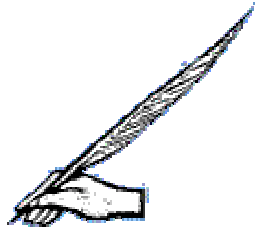


## THE STORY OF PAPER

The Egyptians made the earliest known paper, it was made from papyrus plants, in 2200 B.C. The Chinese invented a different method of paper making more than 2000 years ago. They made paper from rags, hemp and the bark of mulberry trees. The idea spread first to the Middle East and eventually to Europe in the 12th Century. As the demand for paper grew, the use of ground wood chips replaced rags, bark and straw for paper fibre. The introduction of machines for paper making made it a cheap and readily available material.



### Making Paper

The main raw material used in making paper is wood pulp from either short-fibred hard-woods (e.g. eucalypts) or long-fibred softwoods (e.g. pines) and some paper is made using cotton fibres.

All paper and cardboard is made in much the same way. The wood chips are treated to release the fibres and become pulp. The pulp is mixed with water to make "slurry" which is spread out across rapidly moving mesh rollers. The water in the slurry is sucked through the mesh leaving only the fibres, tightly pressed together in a long, flat sheet. The long, wide ribbon of paper passes through a series of rollers to flatten and dry it completely, and then it's rolled onto huge spools. The paper or cardboard spools are usually taken to another factory to be cut and packaged into the right size and shape. Corrugated cardboard is a crinkled sheet of cardboard glued between two flat sheets.

### Recycling Paper

*In 1993/94 93% of waste paper recycled in Australia was used to make packaging and industrial paper.*

The remainder was made into printing and writing paper, tissues and newsprint. Small amounts also became insulation, kitty litter and moulded products such as egg cartons, food and fruit trays, and seedling pots.

Unlike making paper from wood chips, recycling paper rarely requires a lot of pre-treatment to release the fibres into a pulp. Waste paper is mixed with water (in the "turboflex pulp-maker" pictured below) and it acts like a giant blender to make thin slurry. This is put through a sieve or screen to remove contaminants such as paper clips and staples in the "primary flow box" (see picture) and then rolled and dried, pressed flat and rolled into spools just like they do with new paper.



There are some limitations to recycled paper: \* Contaminants mean that it can't be used for food packaging, such as milk cartons. \* The fibres in paper

become weak the more often they are processed, so wood pulp fibres and high quality paper fibres are often added to waste paper to improve the strength. Because of this old newspapers cannot be recycled into top quality printing paper. Visy Recycling makes brown packaging cardboard from your waste paper. Newspaper has only recently begun to be recycled back into newsprint. This is because the de-inking process required many chemicals. De-inking is now done with soaps, and the inky residue can be used as a soil conditioner. Another process used in paper recycling is oxygen bleaching which is less harmful to the environment than chemical bleaching.

### What paper can be recycled?

Newspaper, magazines, 'junk mail', printer paper, cardboard cartons and phone books.

Don't contaminate the paper with paint, chemicals etc. Pizza boxes with food stains on them can now be recycled even though they may be greasy, just do not leave any food behind in the recycled box.

