



TAKE CARE OF TEXAS: EDUCATOR MATERIALS

LESSON PLAN

Making Recycled Paper

Objectives:

Students will use the process of recycling to create their own recycled paper.

Prerequisites:

Students will need to understand the process of recycling.

Duration:

Preparation: 30 minutes (plus time to gather materials)

Activity: (2) 50-minute classes, including drying time

Materials:

- old/used paper
- water
- bowl
- blender
- wire hanger
- panty hose
- duct tape
- scissors
- towels (at least 2)
- flat baking sheet
- wooden spoon (optional)
- cutting board (optional)
- iron (optional)

Introduction:

Engage

Ask students what they think paper is made of and how it is made. Write down their responses to the two questions on chart paper or a whiteboard. Depending on how they responded, lead students to the idea that paper is made from wood pulp. Explain the definition of pulp and show students a photo of wood pulp (see figure 1 below). Looking at their responses to how it is made, discuss the different ideas and thoughts, highlighting similarities and different techniques.



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Explain

Watch [How Does Recycling Actually Work?](#) and ask students to focus on what happens to the paper. Help students write down the steps to make paper as shown in the video. Explain that they will soon have the opportunity to follow similar steps to make their own recycled paper.

NOTE: *Be sure to point out the step that mentions squeezing out excess water and explain that they will create and use a tool called a sieve. Show students an example of a sieve and explain its definition. Have students or groups of students make a sieve if needed.*

Sieve Instructions:

Step 1: Get a wire hanger and bend it into a rectangle. *

** The size and shape of your sieve will determine the size and shape of your paper.*

Step 2: Stretch panty hose over the frame and use duct tape to secure it to the hook of the hanger.

Pro tip: you can make two sieves with one set of panty hose.

Procedure:

Explore

Have students take out their science journal or notebook and title a page "Steps to Making Recycled Paper." Have students discuss the previous instructions for making a sieve and have them write down the steps in their journal. Explain that they will continue to write down steps as they go through the process of making recycled paper. **(For younger students, have them include a drawing with the words, or just drawings.)**

Follow the steps below to make recycled paper. After a few steps, pause and have students discuss the following questions:

- a. How are these steps similar or different than in the video?
- b. How are these steps helping to make paper?

Provide active monitoring to ensure students are writing down steps (they may or may not include drawings) and provide any clarifications about the recycling process.

At the end of each day, have students write down either a question or idea that would improve the recycling process. At the end of each day, have students write down either a question or an idea that would improve the recycling process. Share these ideas at the start of the next day and at the activity's culmination.

Enact

Making Recycled Paper Directions:

Step 1: Tear or cut the old paper into small pieces and place them in a bowl.

Step 2: Fill the bowl with water until the paper is slightly covered. Leave the paper soaking in the bowl for at least 2 hours, or overnight.

Step 3: After soaking, squeeze the excess water from the paper and place in a blender to blend into an oatmeal pulp consistency.

Tip: Use a wooden spoon to help move the pulp around for easy blending.

Step 4: Once blended, get a flat baking sheet and place a towel over it. Place the sieve on the towel and lay the goeey pulp onto the sieve.

Step 5: Press the pulp into the sieve to remove the excess water and match the shape and size of the paper mold.

Step 6: Place the other towel over the paper mold and continue to press down, squeezing out any more water that may be left.

Tip: When you have finished pressing, put a cutting board over the towel to help flip over the paper mold to dry.

Step 7: Let the pulp air dry for a few hours or overnight.

Tip: If you want to help dry the paper quicker you can use an iron, just make sure to place a towel over the paper mold to protect it from direct heat.

Step 8: When the paper is completely dry, you can cut the edges of the paper for a clean look or just start writing notes!

Extend

Making recycled paper is an interactive way to see the recycling process up close. Take that lesson a step further and see how you can recycle plastics. What is another way we can use plastic bottles? Have an idea about what to do with plastic bags? Research, experiment, and share!

Glossary:

- **Recycling** – the act of breaking something down and making it into something else
- **Conservation** – protecting things in nature
- **Blend** – to mix enough so that there no longer seem to be separate parts or ingredients
- **Pulp** – any soft, wet mass of material
- **Sieve** – a utensil that is used to strain liquids from solids

Applicable TEKS:

- **K** – §112.K.1.(C)
- **1st grade**– §112.1.1(C)
- **2nd grade**– §112.2.1(C)
- **3rd grade**– §112.3.1(C)
- **4th grade**– §112.4.1(C)
- **5th grade**– §112.5.1(C)

Supplemental Worksheets:

Figure 1. Wood pulp

