LETTER TO FAMILY

Science News

Dear Family,

Our class is beginning a study of materials. We will be studying the properties of wood, paper, fabric, soil, and rock and how different materials are alike and how they are different. 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. For several weeks, we will be materials scientists.

During our materials study, 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.

We can also use help gathering wood scraps and interesting and colorful paper and fabric discards for making our final projects. Please send wood, paper, and fabric scraps by _____ (date).

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 help by making a few simple materials available and letting your child be creative.

Sincerely,

FOSS

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HOME/SCHOOL CONNECTION

Investigation 1: Getting to Know Wood

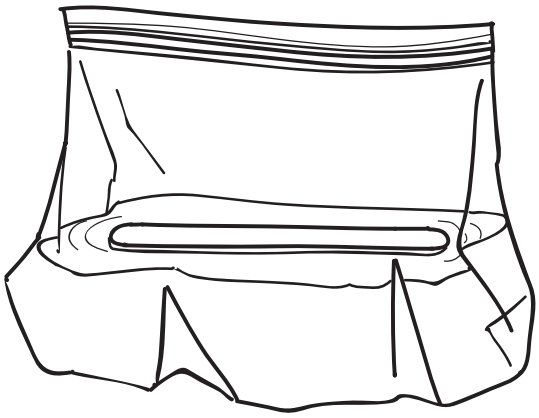
At school, we took a close look at five kinds of wood to discover all the ways they were alike and different. Students got to know the wood so well that they went on a hunt in the room, searching for wood samples that matched their own. Along the way, they discovered many things that are made from wood. 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 **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, 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 3: Getting to Know Paper

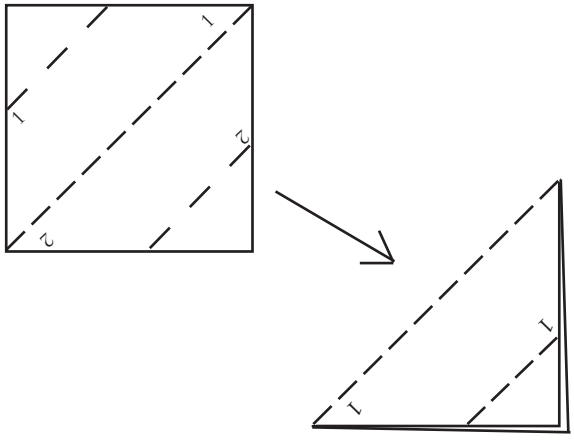
At school, we have begun to investigate the properties of paper. Recently, we compared how easily different kinds of paper can be folded. Not all are alike! Here is a paper-folding project you can do together. If you have more than one kind of paper available, it would be interesting to make a cup from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

Materials

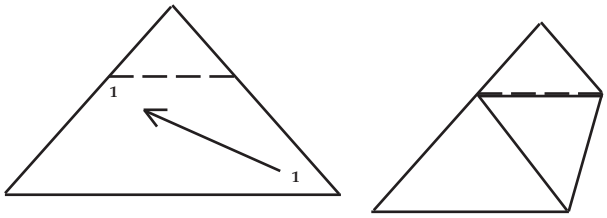
Drinking-cup pattern (Home/School Connection B)
Scissors

Construction

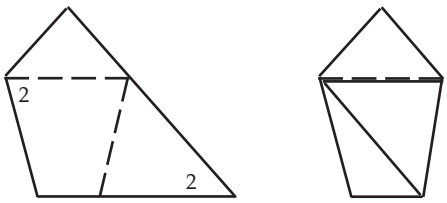
1. Cut the top off the pattern sheet.
2. Fold the sheet on the middle line that runs from corner to corner. The other lines should be on the outside, not folded in.



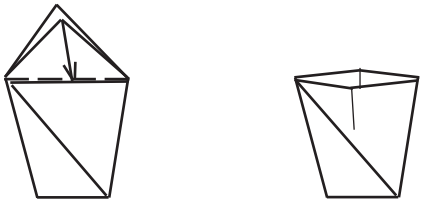
3. Lay the sheet on the table so the long side is closest to you, and the number 1s are showing.



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



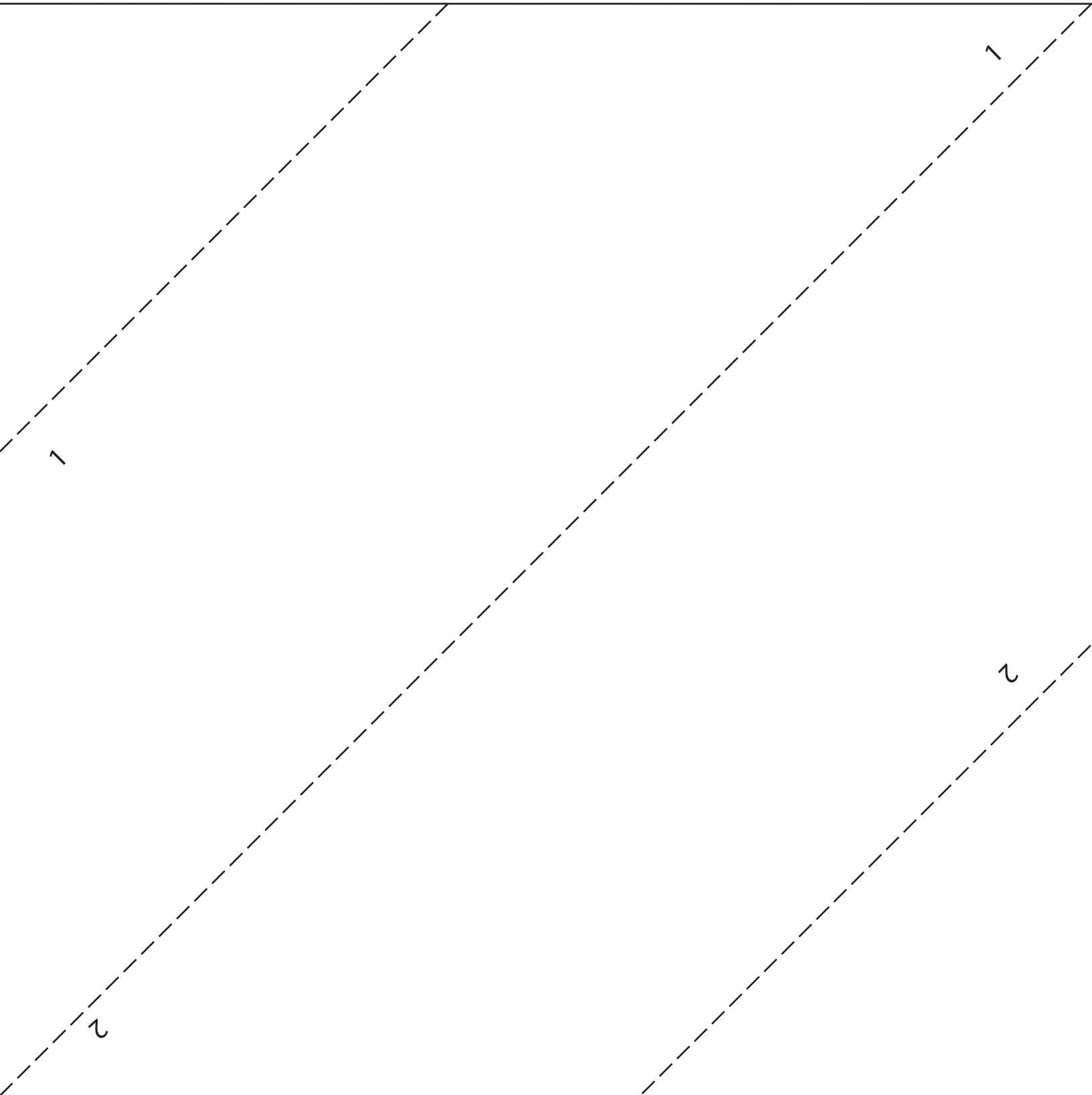
6. Separate the two triangle flaps at the top of the cup. Tuck one into each of the pockets formed by the previous two folds. Open the cup, fill it with water, and drink up!



HOME/SCHOOL CONNECTION B

Investigation 3: Getting to Know Paper

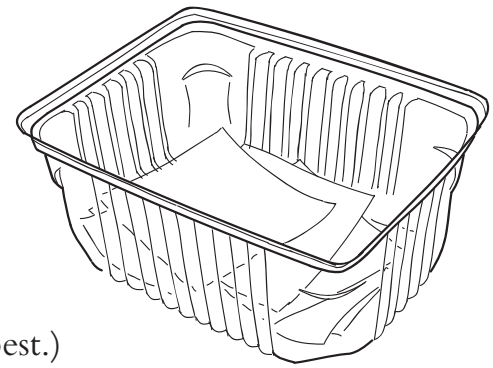
Cut on this line.



HOME/SCHOOL CONNECTION C

Investigation 3: Getting to Know Paper

Making a collage of different 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 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)
Paper to use as a base (Construction paper works best.)

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 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

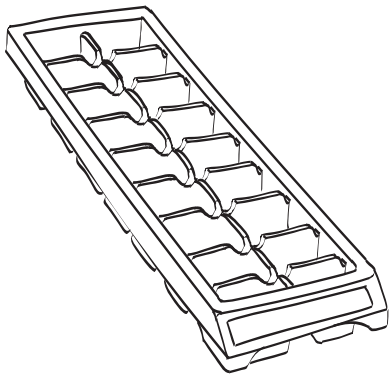
Investigation 4: Getting to Know Fabric

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 5: Earth Materials



In class, we have observed that water can change from a liquid to a solid by putting cups of water in the freezer overnight. We have observed cups of ice change from a solid to a liquid as the ice melts. 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 is forming. 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 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 the container 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 the ice takes to melt.