#### KEY STAGE 2 ACTIVITIES

**PAPER MAKING \* full kit available to borrow**

**Length of Session**

1½ hours

### Group Size

Up to 30 children

**Aims**

To offer an informative hands-on session that enables children to investigate where and how paper can be recycled.

**Summary of Activity**

Following a brief introduction on reduce, reuse, recycle (link to relevant pages on site) and the paper recycling process (found [here](http://www.recyclenow.com/recycling-knowledge/how-is-it-recycled/paper)), the class splits into groups. Working in their groups, the children work on shredding magazines into very small pieces. The paper is then mixed with water and mashed into a pulp (this can be done by hand with a potato masher or by using a hand held food blender). Each pupil makes a sheet of recycled paper by scooping the pulp onto special frames, draining off excess water and allowing to dry for about 24hours. (See detailed Paper Making instructions below).

**Learning Objectives**

Children should learn:

* How people affect the environment by creating waste
* How and why waste can be recycled
* How to separate mixtures of materials by sieving
* How to recover dissolved solids by evaporating the liquid from the solution

PAPER MAKING INSTRUCTIONS

**Resources available for loan (for 6 groups of 4-5 children)**

# Magazines

# Newspapers

# Coloured tissue paper

* 6 x pairs papermaking frames
* 6 x bowls
* 6 x potato mashers (or hand held blenders)

### Cloths and sponges

* Blender
* Aprons

Paper making is a fantastic way of understanding the paper recycling process, and it is good fun as well! Paper making frames can be made by following the instructions below:

**To Make the Frames**

You need 2 wooden frames of equal size- one empty one and one with a mesh – we use A5 size. You can make the frames yourself, borrow ours or reuse old picture frames.

### Frame 1

This is made using 4 pieces of wood nailed or glued together at the corners. (Not water soluble glue!)

**Frame 2**

This is made the same as above, but you need to fix a piece of nylon mesh (with very small holes) over the entire frame so it looks like a flat sieve. We use old net curtains! The mesh can be stapled onto the frame using a staple gun, or glued using a hot glue gun. We find using the staple gun works best.

**To Make The Paper**

1. To make 1 sheet of A5 paper, you will need 3 sheets of glossy paper (pages of a magazine). In the classroom groups of 4-5 children can work together, and each child needs 3 sheets of glossy paper each. We find using this type of paper works best, but once you’ve tried it this way experiment with other types of paper too.
2. Shred/tear the paper into very small pieces and put in a washing up bowl with enough water to cover it (make sure your frames fit inside your washing up bowl). At this stage we also add torn pieces of coloured crepe paper or tissue paper to dye the pulp.
3. Allow the shredded paper to soak for a short while (if time allows) and then mash it to a pulp using a potato masher. This usually takes about 10 minutes. We use a hand food blender to make the pulp as it is much quicker, but the effect is less ‘rustic’.
4. When your pulp is ready, water it down until the washing up bowl is at least half of pulpy water (for a group of 4-5 children).
5. Place Frame 1 on top of the side of frame 2 the wire mesh is on, so the nylon mesh is flush with frame 1 (as below).

Frame 1

###

🡨 Mesh

 Frame 2

1. Give the pulpy water a quick stir then hold the frames together and dunk in and out of the washing up bowl quickly. Hold the frames over the bowl and allow water to drain through the mesh.
2. Remove frame 1 and place a sheet of folded newspaper over the pulp on top of the mesh on frame 2. Carefully press with the palm of your hand to squeeze some of the excess water out. If you push too hard or with knuckles or finger tips, you may push your hand through the mesh.
3. Turn frame 2 upside down on a flat surface so it is resting on the piece of newspaper.
4. Using a cloth or sponge, soak up any more excess water from this side of the frame – you can use more pressure soaking up the water now as the frame is supported by the flat surface. Repeat this 2 more times, wringing out excess water from the cloth/sponge each time.
5. Taking one end of the frame, carefully peel it off the pulp and your damp piece of paper will be stuck to the bottom sheet of newspaper. Leave to dry for 24 hours. (In summer sheets dry quickly outside)
6. Once dry gently peel your piece of paper off the newspaper.

**Get Creative…**

* Add leaves - put on frame 2 when pulp has just been sieved out of the water
* Add glitter – add to the water for a sparkly seasonal touch at Christmas
* Add grated vegetables such as carrots and courgettes to give a glossy texture