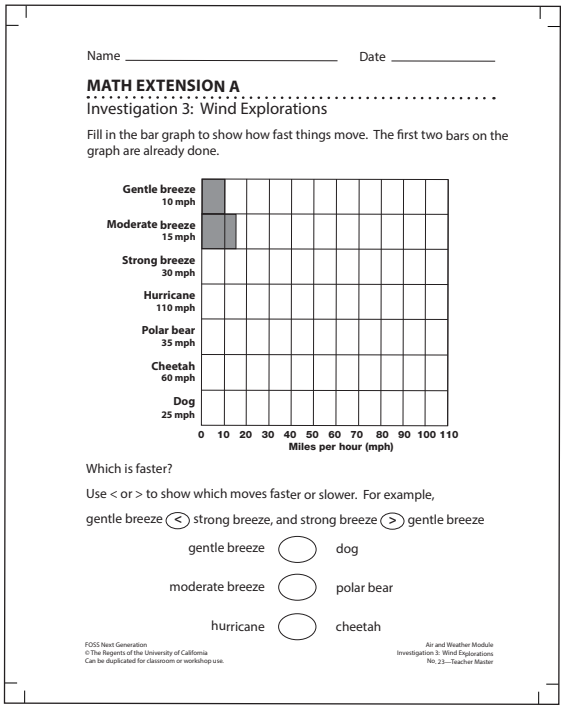
HOME/SCHOOL CONNECTION—WEEK 3, B

Investigation 3: Wind Explorations

Look at the Math Extensions for Investigation 3. (See Math Extension A, teacher master 23, on the next page.)

Math Problem A summary: Students are asked to create a graph comparing the speeds of animals and various wind classifications. They use the symbols < and > to compare the speeds of animals to wind classifications.

Notes on the problem. Students unfamiliar with the greater-than and less-than symbols could first circle the side that is faster, then add the symbol.



Name _____ Date _____

MATH EXTENSION A

Investigation 3: Wind Explorations

Fill in the bar graph to show how fast things move. The first two bars on the graph are already done.

Which is faster?

Use < or > to show which moves faster or slower. For example,

gentle breeze (<) strong breeze, and strong breeze (>) gentle breeze

gentle breeze ◯ dog

moderate breeze ◯ polar bear

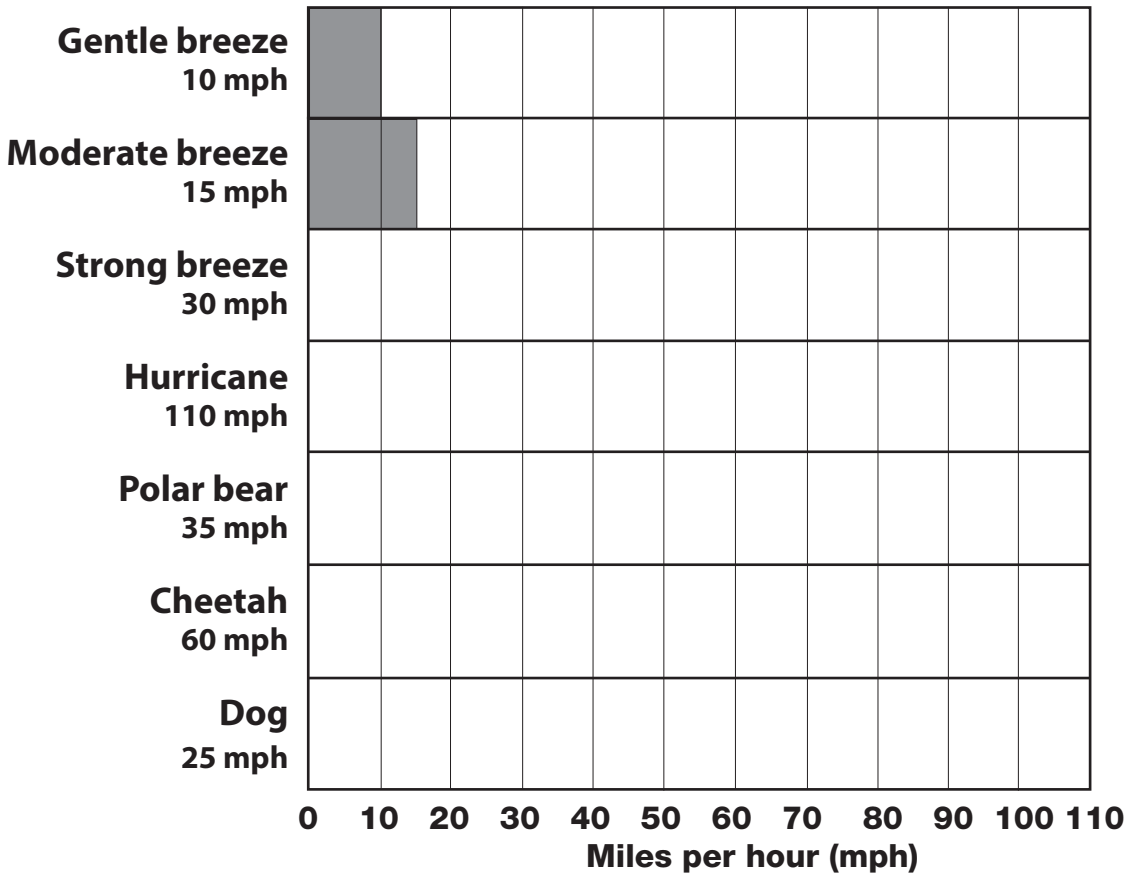
hurricane ◯ cheetah

Name _____ Date _____

MATH EXTENSION A

Investigation 3: Wind Explorations

Fill in the bar graph to show how fast things move. The first two bars on the graph are already done.



Which is faster?

Use < or > to show which moves faster or slower. For example,

gentle breeze (<) strong breeze, and strong breeze (>) gentle breeze

gentle breeze ( ) dog

moderate breeze ( ) polar bear

hurricane ( ) cheetah

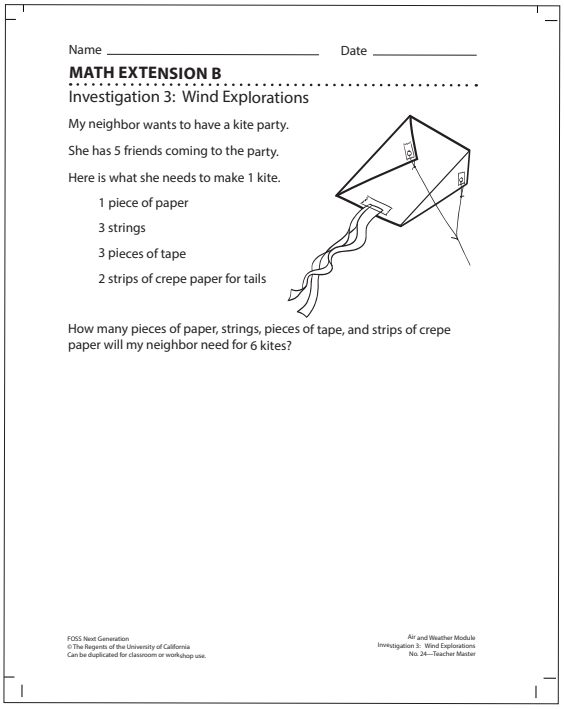
HOME/SCHOOL CONNECTION—WEEK 3, C

Investigation 3: Wind Explorations

Math Extensions B (See Math Extension B, teacher master 24, on the next page.)

Math Problems B summary: Students are asked to decide how many pieces of paper, string, tape, and crepe paper will be needed to make kites for a party.

Notes on the problem. Students can draw the kites, make tally marks, or use whatever paper-and-pencil strategy they choose in the space provided. You could provide manipulatives, such as craft sticks, string, and yarn, to represent the kite materials.



Name _____ Date _____

MATH EXTENSION B

Investigation 3: Wind Explorations

My neighbor wants to have a kite party.

She has 5 friends coming to the party.

Here is what she needs to make 1 kite.

1 piece of paper

3 strings

3 pieces of tape

2 strips of crepe paper for tails

How many pieces of paper, strings, pieces of tape, and strips of crepe paper will my neighbor need for 6 kites?

Name _____ Date _____

MATH EXTENSION B

Investigation 3: Wind Explorations

My neighbor wants to have a kite party.

She has 5 friends coming to the party.

Here is what she needs to make 1 kite.

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- 3 strings
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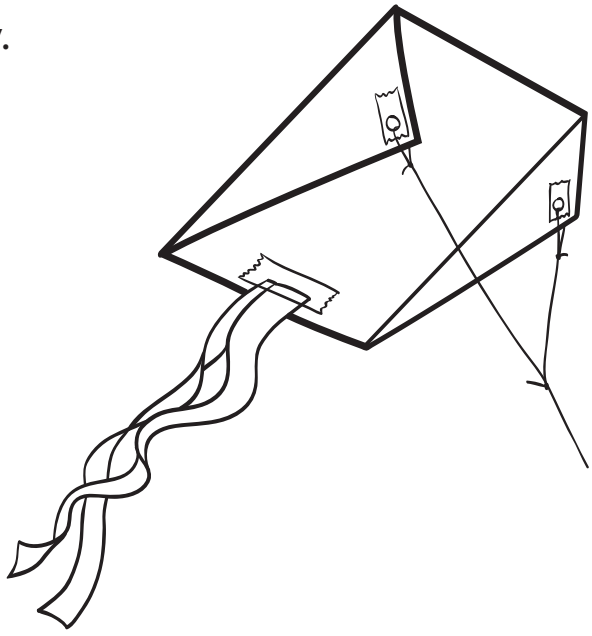

How many pieces of paper, strings, pieces of tape, and strips of crepe paper will my neighbor need for 6 kites?

HOME/SCHOOL CONNECTION—WEEK 3, D

Investigation 3: Wind Explorations

Read "Understanding the Weather" 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 "Understanding the Weather" reading.

Ask students why people want to know what the weather will be on a certain day. Explain that weather affects our actions (how we dress, what activities we do, and so on). Ask students how we find out what the weather will be.

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

Turn to the last page and have students read the "Thinking about" questions. Tell students that reading the questions beforehand is a good strategy to help them focus on the main topic and the key details of a text.

Read aloud or have your child read independently. As you (or they read), ask them to look out for weather conditions that they have observed.

At the end of the reading, you might ask

- What is a meteorologist? [A person who studies the weather.]
- What does a meteorologist do? [Uses instruments to get information about the weather. Measures the temperature, wind speed, and wind direction; watches clouds; and uses the information to predict what the weather will be.]
- Tell about different kinds of dangerous weather storms. [A tornado is a very windy storm. A hurricane is a windy storm with lots of rain. Hurricanes form over warm ocean water. Lightning comes from the clouds to the ground and lights up the sky.]

Engage with online activity

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.

Show them the *Wind Scale* poster (see the next page). Review the four wind classifications and the examples described on the poster: no wind or **calm**, **gentle breeze**, **moderate breeze**, and **strong breeze**.

- **"Wind Speed"**

This activity gives students an opportunity to review the descriptions of the four wind classifications.

WIND SCALE

NO WIND, OR CALM

Smoke goes straight up.
Leaves don't move.
Flags and kites don't move.

GENTLE BREEZE

Smoke drifts.
You can feel the wind on your face.
Leaves rustle.
Small twigs on trees bend.
Flags and kites flutter
or stand out and wave.

MODERATE BREEZE

Smoke moves in a direction.
Leaves blow across the ground.
Small tree branches move.
Flags wave and kites fly.

STRONG BREEZE

Smoke flows like a stream.
Leaves and other objects go flying.
Large tree branches shake.
Flags fly straight out and kites fly high.

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Delta Education

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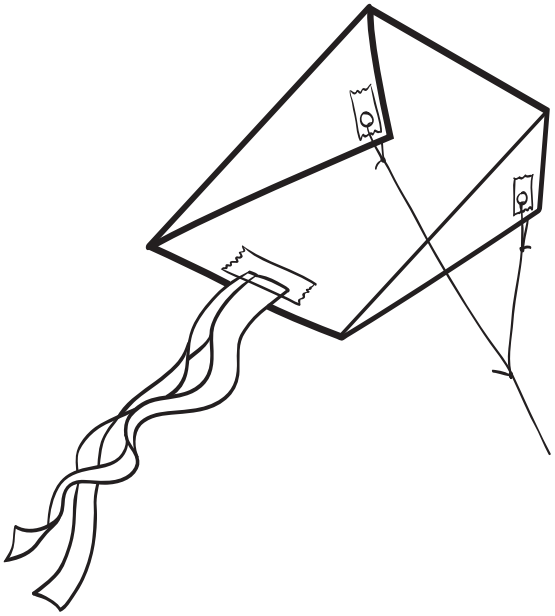
HOME/SCHOOL CONNECTION—WEEK 3, E

Investigation 3: Wind Explorations

Make Kites

You can make something that uses air—a kite. Ask your child how they think a kite uses air. Confirm that if the wind is blowing, it lifts the kite into the air. Tell them that they will get a chance to make a kite and try it out. Adult help is needed to make the kites.

There are two different patterns for making kites. You can make or both of them and compare how they fly.



Making Kite 1

Materials

- Kite pattern on paper (see next page, teacher master 21)
- Transparent tape
- Hole punch or sharp pencil (optional)
- String, light weight for bridle and flying line

2 Paper strips or ribbons for the kite tail (each about 25 cm or 10 in long)

- Scissors

Procedure for Kite 1

a. Cut out the kite pattern along the solid lines.

b. Optional: Stick a piece of transparent tape over the hole locations printed on the pattern. Use a hole punch or sharp pencil point to make the two holes. If you don't want to make holes, you can just tape the bridle to the hole locations (see Step d).

c. Fold the two sides of the kite in, along the dotted lines.

d. Tie one bridle string (35 cm, 14 in long) between the two holes (or just tape each end of the bridle string to the locations of the two holes.

e. Tie a flying line to the bridle string. The flight line should be about 125 cm or 4 ft.

f. Tape two strips of paper or ribbons to the kite for the tail (each about 2 X 25 cm or 1 in X 10 in)

g. Write your name on your kite. You're ready to fly.

(continued on next pages)

bridle string

fold

FOSS KITE 1

Tape tail here.

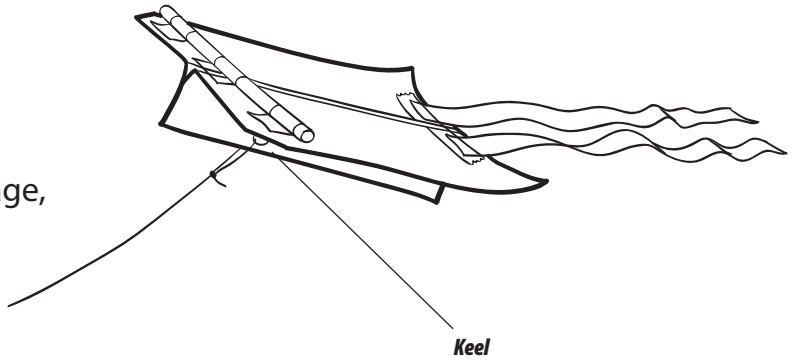
fold

bridle string

HOME/SCHOOL CONNECTION—WEEK 3, E (CONTINUED)

Investigation 3: Wind Explorations

Making Kite 2



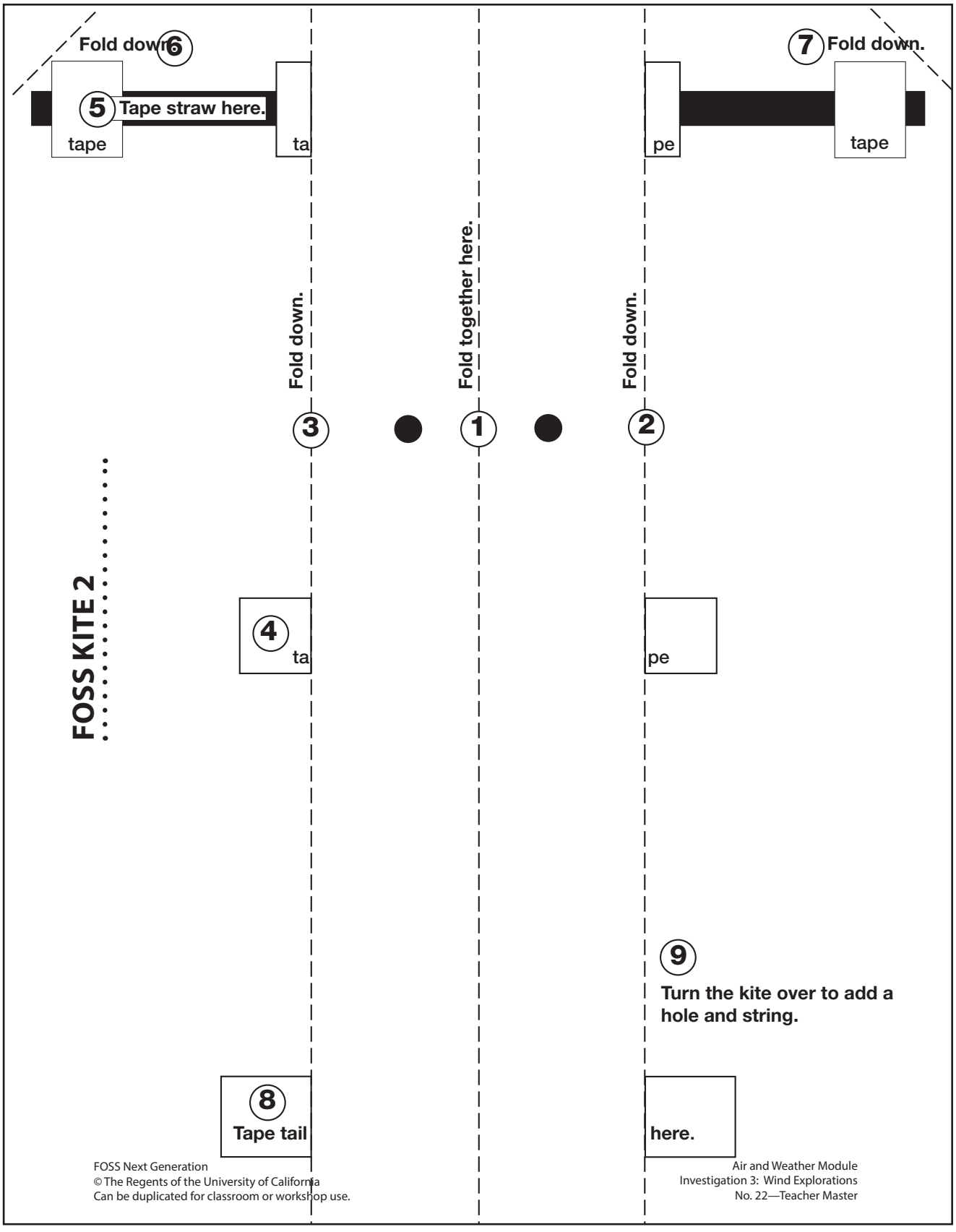
Materials

- Kite pattern on paper (see next page, teacher master 22)
- 1 Straw piece, about 13 cm (5 in.)
- Transparent tape
- Hole punch or sharp pencil to make a hole
- String, light weight for flying line, about 125 cm or 4 ft
- 2 Crepe paper or ribbons for the kite tail (each about 25 cm or 10 in long)
- Scissors

Procedure for Kite 2.

a. Fold the pattern together along line 1.
b. Fold the sides down at lines 2 and 3.
c. Place a piece of tape across the kite at box 4.
d. Tape the straw across the top of the kite at the three boxes labeled "tape."
e. Fold down the corners of the kite at numbers 6 and 7.
f. Tape two crepe-paper streamers to the kite at box 8 (each about 2 X 25 cm or 1 in X 10 in.
g. Turn the kite over. Look at the keel (through the folded paper) to locate the dark black dots that mark the hole for attaching the flight line. Place a piece of tape on both sides where you will punch this hole.
h. Use a hole punch to make a hole. If you don't have a hole punch you can use a sharp pencil point to carefully poke a hole.
i. Tie the flight light through the hole. This flight line should be about 125 cm or 4 ft. Write your name on the kite. Your kite is ready.

(continued on next page)



HOME/SCHOOL CONNECTION—WEEK 3, F

Investigation 3: Wind Explorations

Art Extension

Construct a wind catcher

Have your child create their own wind catcher.

Provide a variety of craft materials at a center: straws, crepe-paper scraps, paper, cardboard, plastic bags, string, yarn, thread, pipe cleaners, paper cups, paper plates, toothpicks, glue or tape, and fabric remnants.

After your child has completed the project, ask,

- Does it move? What makes it move?
- Why do you think this is a wind catcher?
- What do you think will happen if the wind blows really hard?