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, and 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. We welcome contributions of interesting paper to share (wrapping paper, crepe paper, wallpaper, tissue paper, etc.). Please send paper scraps by _____(date). We will be needing a variety of small pieces of scrap wood by _____(date).

As students are introduced to 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,

FOSS

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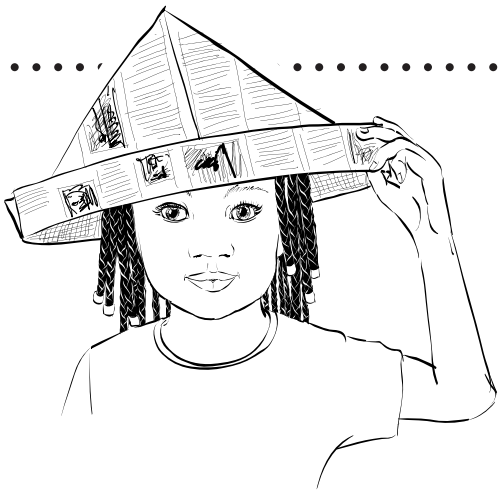
EXTENSION FOR INVESTIGATION 3

FOLDING PIRATE HATS



MATERIALS

For each student

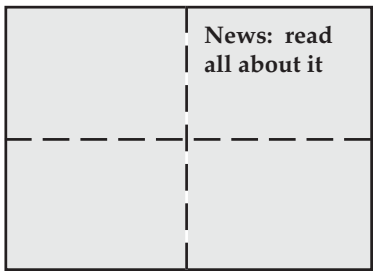
1 or 2 Sheets of newspaper, 56 cm × 71 cm (22″ × 28″)

For the class

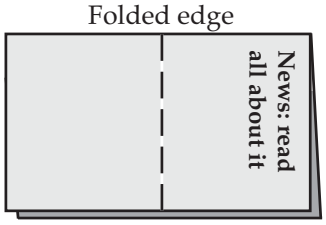
1 Stapler

CONSTRUCTION

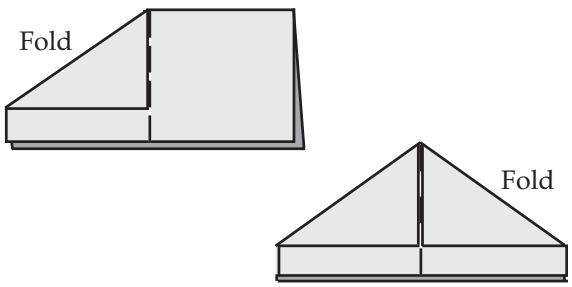
1. Lay out a full sheet of newspaper. (Using two sheets makes the hat a bit sturdier.)



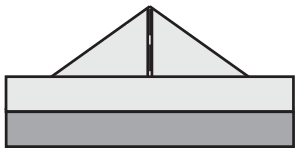
2. Fold the paper in half and rotate the folded paper 90 degrees.



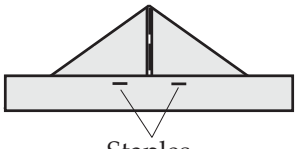
3. Fold down each of the upper corners, bringing the points to the center line.



4. Fold up the bottom edge along the line created by the corner folds completed in Step 3.

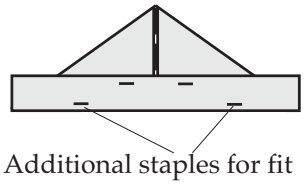


5. Flip the hat over, and fold up the other edge.



6. Staple the flaps up in one or two places to keep the hat from unfolding and falling apart. But don't staple the hat closed.

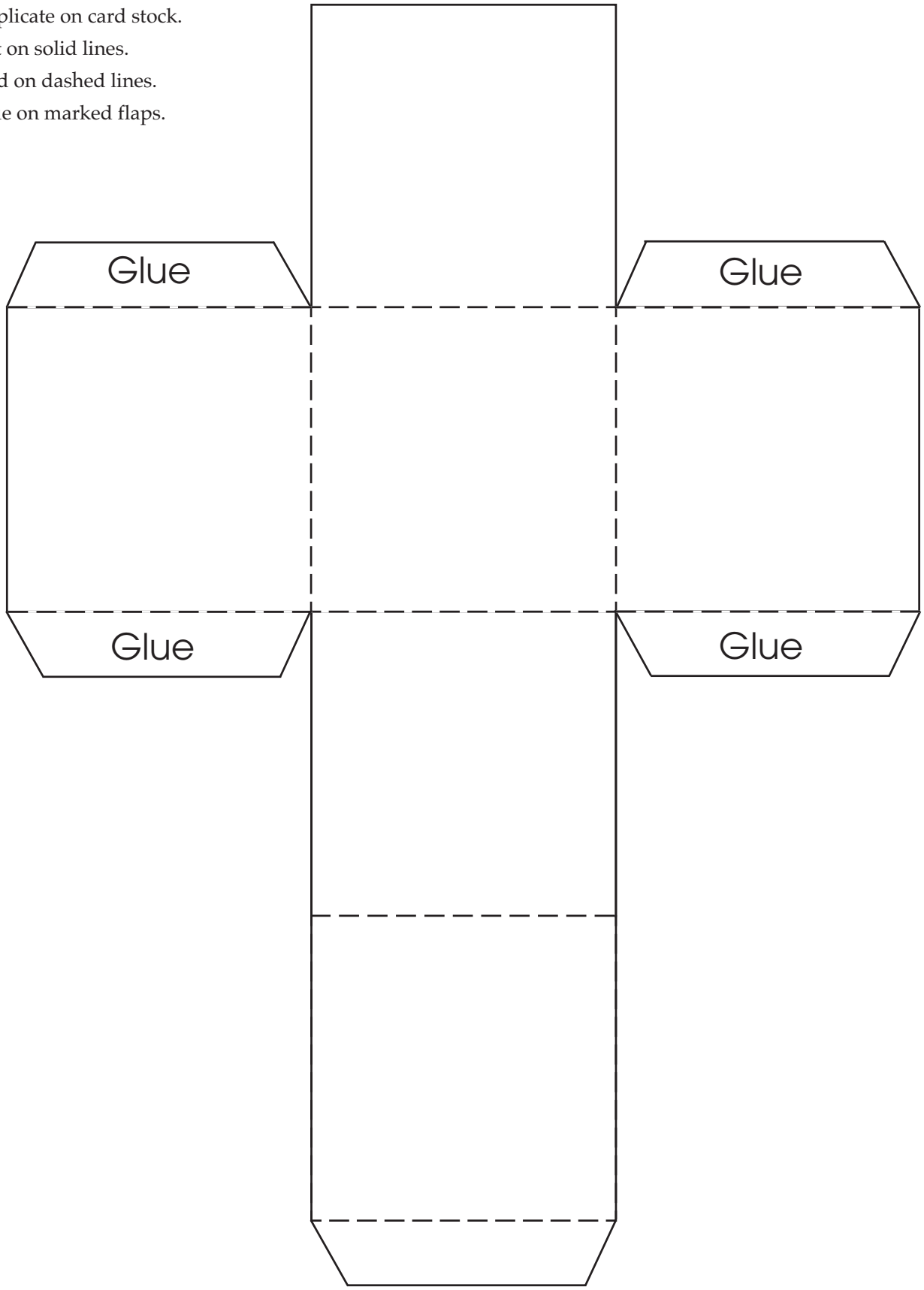
7. If the hat is too big, staple the hat together on each side, leaving enough room in the middle for the hat to fit comfortably.



EXTENSION FOR INVESTIGATION 5

MAKE A PAPER BOX

- Duplicate on card stock.
- Cut on solid lines.
- Fold on dashed lines.
- Glue on marked flaps.



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 the home or out in the neighborhood.

- Have your child search for four different ways wood is used around the home or neighborhood. Have him or her draw and label the four uses.

This is made of **wood.**

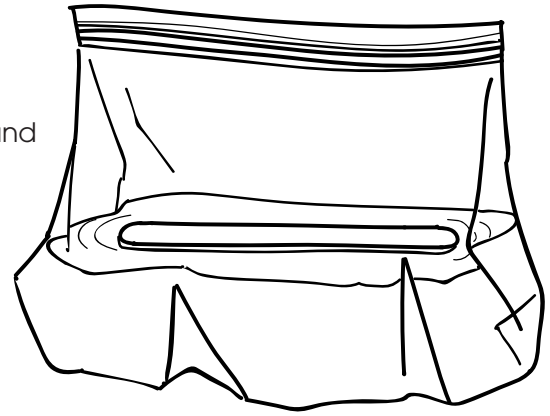
This is made of **wood.**

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 drops 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 jar

Water

INVESTIGATION

1. Fill a zip bag about 1/3 full of water. If you use a jar, fill it high enough that it is deeper than the craft stick.

2. Float the craft stick in the water. Leave the jar 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 been 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

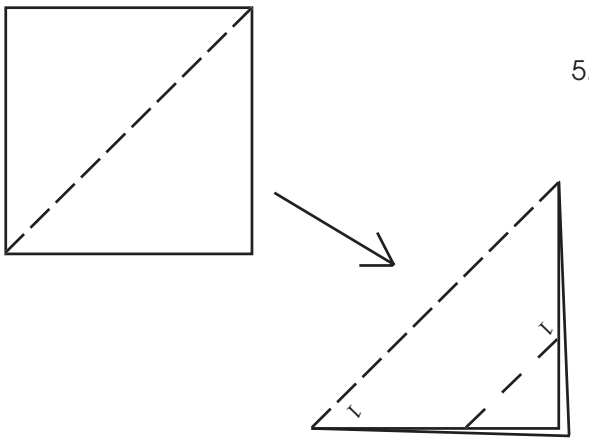
1 *Drinking-Cup Pattern* sheet

1 Scissors (optional)

CONSTRUCTION

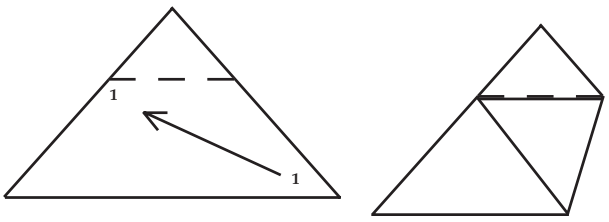
1. Cut the top off the pattern sheet.

2. Fold the sheet on the middle line that runs from corner to corner. The lines should be on the outside, not folded in.

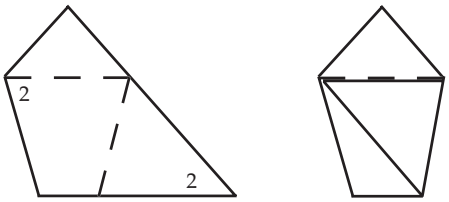


3. Lay the sheet on the table, so that the long side is closest to you and the number 1s are showing.

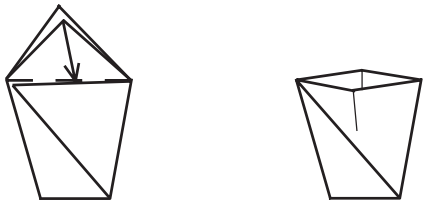
4. Fold the number 1 on the long side up to the number 1 in the middle of the other side. Fold so the edge of the paper is parallel to the small dotted line.



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



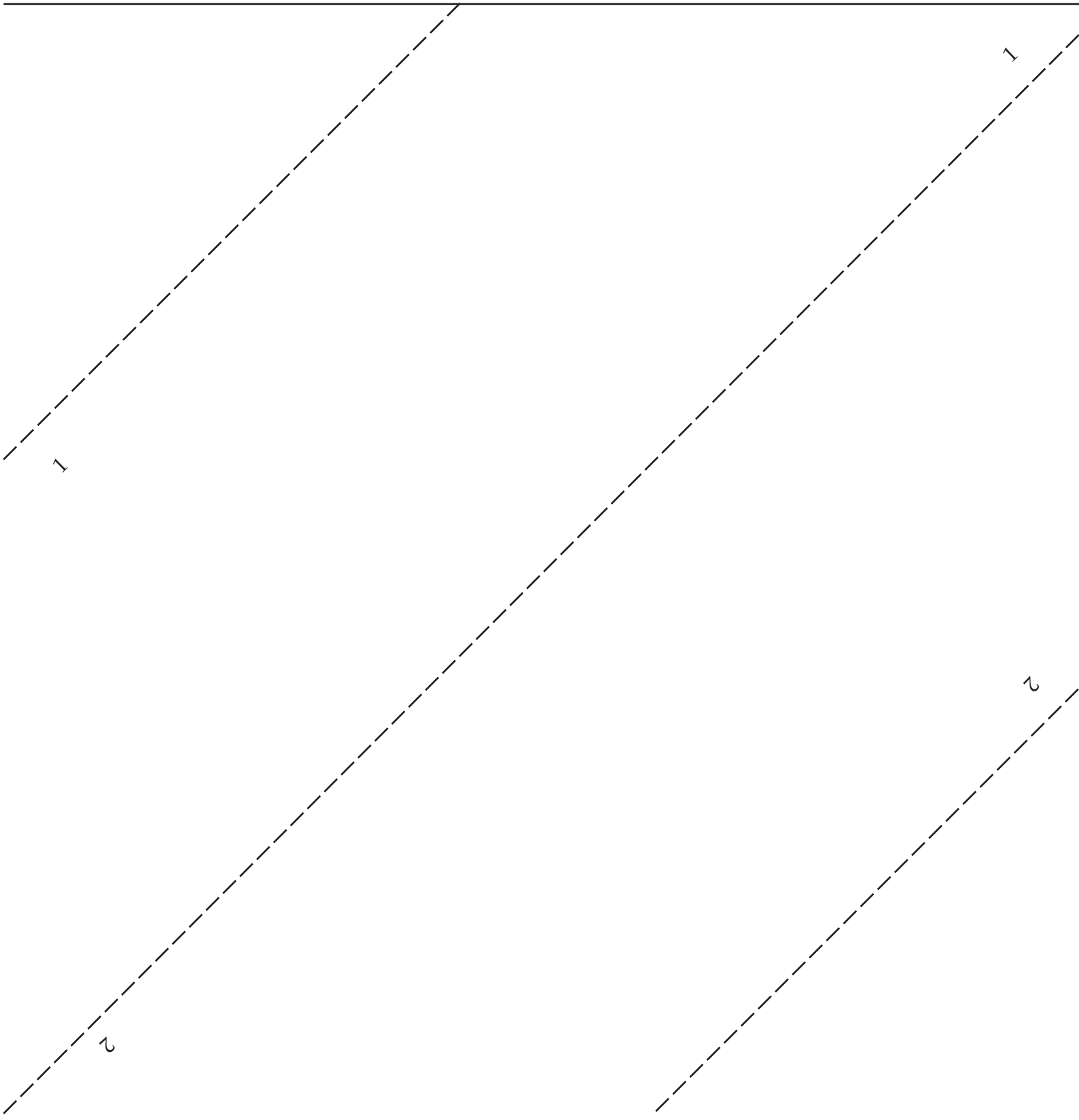
6. Separate the two triangle flaps at the top of the cup. Tuck one into each of the pockets formed by the previous two folds. Open the cup, fill it with water, and drink up!



HOME/SCHOOL CONNECTION

DRINKING-CUP PATTERN

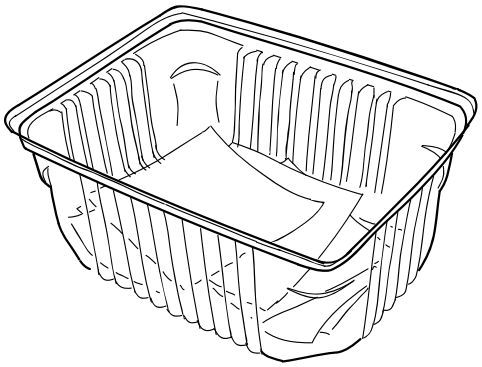
Cut on this line.



HOME/SCHOOL CONNECTION

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)

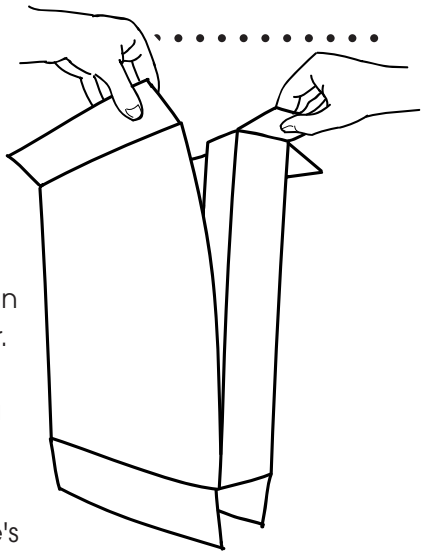
CONSTRUCTION

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 it; 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?*

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

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 sheet
Scissors
Writing paper
Glue or glue stick
Crayons, pencils, or markers
Sticker or stamp (optional)
Roll of transparent tape
Scrap paper, 3″× 5″

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 numbers 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