

# LETTER TO FAMILY

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## Science News

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Dear Family,

Our class is beginning a study of materials and motion. As materials engineers, we will be studying the properties of different kinds of wood, paper, and fabric. We'll investigate how wood and paper can be processed into products. We'll sand wood, make simulated plywood and particleboard, recycle paper, and make papier-mâché bowls. We will study how fabrics are made and discover how they interact with water. We will focus on the reuse and recycling of materials to conserve natural resources. We will be setting up a recycling center in our classroom. You can enrich this experience by having your child participate in the recycling of paper, metal, glass, and plastic at home.

Help us by gathering wood scraps and interesting and colorful paper and fabric discards for making our structure design project. Please send wood, paper, and fabric scraps by \_\_\_\_\_ (date).

We will also investigate motion—how to get something to start moving and make it stop. We will change the strength of pushes and pulls on rolling objects to see how that affects speed, and look at how we can modify direction of moving objects to meet goals.

After we do the various activities in class, your child may ask you to help him or her do things at home, such as temporarily label objects with “paper” or “wood”; waterlog a stick; take boxes apart; or make collages, envelopes, drinking cups, or paper hats. You can get more information on this module by going to [www.FOSSweb.com](http://www.FOSSweb.com).

Sincerely,



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Sincerely,



# HOME/SCHOOL CONNECTION A

## Investigation 1: Getting to Know Wood

At school, we took a close look at five kinds of wood to discover all the ways they were alike and different. Students got to know the wood so well that they went on a hunt in the room, searching for wood samples 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.

- Give a clue: “I’m thinking of something that is made of wood, and it is (use descriptive words, such as *round, big, painted, flat*).” Take turns describing and identifying wood in use around your home or in your neighborhood.
- Have your child search for four different ways that wood is used around your home or neighborhood. Have him or her label the objects using the labels below (cut them from the sheet) and draw each object in one of these boxes.

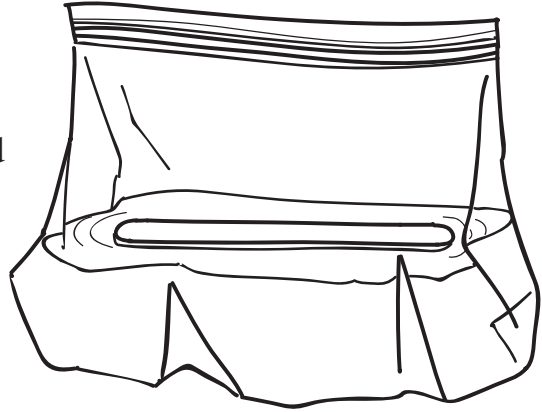

This is made of <b>wood.</b>	This is made of <b>wood.</b>
This is made of <b>wood.</b>	This is made of <b>wood.</b>

# HOME/SCHOOL CONNECTION B

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## Investigation 1: Getting to Know 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

- 1 Craft stick
- 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, you can tack the zip bag 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 might take a week or more.)

# HOME/SCHOOL CONNECTION A

## Investigation 2: 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.

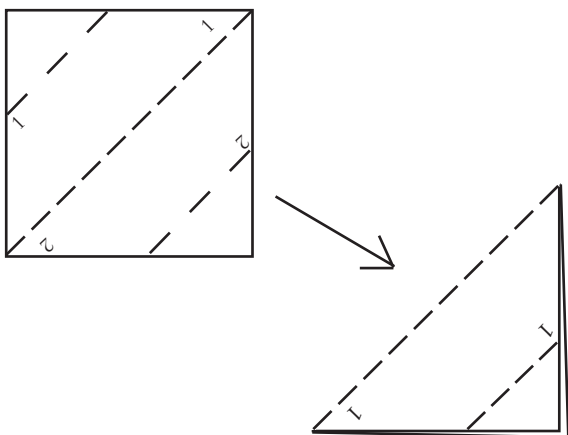
### Materials

Drinking-cup pattern (Home/School Connection B)

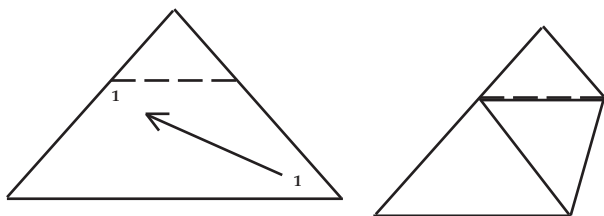
Scissors

### 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.



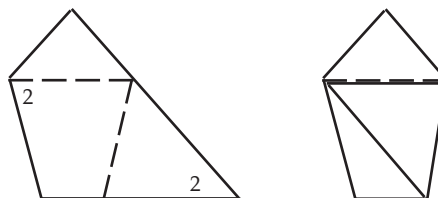
3. Lay the sheet on the table so the long side is closest to you, and the number 1s are showing.



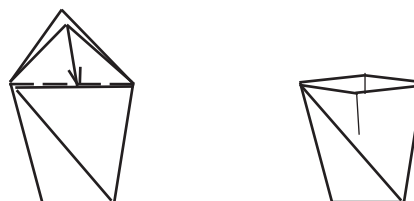
4. Fold the number 1 on the long side up to the number 1 in the middle of the other side. Fold so the edge of the paper is parallel to the short dotted line.



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



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!



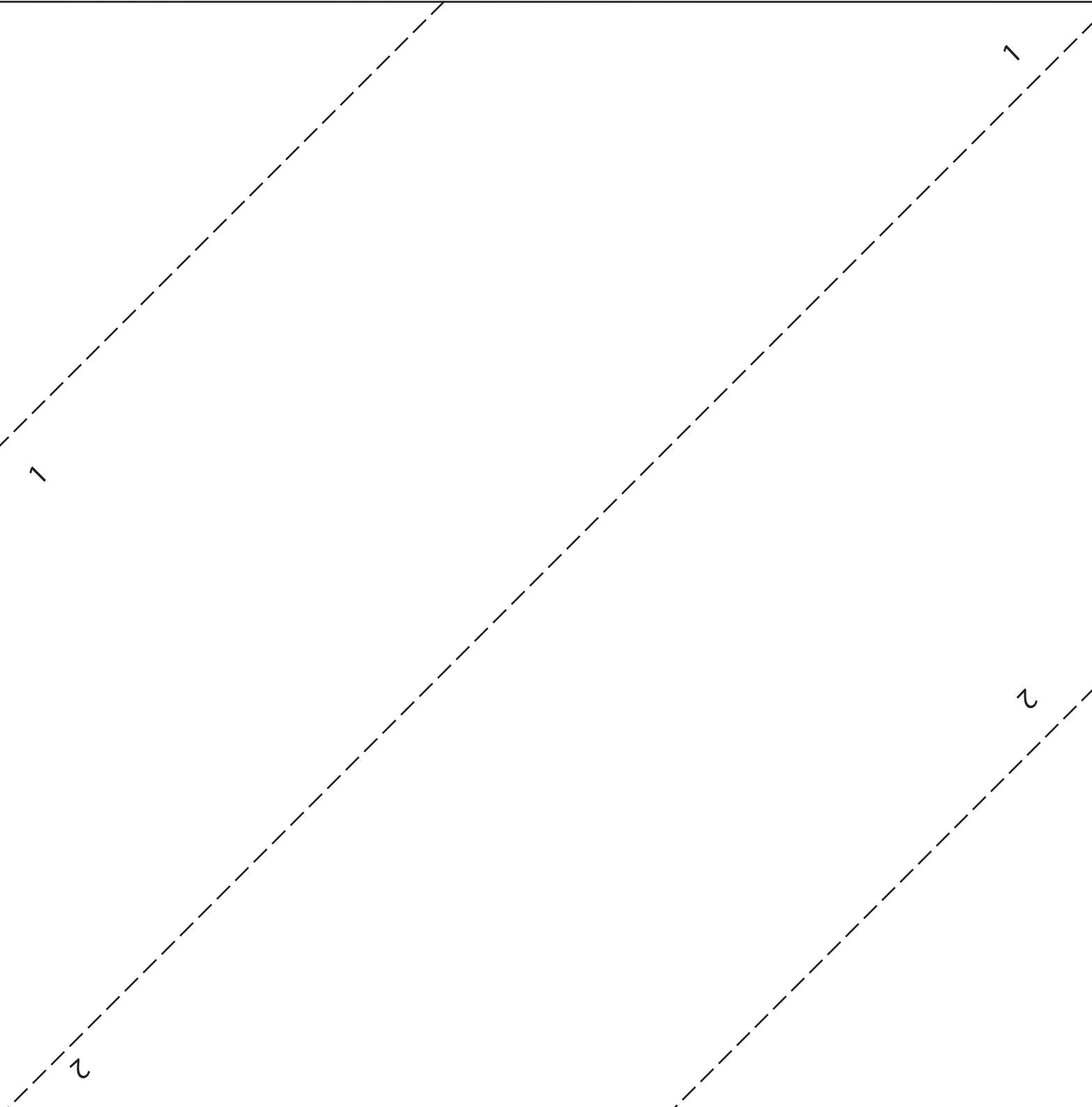
# HOME/SCHOOL CONNECTION B

## Investigation 2: Getting to Know Paper

FOSS Next Generation  
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Can be duplicated for classroom or workshop use.

Materials and Motion Module  
Investigation 2: Getting to Know Paper  
No. 27—Teacher Master

Cut on this line.



# HOME/SCHOOL CONNECTION C

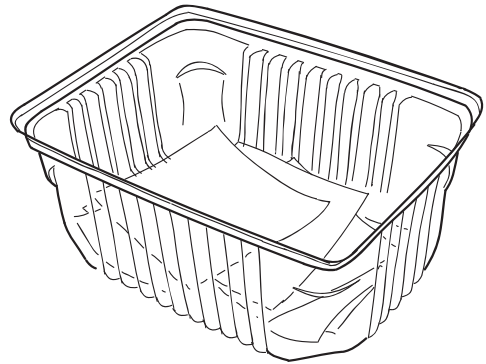
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## Investigation 2: Getting to Know Paper

Making a collage of different kinds of paper is a fun way to explore and compare the many properties of different papers. Your child will get the most from this activity if he or she has collected a wide variety of paper. Crepe paper, tissue paper, 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

- Variety of paper scraps
- Glue
- Scissors
- Stapler (optional)
- Construction paper



### 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 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 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. Thank you.

# HOME/SCHOOL CONNECTION

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## Investigation 3: Getting to Know Fabric

At school, we have been using our senses to observe the many ways that fabrics differ. We have also looked around to see where fabrics are used. Here are two ways to practice the vocabulary and skills your child is developing.

- Give a clue: “I’m thinking of something that is made of fabric, and it is [blue, soft, striped].” Take turns describing and identifying fabrics in use around your home.
- Have your child search for four different ways that fabric is used around your home or neighborhood. Have him or her draw and label the four uses for fabric.


## HOME/SCHOOL CONNECTION

### Investigation 4: Getting Things to Move

In science class we have been studying things that move. We have investigated things that roll, like balls, wheeled toys, and other round objects. We are also interested in other kinds of motion—swinging (pendulums and play swings) and spinning (pinwheels and fans).

Take a few minutes to tour your home with your student to make a list of objects and systems that display one or more classes of motion. Talk about how things move.

Another activity you could engage in together would be to look through some catalogs and newspaper advertising circulars for images of moving objects—home appliances (mixers, blenders, clothes washers and driers), tools (drills, saws, and sanders), and toys (skateboards, wagons, bicycles, etc.). Cut out the images and make a “things that move” collage to take to school to share.