

Papers and Boards

CORE 1.9

How is paper made?

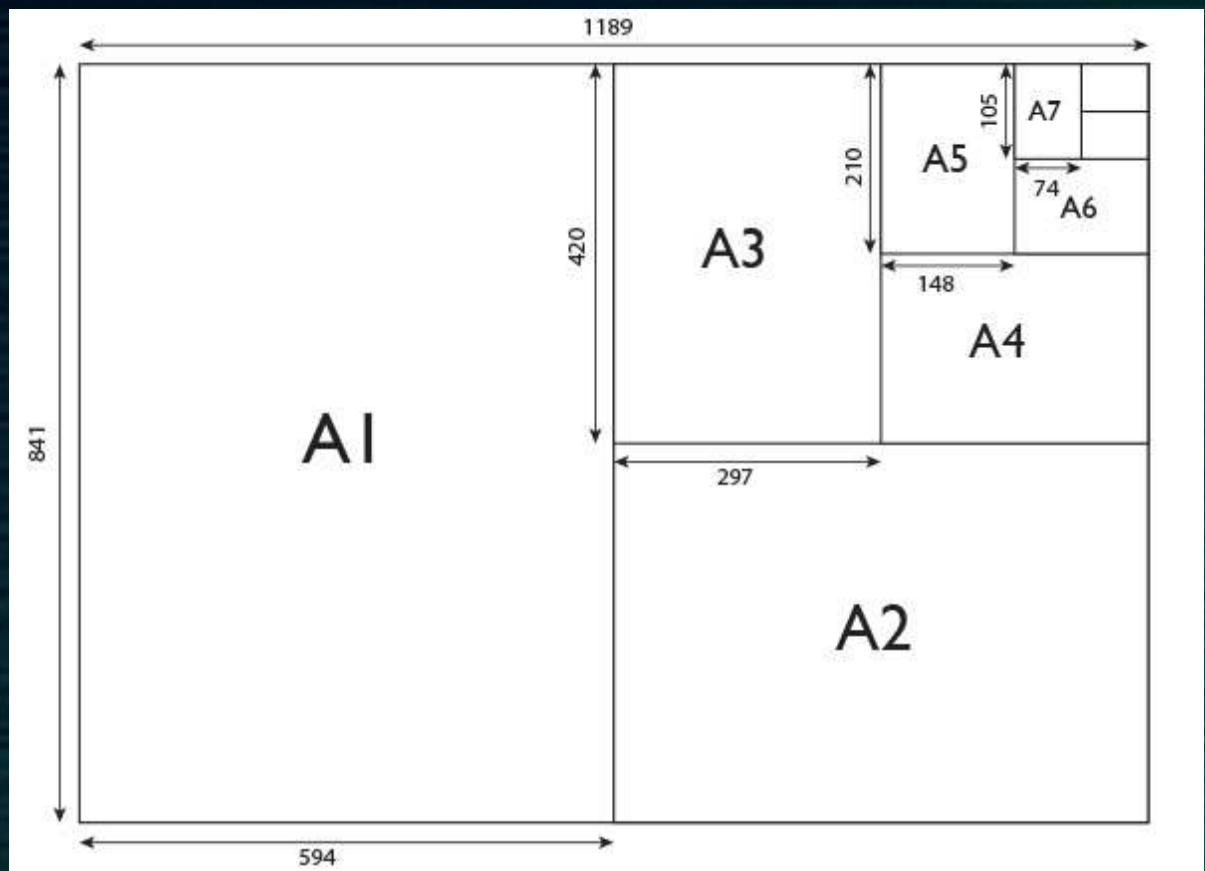
Paper is made by chipping up timber, soaking it in water to break it down into fibres and then compressing the fibres together, bleaching them and drying them out and cutting the material up into the universal size needed.

What sizes does paper come in?

Paper comes in standard sizes that are known across the world (A0, A1, A2, A3, A4 etc. This allows paper to be made anywhere in the world and allows communication across the world.

The paper sizes basically half every time you go down a size.

Paper is also measured in GSM (Grams per metre squared) this usually determines paper quality, higher weights mean higher quality.



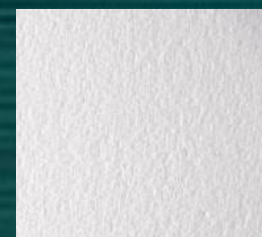
Copier paper

Description	Uses	Advantages	Disadvantages
Thin, lightweight, cheap, bright white in colour, smooth surface, bleached surface	Writing, painting and drawing	Takes colour well, good surface for pencil, cheap, readily available, available in a range of colours	Can jam in printers



Cartridge paper

Description	Uses	Advantages	Disadvantages
Creamy in colour, heavy thick paper.	General drawing Painting	Accepts most drawing media, Opaque (non see through)	Expensive



Tracing paper

Description	Uses	Advantages	Disadvantages
Thin, smooth and translucent	Overlays on drawings, make copies by tracing	Strong and Transparent	Heavier weights expensive, ink takes time to dry.



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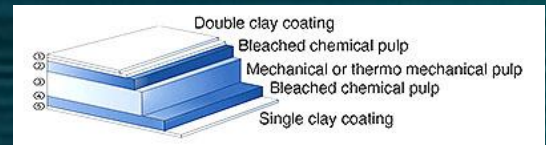
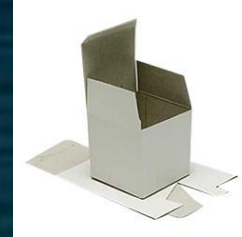
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Boards

Boards tend to weigh over 220 GSM as their thickness is much greater and is often made up of multiple plies or layers.

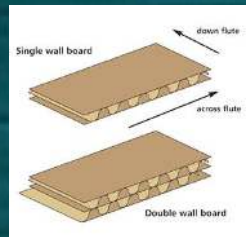
Folding box board

Description	Uses	Advantages	Disadvantages
Stiff layers consisting of: Printable bleached virgin pulp top surface Unbleached yellowish centre layers Bleached inside layer.	Cereal boxes, food and health care packaging, cartons	Excellent scoring and bending without splitting Accepts print well Inexpensive.	Lower strength than solid white board



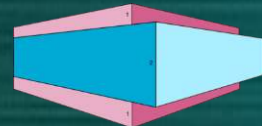
Corrugated board

Description	Uses	Advantages	Disadvantages
Two or more layers of fluted paper sandwiched between two paper liners Available in many thicknesses Strong and lightweight	Protective packaging for example boxes for Frozen and chilled foods	Impact resistant, inexpensive and recyclable	Brown finish does not show colour well Can deform under pressure Not water resistant



Solid white board

Description	Uses	Advantages	Disadvantages
Strong, rigid board made from pure bleached wood pulp Excellent printing surface	Book covers, food and cosmetic packaging	Strong rigid and accepts print well.	Can be expensive.



Properties of Papers and Boards

Property	Description
Flexibility	<ul style="list-style-type: none"> Amount material bends when a force is applied (stiffness), determined by its thickness and weight Flexural stiffness is resistance to an external bending force Handling stiffness is the ability to support its own weight
Printability	<ul style="list-style-type: none"> Ability to accept a printed image onto its surface (porosity) Affected by surface properties, such as smoothness or finish, and structural properties, such as bulk or thickness Not the same as print quality, which is determined by other factors such as alignment of plates on the machinery
Biodegradability	<ul style="list-style-type: none"> Ability to be broken down by bacteria or other biological means Most uncoated paper products are biodegradable because they are made from wood pulp Compostable means that a material can biodegrade in less than 12 weeks

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Papers

Using the book pages or the internet explain how paper is made

In what units is paper measured

Name the three papers you need to be aware of:

- .
- .
- .

Which Paper would be the best to use for general writing and drawing?

Explain why you have chosen this paper

Which paper would you use for developing a design through working drawings?

Explain why

Boards

What is the main difference between papers and boards?

Name the three boards you need to be aware of:

- .
- .
- .

Papers and Boards

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Properties

What are the three main properties of papers and boards?

- .
- .
- .

For each one complete the table below:

Property	Description

Which board would you use to create a cereal box

Explain why you have chosen this board

Which board would you use for a box to keep frozen items cool?

Explain why you have chosen this Board
