

## PAPERMAKING

*What can we do with all our paper scraps? Let's turn them into new paper using the papermaking pour method!*

### Big Idea

Students will follow multi-step directions to recycle paper by creating a new piece of paper from old paper.

### Standards

IELDS 12.E.ECb Participate in discussions about simple ways to take care of the environment.	Students will participate in an activity to reuse paper instead of throwing it out to reduce landfill waste.
VA:Re.7.1.Ka Identify uses of art within one's personal environment.	Students will discuss and explain how they will use their new art within their environment.
NGSS K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.*	Students will discuss and explain how they recycled old paper into new paper instead of throwing it out.

### Materials

- Plastic jar with lid
- Marbles and a bowl to contain them
- Non bleeding tissue paper (American Greetings works best) \*
- (2) 5 inch PVC pipes
- Plastic support grid
- Blue paper making screen
- Cover screen (similar to light window screen)
- 1 6x6 piece of card stock
- Small damp sponge
- Small bucket of water and cup for filling the plastic jars
- Small tub (to hold water)
- Small Tray
- Sandwich size plastic baggies
- Shammy or towel

\*Other non-coated recycled paper can be used such as newspaper or old artwork, but the weight and density of the paper can affect the paper to water ratio. We recommend to test new paper ahead of time until dry to determine the best ratio.

### Setup

Build the papermaking tower. Put the first PVC pipe in the bucket. On top of the pipe, place the plastic support grid. On top of the grid, place the screen. Complete the tower by putting the second PVC pipe on top of the screen. Add 7-8 marbles to the plastic jar with the lid. Cut the paper into 10" by 12" sheets.

## Directions

1. Ask the students, “Do any of you use a recycling bin at school or at home? Do you know what happens to the objects in the recycling bin?” Wait for student responses and if needed explain that objects in the recycling bin get turned into new objects.
2. “Today we’re going to create new paper using old paper!” Have students rip up old tissue paper or newspaper into small pieces (about 1 by 1 inch) and place the pieces in the jar.
3. Once students have ripped 2 sheets (can be two different colors) of the 10 by 12-inch paper into the jar, add half a cup of water.
4. Tighten the lid on the jar and shake for about 3 minutes, until tissue pieces disperse into the water to create a slurry.
5. Open the jar and remove the marbles and put them in the bowl.
6. Quickly pour the slurry of tissue paper in the jar into the top PVC of the paper making tower.
7. Wait for the water to drain, then gently lift off the top PVC pipe.
8. Lift the sandwich of the plastic grid, screen, and newly made paper round and place them on the tray. Blotting with a sponge, gently press straight down (Do not “scrub” the surface) to remove excess water.
9. Carefully remove the cover screen and replace with a piece of card stock. Lift sandwich of blue paper making screen, newly formed paper round and piece of card stock— flipping this carefully onto drying shammy. Press with sponge again with sponge to remove excess water.
10. Remove blue paper making screen and celebrate the newly formed paper round! Card stock supporting newly made paper round can then be placed in a zip lock baggie for transport home. At home, remove from bag at home and place paper with card stock between newspapers with weight on top until dry.

*Investigation Questions: What do you think will happen when we mix the paper and water? Will it be a liquid or solid? What does the water with the paper feel like? How has it changed? What do you think will happen when we mix two colors? How can we use our new paper? Can you tell me about how you made new paper from old paper? If we had thrown the paper away instead of recycling it, how might that impact our world?*