

LETTER TO PARENTS

SCIENCE NEWS

Dear Parents,

Our kindergarten class is beginning a science unit on animals. We will be observing and comparing four pairs of animals over the next several weeks: two kinds of fish (guppies and goldfish), two kinds of snails (land snails and water snails), two kinds of earthworms (red worms and night crawlers), and two kinds of isopods (pill bugs and sow bugs). We will learn how to handle these interesting animals carefully and will all participate in the care and feeding of our animal visitors. So be prepared; your child may come home with lots of questions and stories about animals. Visit the FOSS website for more information on our Module *Animals Two by Two*. (www.fossweb.com/CA)



You can help your child learn about animals by taking walks in your neighborhood to look for animals and by talking about animals in and around your home—everything from pets to insects. We will be discussing differences and similarities in the structures and behaviors of the animals we investigate and starting to develop the important attitudes of respect for life and a sense of responsibility for living organisms.

Sincerely, _____

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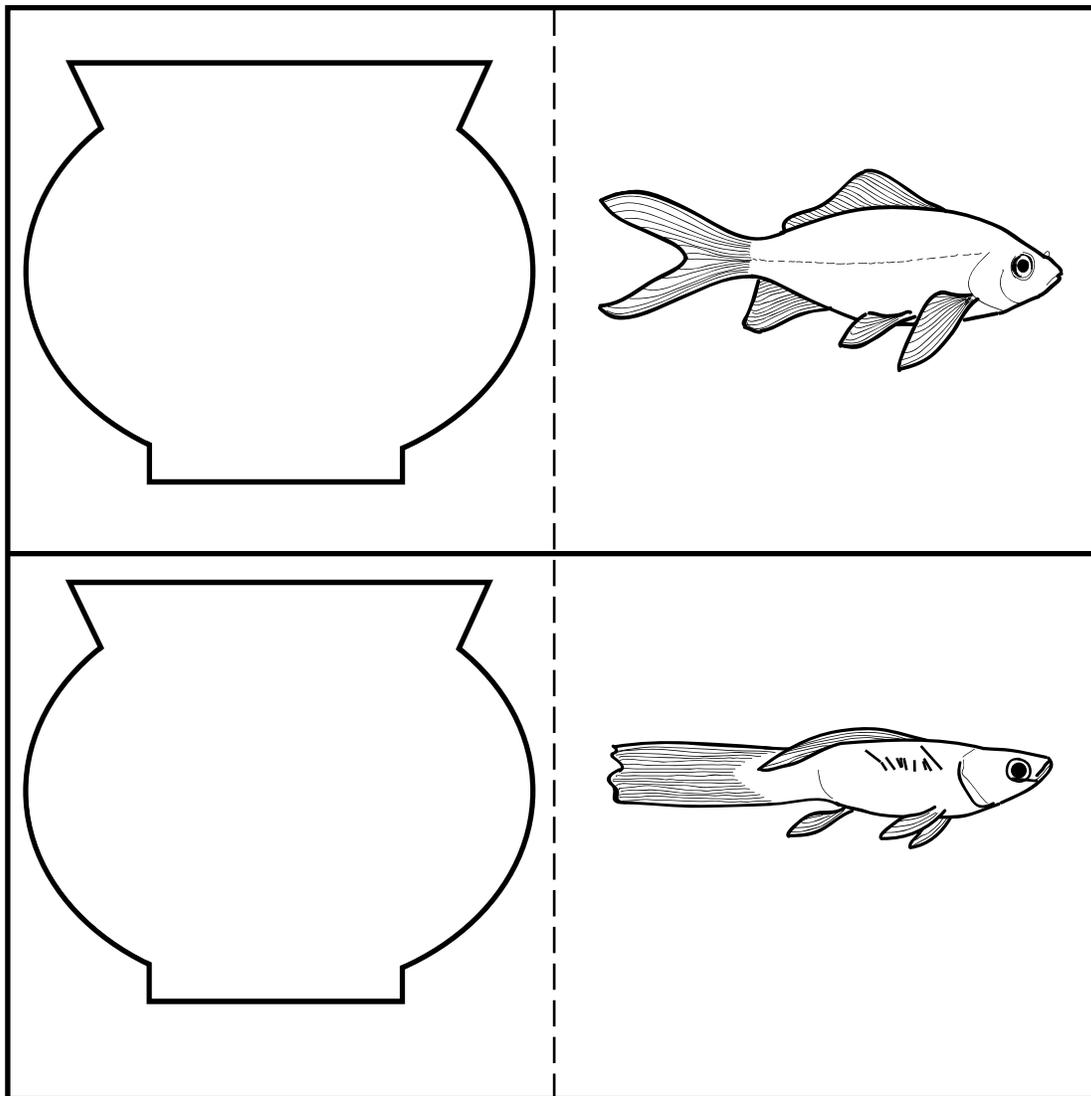
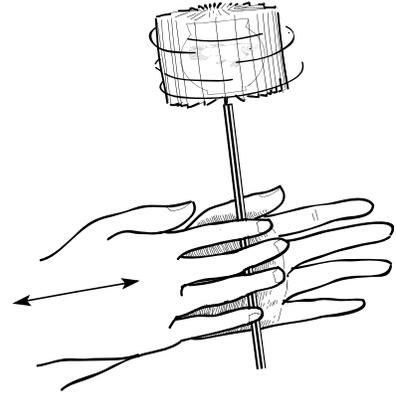
Sincerely, _____

HOME/SCHOOL CONNECTION

INVESTIGATION 1: GOLDFISH AND GUPPIES

The pictures below will make two fish-in-a-bowl twirlers, one with a goldfish and one with a guppy. Cut on the solid lines, so that you have two strips, each with a bowl on the left side and a fish on the right. Color the bowl and the fish. Fold each strip in half along the dotted line, so that the pictures are back to back. Push a straw or pencil up between the two picture backs and securely tape it in place. Be sure the straw or pencil spans the full length of the picture.

Hold the straw or pencil between your palms with the pictures up, spin the straw back and forth, and watch the picture. An optical illusion makes the fish look as if it were in the bowl.



HOME/SCHOOL CONNECTION

INVESTIGATION 2: LAND AND WATER SNAILS

Students have had several experiences closely observing animals' behaviors at the science center in the last few weeks. Play a game of animal "charades" with your child at home. Each person takes a turn at imitating the behavior of any animal he or she chooses. The rest of the family guesses what the animal is. If hints are required, guessers may only ask questions that can be answered by simple yes or no answers.

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HOME/SCHOOL CONNECTION

INVESTIGATION 3: BIG AND LITTLE WORMS

Fun Facts about Earthworms to Read to Children

Earthworms are often thought of as very lowly creatures—slimy, dirty, and unappealing. But in fact, earthworms are very important creatures in many ways. The tunnels that earthworms make help keep soil loose, and make it better for plants to grow. Water can travel through the soil better, and plants can grow their roots deeper.

To learn more about earthworms, have your child cut out the questions and answers below. Read aloud all of the questions, then read each answer and work together to decide which question it answers. Have your child glue the questions and answers on another sheet of paper, matching each answer to its question.

1. Q: How big can earthworms get?

A: As earthworms burrow, they produce a covering of mucus. This helps them move through the soil. As the mucus is rubbed off, it cements the walls of the tunnel. The mucus also helps the earthworm slip away from animals that would like to eat it for dinner.

2. Q: Why are earthworms so moist?

A: Earthworms don't have eyes, but they are sensitive to light.

3. Q: How do earthworms breathe?

A: The smallest earthworm is barely an inch long. The largest is an 8-foot giant that lives in Australia.

4. Q: Do earthworms really eat dirt?

A: As earthworms make their tunnels through the soil, they take in food that is mixed with dirt. Some of the sand in the soil acts as grinding stones in the worm's gizzard. The soil that is not good for food passes through the earthworm. It is left behind as a casting.

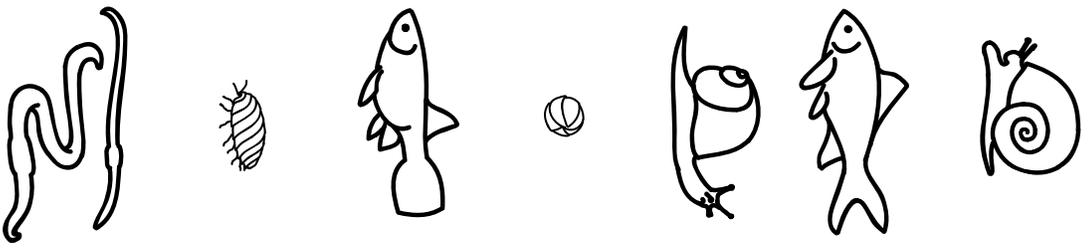
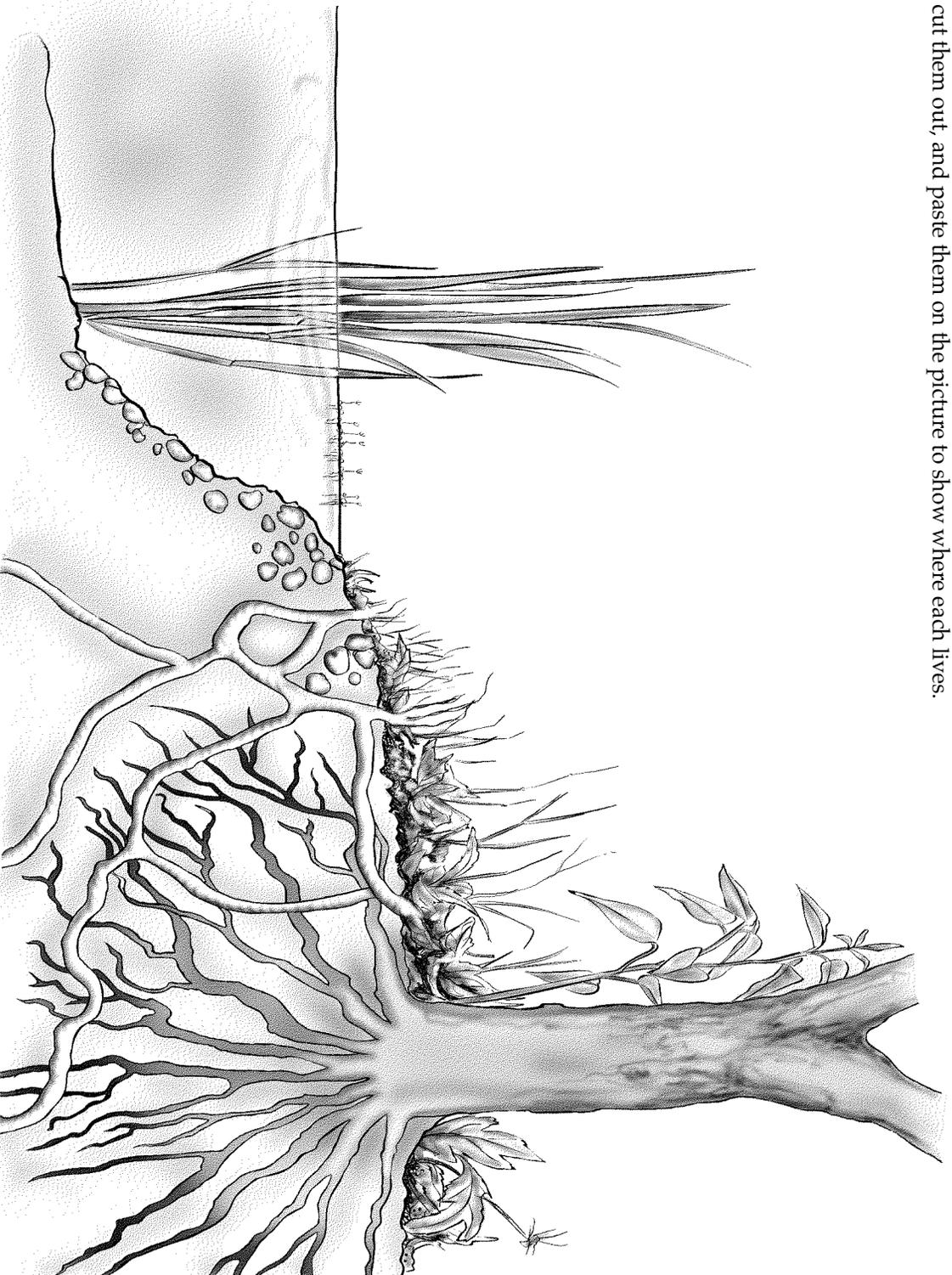
5. Q: How do earthworms see?

A: Worms need to breathe just like people, but they don't have noses. The air goes right through their skin.

HOME/SCHOOL CONNECTION

INVESTIGATION 4: PILL BUGS AND SOW BUGS

Have your child look at the picture below. Have them color the different animals on the right, cut them out, and paste them on the picture to show where each lives.



FOSS Animals Two by Two Module
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Investigation 4: Pill Bugs and Sow Bugs
No. 27—Teacher Sheet

LETTER TO PARENTS

SCIENCE NEWS

Dear Parents,

Our kindergarten class is beginning a science unit called *Trees*. We will be observing and comparing the trees in our schoolyard. We will also be caring for a live tree in the classroom and planting it in a few weeks. Your child may come home with lots of information and questions about trees and their parts.

You can join in the tree study by taking your child for walks in your neighborhood to observe trees and other plants and to compare how they are alike and how they are different. For example, see if you can find two trees of the same kind. How were you able to tell they were the same kind? Which trees lose their leaves in the fall and which keep them all year? Look closely at the leaves. What shape are they? Do the trees have buds, flowers, fruit, or seeds? By making this close examination of trees, you might notice things about trees that you never thought about before.

Your child's homework assignment is to gather some tree leaves to press at school. Please help your child gather six or eight leaves. Put them in a small plastic bag to keep them fresh on the way to school. Thank you.

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HOME/SCHOOL CONNECTION**INVESTIGATION 1: FALL TREES**

Read this out loud with your child, then do the activity together.

Think of a place near your home where there are trees. This should be a place where there are not too many trees to count. Your street, block, yard, or neighborhood park might be good choices. Without looking, guess how many trees there are. Ask everyone in your family to guess the number of trees.

_____ thinks there are _____ trees.

Next, go outside together and count the trees. Look at the kinds of trees you find.

Compare the bark, the leaves, and the shapes of the trees. Answer these questions.

- How many trees did you find?
- How many different kinds of leaves did you find?
- What kind of animals did you find living in the trees?
- What did you find around the trees?

Record what you saw.

We counted _____ trees.

We found _____

HOME/SCHOOL CONNECTION

INVESTIGATION 2: LEAVES

Play What's My Leaf?

Number of players

2 or more—the more the merrier

Materials

8 leaves that have fallen from the same kind of tree

1 bag

Game 1: Spread out your leaves on a table and take a good, long look at them. Each player chooses one leaf. Compare the leaves. Discover what makes your leaf different from all the other leaves. Is it the smallest? Is it the biggest? Does it have a special spot or mark on it? Does it have an unusual edge or shape? When all players are sure they know how their leaf differs from all the others, everyone returns their leaf to the bag. Mix up the pile gently and spread them out again. Take turns finding your leaf.

To make the game easier, start with the same number of leaves as players.

To make the game more difficult, add a new leaf each time you play.

What makes your leaf special? Draw it here.

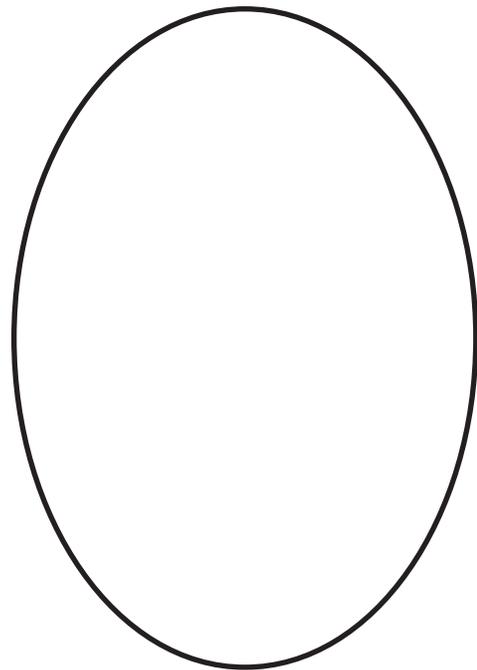
Game 2: Player 1 chooses a leaf from the group of leaves on the table, but doesn't tell anyone which leaf it is. The other players then try to guess which leaf player 1 has chosen, by asking questions that can be answered yes or no.

HOME/SCHOOL CONNECTION**INVESTIGATION 3: TREES THROUGH THE SEASONS**

Adopt a tree! At school, we have adopted a tree to observe through the seasons. You can do the same with a tree in your neighborhood. A good tree to choose is one that you can easily visit. Maybe there is a tree that you walk by every day. Get to know your tree. What shape is it? Feel its bark. Can you reach around the tree? Look at its leaves. Does anything fall from your tree? Are there any clues that any animals live in or visit your tree? A piece of yarn or string can mark a twig on your tree, so you can look for any changes that happen to the twig in the winter, spring, summer, or fall. Enjoy your tree; no other tree is exactly like it.

This is my tree in the _____ .

(fall, winter, spring, or summer)



(Draw a leaf or twig of your tree here.)

LETTER TO PARENTS

SCIENCE NEWS

Dear Parents,

Our kindergarten class is beginning a study of wood and paper. We will be looking at the properties of wood and paper (texture, color, absorbency, flexibility, etc.) and how different kinds of wood and paper are alike and different. Then we will investigate how wood and paper can be processed as we sand wood, make simulated plywood, recycle paper, and laminate wood and paper strips into simulated plywood and papier-mâché bowls. Finally, we will use what we have learned about the properties of materials to make constructions (weaving, taking apart boxes, and making sculptures).

The children need to bring one or two empty paper boxes (cereal boxes, cracker boxes, paper-clip boxes, or other small boxes) to school by _____(date).

We can also use your help to gather scrap paper and wood scraps for making our final projects. Fabric scraps will also be used. We welcome contributions of interesting paper to share (wrapping paper, crepe paper, wallpaper, tissue paper, etc.) and fabric samples. Please send paper scraps by _____(date). We will be needing a variety of small pieces of scrap wood and fabric by _____(date).

After students do the various activities in the module, they may ask you to help them do things at home, such as temporarily label things with the word “paper” or “wood,” waterlog a stick, take boxes apart and tape them back together, or make collages, usable envelopes, drinking cups, and paper hats. You can help by making the materials available and letting your child create.

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HOME/SCHOOL CONNECTION

INVESTIGATION 1: GETTING TO KNOW WOOD

At school, we took a close look at five different kinds of wood to discover all the ways they were alike and different. Students got to know them so well that they went on a hunt in the room, searching for a wood sample that matched their own. Along the way, they discovered many things that are made from wood. Here are two ways to practice the vocabulary and observation skills your child is developing.

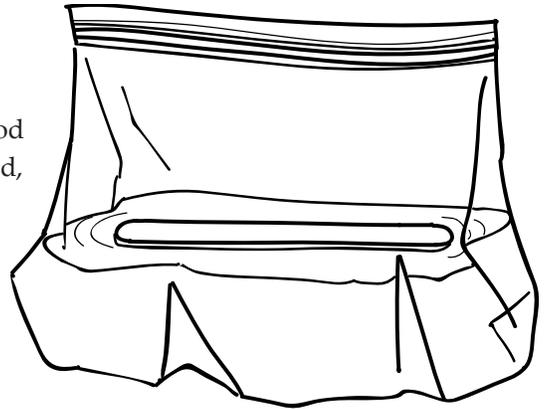
- Play “I’m thinking of something that is made of wood and it is (round, big, painted, flat...)” Take turns describing and identifying wood in use around your home or out in the neighborhood.
- Have your child search for four different ways wood is used around your home or neighborhood. Have him or her draw and label the four uses using the labels below.

This is made of wood.	This is made of wood.
This is made of wood.	This is made of wood.

HOME/SCHOOL CONNECTION

INVESTIGATION 2: CHANGING WOOD

We have been investigating what happens when water and wood come together. We've dropped water on different kinds of wood, floated wood, and sunk wood. One discovery we made was that tiny pieces of wood can become waterlogged. We are wondering if larger pieces of wood will become waterlogged, too. Here is one way to find out.



MATERIALS

- 2 Craft sticks
- 1 Plastic zip bag or bowl
- Water

INVESTIGATION

1. Fill a zip bag or bowl about one-third full of water.
2. Float the craft stick in the water. Leave the bowl or bag out where you can see it. If you have a bulletin board, the zip bag can be tacked to it.
3. See how long the stick takes to become waterlogged. Ask your child how he or she will know if it is waterlogged. (It will sink to the bottom. This might happen as quickly as overnight or take a week or more.)

HOME/SCHOOL CONNECTION

INVESTIGATION 3: GETTING TO KNOW PAPER

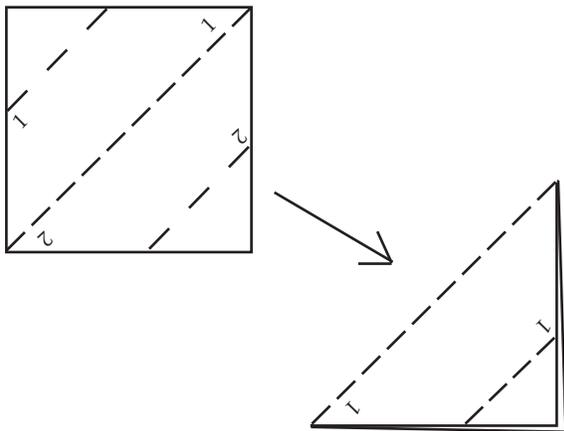
At school, we have begun to investigate the properties of paper. Recently, we compared how easily different kinds of paper can be folded. Not all are alike! Here is a paper-folding project you can do together. If you have more than one kind of paper available, it would be interesting to make a cup from both papers and compare the two.

MATERIALS

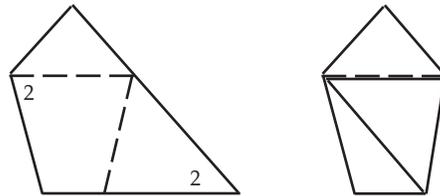
- 1 Drinking-cup pattern
- 1 Scissors (optional)

CONSTRUCTION

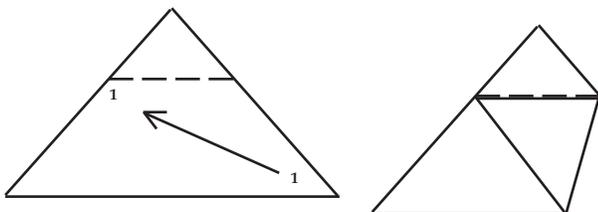
1. Cut the top off the pattern sheet.
2. Fold the sheet on the middle line that runs from corner to corner. The other lines should be on the outside, not folded in.



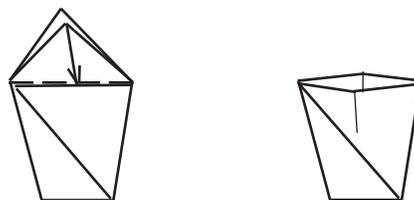
5. Flip the folded paper over, and follow the same procedure, this time matching the 2s.



3. Lay the sheet on the table, so that the long side is closest to you and the number 1s are showing.
4. Fold the number 1 on the long side up to the number 1 in the middle of the other side. Fold so the edge of the paper is parallel to the small dotted line.



6. Separate the two triangle flaps at the top of the cup. Tuck one into each of the pockets formed by the previous two folds. Open the cup, fill it with water, and drink up!



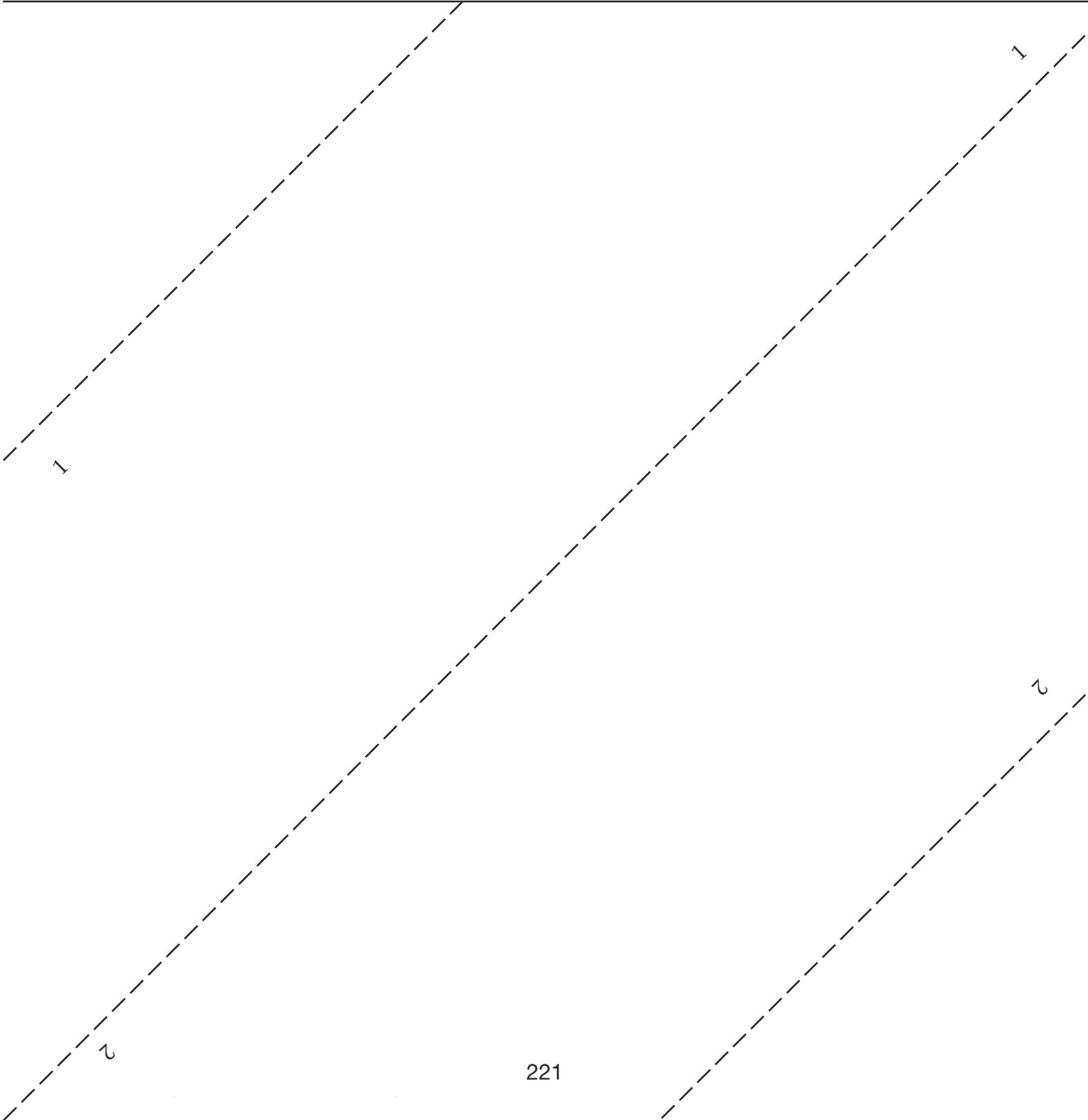
HOME/SCHOOL CONNECTION

DRINKING-CUP PATTERN

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Investigation 3: Getting to Know Paper
No. 25—Teacher Sheet

Cut on this line.



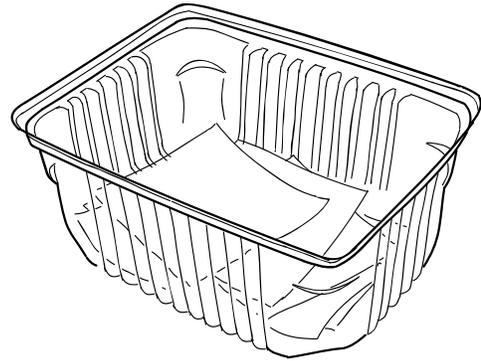
HOME/SCHOOL CONNECTION A

INVESTIGATION 4: CHANGING PAPER

Making a collage of all kinds of paper is a fun way to explore and compare the many properties different papers have. Your child will get the most from this activity if he or she has collected a wide variety of paper. Crepe paper, tissue, wallpaper, wrapping paper, and cardboard are all good choices. Little scraps are all that is needed, but take the time to gather an interesting collection.

MATERIALS

- Paper to use as a base (Construction paper works best.)
- Variety of paper scraps
- Glue
- Scissors
- Stapler (optional)



CONSTRUCTION

1. Cut a paper square to be used as a base for the collage. Experiment a bit together with different ways of using the paper scraps you have collected. Try tearing the paper; not all paper tears the same. Try curling different kinds of paper. There are many ways to bend or fold paper; accordion-folded paper makes nice pop-out effects. Sprinkle water on paper to see the effect; crepe paper has an especially interesting reaction to water drops.
2. Once the exploration process has sparked ideas, let your child begin making a collage, and provide little guidance. Encourage him or her to cover the entire paper base. Here are some questions to guide discoveries.
 - *Are all of the pieces of paper easy to cut or tear? Which are more difficult and why?*
 - *How many different kinds of paper are on your collage?*

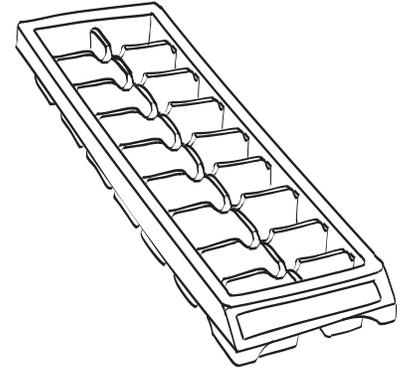
REMINDER

We will be making sculptures using paper and wood soon and could use any leftover scraps of interesting paper. We would appreciate any contributions for our collection. Thanks.

HOME/SCHOOL CONNECTION B

INVESTIGATION 4: CHANGING PAPER

Students have put cups of water and plastic bags of water in a freezer overnight to observe that water can be a liquid or solid and changes back and forth from one form to another. You can provide more experiences with freezing and melting water at home. Your child could take the water out of the freezer as it is turning to a solid and observe how the ice forms. As an alternative to freezing water, you could freeze fruit juice in clean containers so your child can drink it after it melts.



MATERIALS

- Ice-cube tray
- Plastic containers of various kinds
- Freezer
- Water or fruit juice

INVESTIGATION

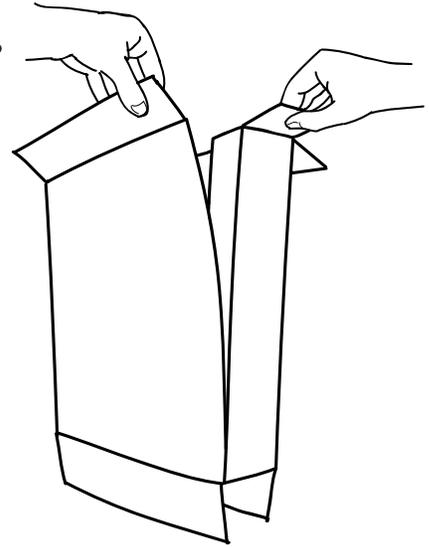
1. Have your child put water and/or fruit juice in an ice-cube tray or in other plastic or metal containers. Do not use glass for safety reasons.
2. Put the container of liquid in the freezer.
3. Remove it after an hour and see what is happening. Then put it back in the freezer.
4. The next day, remove the container and observe. Leave the container at room temperature and see how long it takes to melt.

HOME/SCHOOL CONNECTION

INVESTIGATION 5: CONSTRUCTIONS

Now that we know about the properties of wood and paper, we've been exploring how those properties are useful when it comes to making things. Here are two ways to continue the investigating at home.

- Take apart boxes and put them back together. Before tossing out an empty box of any kind, pass it over to your scientist-son or -daughter. Let your child carefully take it apart at the seams and unfold it to discover the interesting shapes that packaging can take. Provide a little tape, and let your scientist reassemble it. Cardboard tubes are also interesting to disassemble.
- Make an envelope that can be sent to someone in the family. Here's how.



MATERIALS

Envelope pattern	Sticker or stamp (optional)
Scissors	Roll of transparent tape
Writing paper	Scrap paper, 3" x 5"
Glue or glue stick	
Crayons, pencils, or markers	

CONSTRUCTION

1. Have your student cut out the envelope pattern, cutting on the *solid lines only*.
2. Turn the pattern face down. Carefully fold the flaps on the dashed lines. Fold flap number 1 first, then flaps 2, 3, and 4.
3. Lay a piece of scrap paper inside the envelope. Put glue on the areas labeled "glue." Glue the envelope together. Take the scrap paper out.
4. Get a paper and pencil to write (draw) a letter to someone in the family. Once the letter is written, the challenge is to fold it to fit inside the envelope. Seal the envelope with transparent tape. Help your child address it, stamp it, and send it off.
5. Take apart other envelopes to see if they are made the same way.

HOME/SCHOOL CONNECTION

ENVELOPE PATTERN

