

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.

Sincerely,



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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.

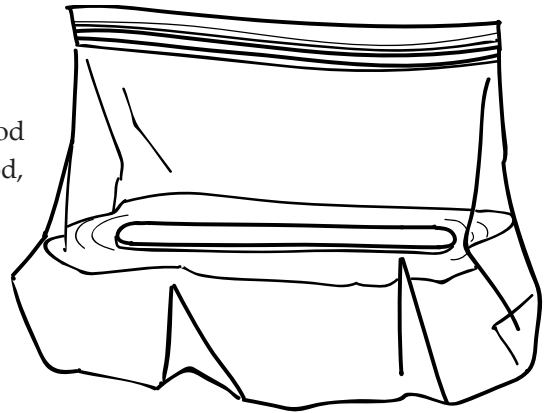
- Play “I’m thinking of something that is made of wood and it is (round, big, painted, flat...)” Take turns describing and identifying wood in use around your home or out in the neighborhood.
- Have your child search for four different ways wood is used around your home or neighborhood. Have him or her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

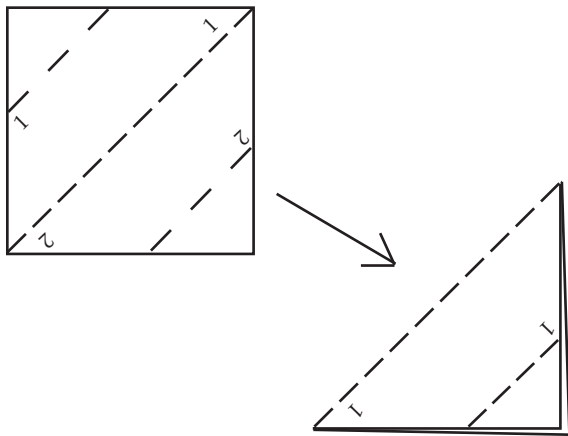
At school, we have begun to investigate the properties of paper. Recently, we compared how easily different kinds of paper can be folded. Not all are alike! Here is a paper-folding project you can do together. If you have more than one kind of paper available, it would be interesting to make a cup from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

MATERIALS

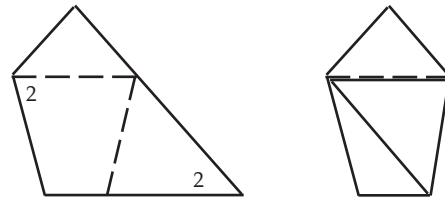
- 1 Drinking-cup pattern
- 1 Scissors (optional)

CONSTRUCTION

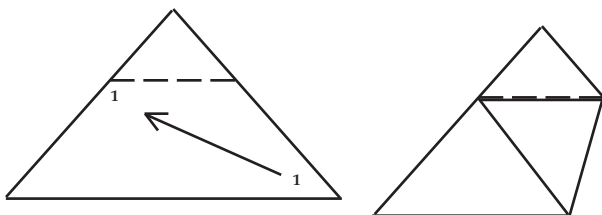
1. Cut the top off the pattern sheet.
2. Fold the sheet on the middle line that runs from corner to corner. The other lines should be on the outside, not folded in.



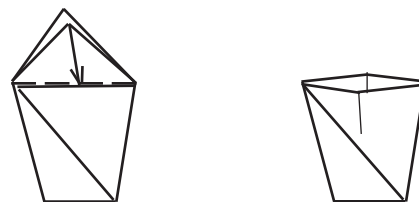
5. Flip the folded paper over, and follow the same procedure, this time matching the 2s.



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!



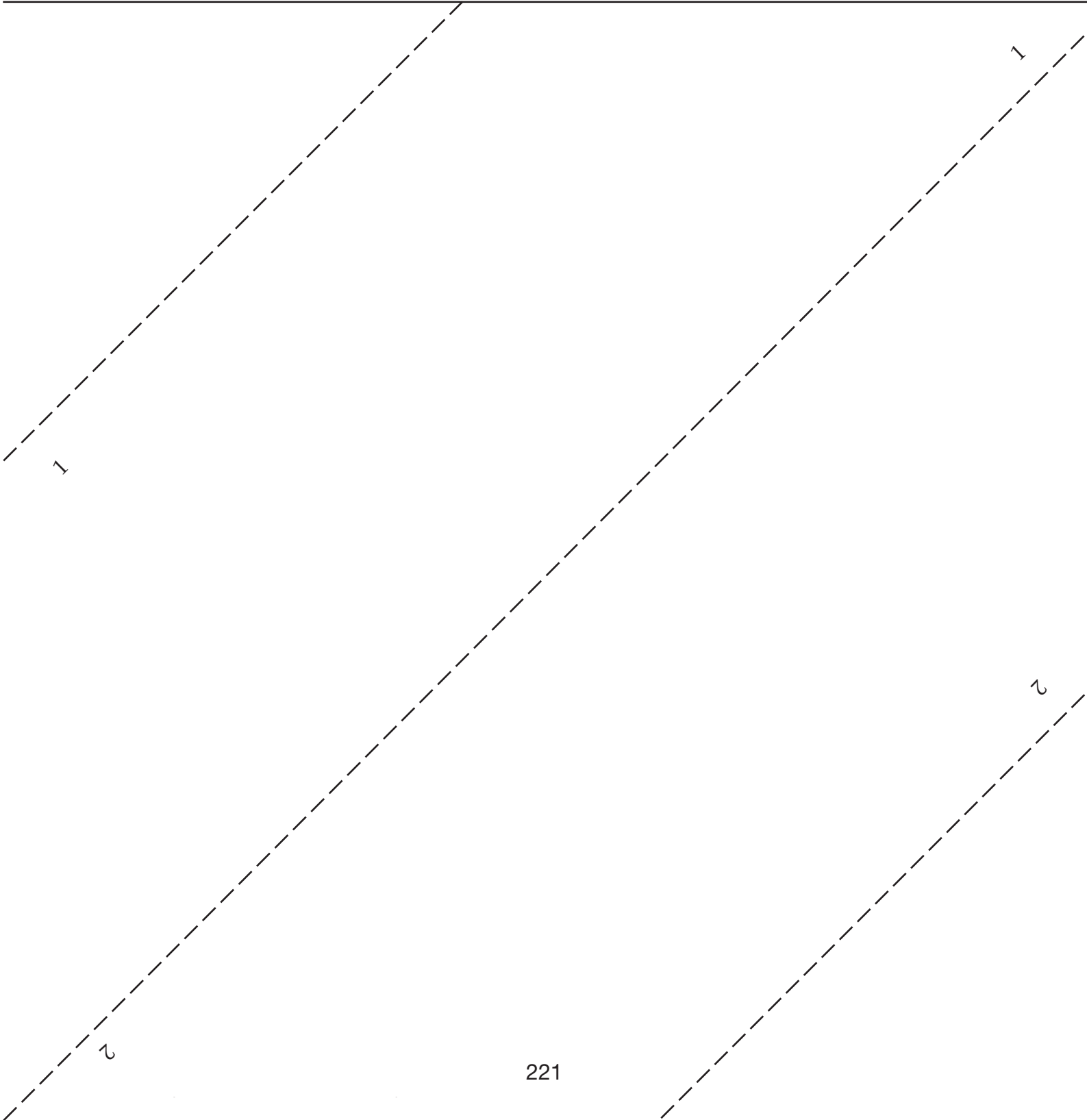
HOME/SCHOOL CONNECTION

DRINKING-CUP PATTERN

FOSS Wood and Paper Module
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Can be duplicated for classroom or workshop use.

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

Cut on this line.



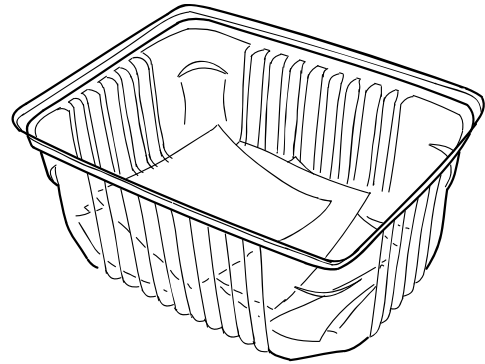
HOME/SCHOOL CONNECTION A

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?*

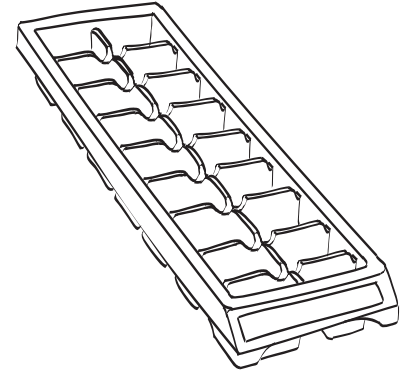
REMINDER

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

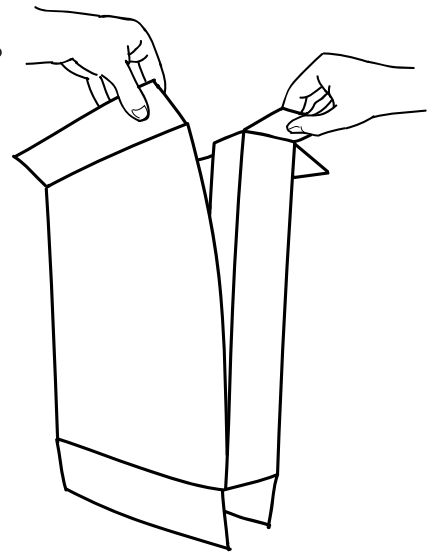
1. Have your child put water and/or fruit juice in an ice-cube tray or in other plastic or metal containers. Do not use glass for safety reasons.
2. Put the container of liquid in the freezer.
3. Remove it after an hour and see what is happening. Then put it back in the freezer.
4. The next day, remove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

