

Raw and Synthetic Materials

YEAR THREE

AUTUMN 2



LESSON FOUR

How is paper made?



Do Now – Retrieval practice

1) Put each of the following steps in order to show how glass is made:

_____ The liquid cools down to become solid

_____ The mixture is heated until it gets very hot and becomes a liquid.

_____ Sand can be mixed with some other materials.

_____ The liquid glass is pushed or knocked into the right shape.

2) Sort the following objects into 'synthetic' or 'raw' materials:

coal | wood | brick | oil | plastic | cotton | paper | wool

Synthetic material	Raw material
_____	_____
_____	_____
_____	_____
_____	_____

From last half term:

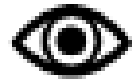
Write a scientific method for washing your hands:



How many objects can you think of that are made from different types of the material paper?

- _____
- _____
- _____
- _____

- _____
- _____
- _____
- _____



Watch the video to show how paper is made from wood





Read about making paper

Paper is a synthetic material is made from wood. The wood going through a number of changes before it becomes paper. Firstly, the bark is stripped off the wood and then the trunk of the rood is cut up into tiny chips of wood. At this point, the wood chips are mixed with water and heated until they make a 'paste'.





What is done to the wood to make it into a paste?

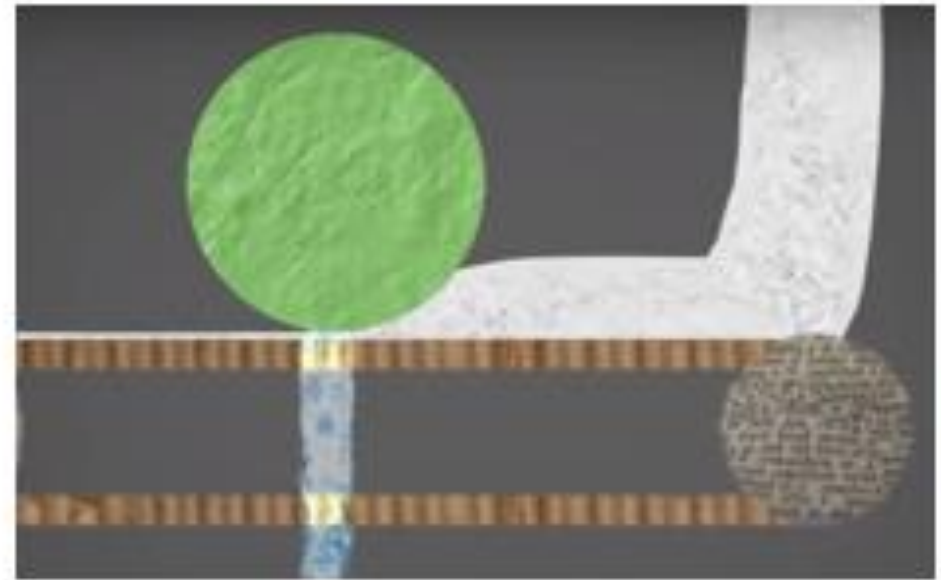
The b_____ is stripped off and the wood is cut into tiny ch_____ of wood. The chips are h_____ with w_____ until a paste is made.



Continue reading about making paper

This paste can then be adjusted to create **different types of paper**. To make it white, it is bleached. To give it a colour, a coloured dye is added. The paste is flattened and the water is squeezed out. This is left to dry until the paper is formed.

At this point a range of sizes can be cut out into the sizes that are required.





What is added to the paste to make the paper white?

B_____ is added to make sure the paper is white.



What is added to the paste to make the paper coloured?

C_____ d_____ is added to the paper to make it coloured.



Continue reading about making paper

By adding different things to the paper when it is being made, different types of paper products can be made such as tissue paper, sugar paper, wrapping paper, cardboard and many more.



What are some examples of paper products?

Some examples of paper products are **t**_____ paper, **s**_____ paper, **w**_____ paper and **c**_____.





Look at the types of paper that your teacher has provided. Write down what has been done to make each type of paper useful.

Paper product	Which properties make it useful?
Printing paper	
Tissue paper	
Sugar paper	
Cardboard	

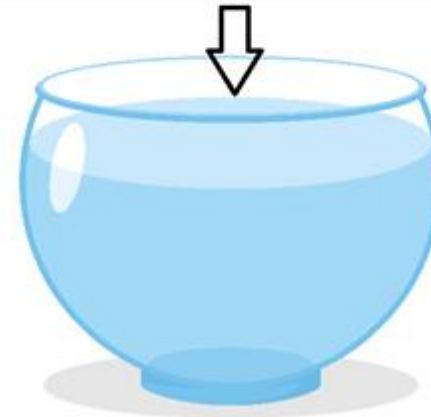


You are going to make your own recycled paper! Follow the instructions:

1. Rip up the old newspaper into very small pieces



2. Leave the ripped up paper in warm water for a few hours (your teacher may add cornflour)



3. Add a colour to your mixture if you would like your paper to be coloured



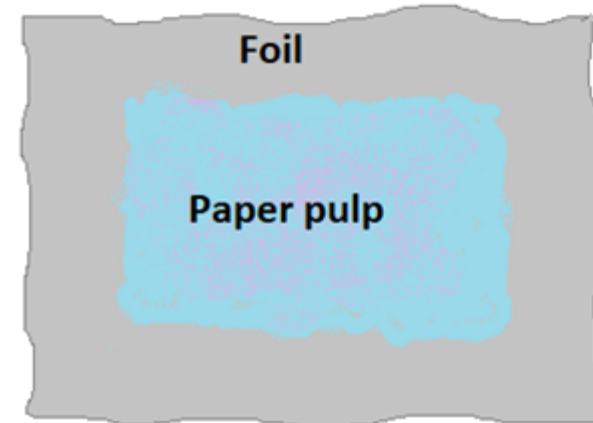
4. After the pulp has been soaked for a few hours...

5. Squeeze out the water from the paste

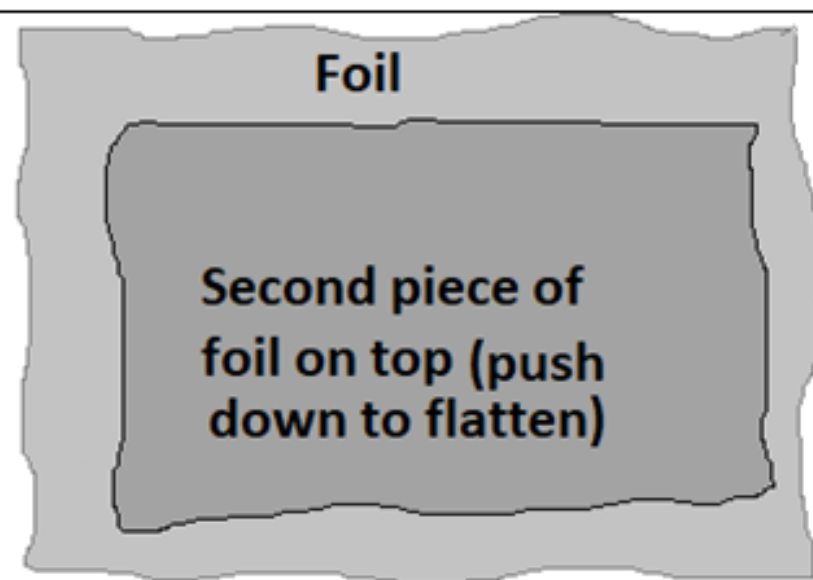


6. Place the pulp onto aluminium foil in a rectangle to make your sheet of paper

7. (You can add decorations to you pulp at this point – check with your teacher)



8. Place more foil on top of your paper and push down on it (you can use heavy weights to do this if you wish) to make it as flat as possible

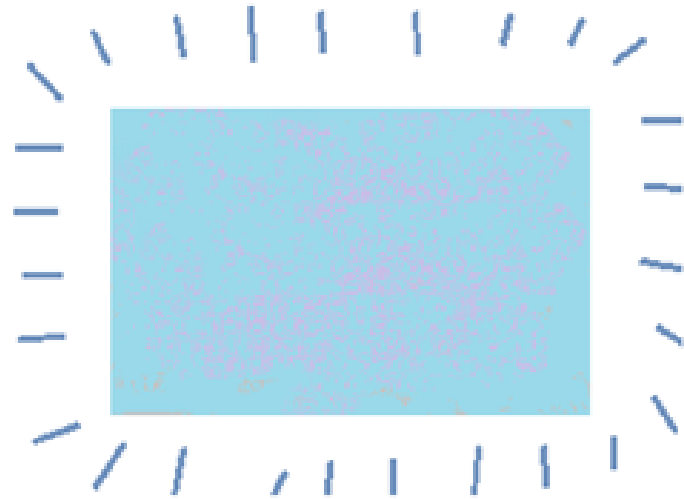


9. Take the top layer of foil off and leave it somewhere to dry overnight



Leave to dry

10. Remove the foil in the morning and you have your paper!





Why is it a good thing to recycle paper? (Use the pictures as hints)





Return to page 3 to complete the learning review.

Answer the following question in a couple of sentences:

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