

LEAF Make your own recycled paper

**Ages: 3 – 18****Time: 2 days**

Purpose: Pupils will learn about how recycling works and how paper is made by making their own recycled paper. This activity has been adapted from a resource created by the Foundation for Environmental Education.

Curricular links

SCN 0-15a, 1-15a, 2-15a, 3-15b, 3-17b

SOC 0-08a, 2-08a, 4-08a

TCH 0-06a, 1-06a, 2-06a, 3-07a, 4-06a

Introduction

Paper can be recycled over and over again. In fact, up to six times. Making recycled paper requires less energy and water and thus is more environmentally friendly. But most important, making recycled paper is fun. And in the end you have a nice product you can use for many purposes.

This activity is extracted from “The story of paper trees and printing” written by Malene Bendix.

Making paper involves 3 steps:

1. Prepare frames to hold your paper: 1 hour, requires use of woodworking equipment
2. Prepare paper pulp: 30 minutes plus overnight soaking, requires boiling water
3. Make your paper:

Step 1: Prepare frames

The first step is to make frames to hold your paper.

Equipment needed:

- Wooden batons 3x3 cm (see the table below for measurements)
- Nylon or steel mesh, with a mesh opening of 24 pr. cm² (see table below for measurements)
- Ruler
- Saw
- Wood glue
- Stainless steel screws
- Screwdriver
- A stapler, and stainless steel staples

Size of paper	The number of batons you need	Cut the batons to this length	The size of the mesh you need
21 x 29 cm	2 each of 1.12 m	4 each of 24 cm 4 each of 32 cm	37 x 45 cm
15 x 21 cm	2 each of 84 cm	4 each of 18 cm 4 each of 24 cm	31 x 37 cm
30 x 30 cm	2 each of 1.4 m	8 each of 35 cm	46 x 46 cm

Instructions:

1. Choose which size of paper you would like to make from the table above.
2. Cut the wooden batons to the correct length as per the table above.
3. Screw four pieces together to resemble a picture frame and use glue in the joints.
4. Repeat to make two identical frames.
5. Staple the mesh onto one of the frames.

Step 2: Prepare paper pulp

The next step is to prepare paper pulp that can be used to make new paper.

Equipment needed:

- Used white paper such as print waste, egg cartons, newspaper (but not too much as it makes the paper grey), old wrapping paper. Do not use glossy paper such as from magazines, as the way it is treated makes it unusable for recycling.
- Boiling water
- Bucket for soaking paper
- Electric whisk

Instructions:

1. Tear the paper into small pieces and put it in a bucket.
2. Add boiling water until it just covers the paper.
3. Leave it for some hours, preferably overnight.
4. When the papers have dissolved, use the whisk and whip the pulp. If it goes thick, add more water. It should be thin as slurry. The thinner the pulp is the thinner paper you can make

Step 3: Make the paper

Equipment needed:

- 2 frames - one with mesh as prepared
- Paper pulp as prepared
- Large bowl (larger than your frames)
- Damp cloth
- Sponge
- Either a string and clips to hang paper or newspapers with a weight, such as a book
- If possible, an iron to dry paper quickly

Instructions:

1. Pour your pre-prepared paper pulp into your large bowl.
2. Take two wooden frames, one with mesh and one without. Hold them towards each other, so that the mesh is in the middle. Lay them flat and make sure the frame with the mesh is the bottom one.
3. Dip the wooden frames into the paper pulp until a thin and even layer covers the mesh.
4. Take the wooden frames out of the water, keeping it in a horizontal position. Let the water drain off.
5. Carefully remove the top wooden frame.
6. Flip the frame with the wet paper onto a damp cloth. Sponge the back of the mesh with a sponge.
7. Gently remove the frame with the mesh.
8. To dry your paper, either hang it on a string, or leave it inside a newspaper with some weight on top. You can use an iron to dry the paper more quickly.
9. Once your paper is dry you can use it for whatever you want.



Photos: Forestry Extension Institute