

Make your own paper

What you need:

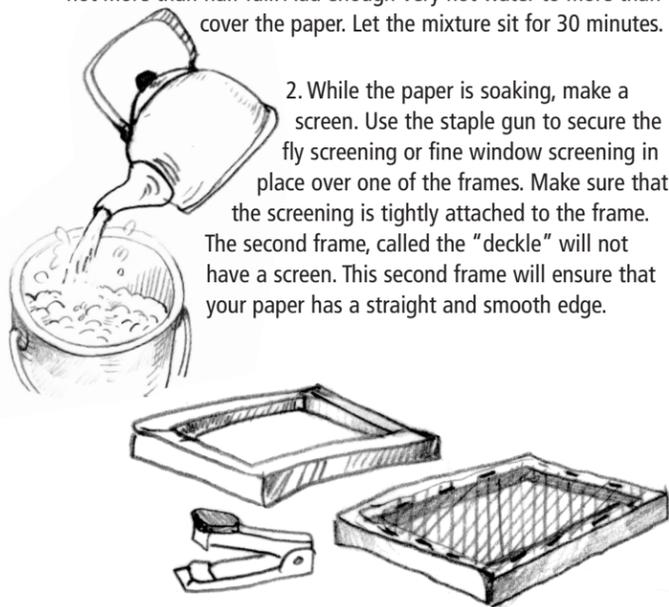
- an iron
- sponges
- very hot water
- fly screening or a screen window
- 2 picture frames the same size (or make 2 frames from wood strips) — a good size is about 20 cm x 15 cm x 2.5 cm thick
- scrap paper
- a staple gun
- cloths (kitchen towels work well)
- plastic tub
- a large pail
- food colouring
- a blender

What to do:

1. Remove all non-paper materials such as paper clips and staples. Rip the paper into small pieces (2 cm squares or smaller). Put the shredded paper into the pail so that it is not more than half full. Add enough very hot water to more than cover the paper. Let the mixture sit for 30 minutes.

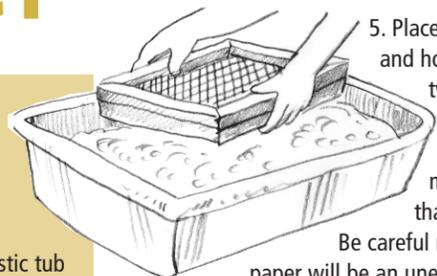


2. While the paper is soaking, make a screen. Use the staple gun to secure the fly screening or fine window screening in place over one of the frames. Make sure that the screening is tightly attached to the frame. The second frame, called the "deckle" will not have a screen. This second frame will ensure that your paper has a straight and smooth edge.



3. Take a handful of the soaked paper and put it into the blender. Fill the blender halfway with warm water and blend until you can't see any recognizable pieces of paper. If you want coloured paper, add a few drops of food colouring to the blender and mix again. Remove the pulp mixture from the blender and repeat this process with the rest of the soaked paper scraps until all have been blended into a gooey pulpy blob.

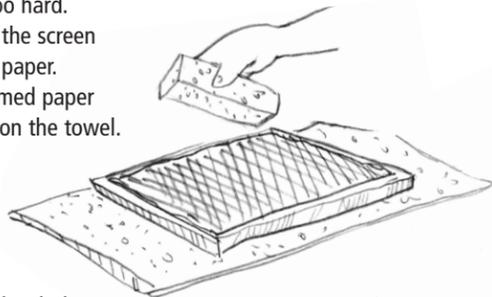
4. Place a few handfuls of the mixed pulp in a tub that is larger than the frames. Add enough water so that the tub is half full. If you add more pulp, you will get thicker paper, less pulp and you will have thinner paper.



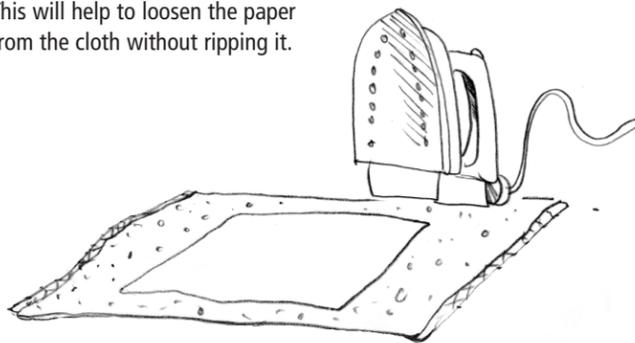
5. Place the deckle on top of the screen and hold them steadily together. Dip the two frames into the tub and scoop out some pulp. Gently shake the frames from side to side to make an even layer of paper pulp that covers your entire screen.

Be careful not to tip or tilt the screen or the paper will be an uneven thickness. Hold the frames over the tub for a few minutes until most of the water has stopped dripping out the bottom. Carefully remove the deckle, voila, you have a new piece of paper.

6. Spread out the towels on a flat surface and very carefully turn the screen over face down onto the towel. Using the sponge, soak up as much excess water from the back of the screen as you can. Do not press too hard. Very gently lift the screen away from the paper. Your newly-formed paper should remain on the towel.



7. Place a clean, dry cloth on top of the paper and iron it at a medium temperature. When it is dry, gently pull on the towels to stretch them. This will help to loosen the paper from the cloth without ripping it.



8. Any leftover pulp in the tub can be strained and put into the compost or frozen in a bag to make more paper another day. Do not pour any of the paper pulp down the sink as it may clog the drain.
9. Want to make fancier paper? Press some dried flower petals or leaves onto the pulp mixture on the screen before you iron it.

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Paper Recycling

Everything Old is New Again!

It enters your house every day. It has been around for thousands of years and comes in many shapes, sizes and colours. It is in the kitchen and the bathroom — you might even find it lurking under your bed! Paper is everywhere.

About 2,000 years ago, a Chinese government official named Ts'ai Lun ground up mulberry bark, hemp and linen and added water to make a big pile of mush. He spread this muck out on a mat and let it dry. Ts'ai Lun created one of the most important inventions ever: he had made paper. Over time, the art of making paper spread to other parts of the world although it didn't look like the paper we use today.

Early paper was made out of rags or old clothing rather than wood. In the 1700s, a man named Réaumur watched a wasp chew up a bit of wood and spit it back out as a mush to make its nest. It was as if the wasp was making a type of paper out of wood. We now call these wasps, paper wasps.

We have come a long way since the time of Lun and Réaumur but one thing is certain: we owe our books and journals and newspapers and magazines and encyclopedias to these, and other, inventors.

World demand for paper is five times greater today than it was in the 1950s and is expected to double again in less than 50 years. Despite e-mail and websites, our paper consumption continues to increase. Read on to find out what you, your family, and your school can do to reduce our dependence on paper.



Recycling might seem like a new activity but it isn't. In the early 1800s, used linens and old rags were sent to Canada's first paper mill in St. Andrew's Quebec and recycled into newsprint and wrapping paper.



When the school year ends, it is time to clear out the clutter. Notes and envelopes can all go into the recycling bin and out to the curb. When you recycle paper, it is transformed into many different types of paper products.



- Old newspapers and magazines are usually made into new newspapers or boxboard cartons (such as cereal boxes, laundry detergent boxes or shoe boxes) but can also be transformed into egg cartons, telephone books or even shredded to make kitty litter!

- Old boxboard cartons are recycled into new cartons or corrugated boxes.



- Old corrugated boxes can be turned into new corrugated boxes. Sometimes these boxes are made into cartons or even writing paper.

- Paper from your recycling bin can also be made into bristol board, insulating materials, computer paper, tissues, toilet paper, paper towels and writing paper — the possibilities are nearly endless!



AMAZING PAPER TRICK!

Take a piece of writing paper (lined or blank). Fold it in half. Now turn it and fold it in half again the other direction. Turn and fold it again and again. Keep folding it in half until you can't fold it in half any more.

It is nearly impossible to fold a piece of paper in half more than eight times, no matter how thin or how large the piece of paper might be.

DID YOU KNOW... just over 10 percent of all paper-based packaging in Canada is made from newly cut trees. The other 90 percent is made from recycled paper or boxes, or from a combination of wood chips, shavings and sawdust leftover from the logging process.

DID YOU KNOW... the average piece of paper can be recycled between five and seven times before the fibres become too short and damaged to be made into new paper.



The 3 Rs at School

It's easier than you think to Reduce, Reuse and Recycle

- Get everyone in the school involved in the effort — students, teachers, custodians, secretaries, the vice principal and principal. If everyone works together, you will see a difference! Here are a few tips to help reduce the amount of waste (paper and other types) generated in your school.
- Encourage everyone to bring litterless lunches in reusable plastic containers and not individually packaged disposable containers — many of which use a lot of paper and cardboard as well as chemical-laden plastics.



- Put recycling bins in every classroom and in the office for paper, plastics and cans. Help the paper recycling plants work more efficiently by removing any non-paper items such as lids, food scraps and paper clips.
- Have a scrap paper box in every classroom. Encourage students to use construction paper and other types of paper sparingly during art class. Put any pieces that are not needed in the scrap paper box for someone else to use. Only the smallest pieces should go into the recycling bin.
- Ask your teacher to make double-sided photocopies to reduce the amount of paper needed for class.
- Ask the principal if he or she could reduce the number of memos going to staff, students and parents by providing more information over the PA system or putting it on the school's website.

Hemp

The new paper?

Because hemp grows much faster than trees and can be harvested only 120 days after planting, it is an environmentally sound alternative to wood pulp.

Many people have only recently heard about using hemp to make paper and other household products. In fact, hemp has been used to make pulp for paper for more than 2,000 years. Ts'ai Lun's early paper invention was partially made from hemp. Commercially, paper was originally made out of rags. In the early 1800s, the demand for paper was greater than the supply of rags and old clothing for paper production, and industries began to use wood pulp — a cheap alternative. Currently, hemp only accounts for about 0.05 percent of total paper production worldwide. Given that most of North America's forests have been cut down, we should preserve what is left and research alternatives to wood like hemp.

Hemp crops do not require the use of pesticides or herbicides that can contaminate the local ecosystem. Hemp paper can easily be recycled, but because it is readily renewable, there is less need to build and maintain costly recycling plants.

Hemp can not only be used to make paper, it can also be grown and harvested to make cloth, rope, skin-care lotions, varnish, detergents, oils, even ice cream and cookies! Some people are opposed to the use of hemp for paper and other products because it is a relative of the marijuana plant. Unlike marijuana, hemp does not possess any of the hallucinogenic drug and is completely harmless. The number of hemp farms in Ontario has been rising in recent years and the Ontario Hemp Alliance is hoping that people will realize hemp's versatility.



DID YOU KNOW... in one year, one hectare of hemp can produce as much paper as two to four hectares of trees!



How Paper is Recycled

When the recycling truck picks up your blue box from the curb, the materials are taken to a material recovery facility. At the facility, everything is sorted into different types of recyclables: glass, plastics and paper. Items that cannot be recycled are thrown

away. The paper is put into giant piles and sent off to the paper recycling mill. At the mill, the paper is shredded into small pieces and water is added, turning the paper into a gooey pulp. Non-paper materials such as paper clips and staples sink to the bottom of the giant machine and are removed from the pulpy mixture. The floating paper fibres are forced onto a wire sheet that resembles a window screen. A machine like a giant iron dries the pulp on the screen causing the water to evaporate and flattening the paper. Once dry, the paper is removed from the screen and wound into a giant roll. Rolls of paper are transported to different companies that will transform the paper into boxes, cartons or other paper products.