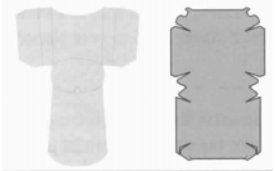
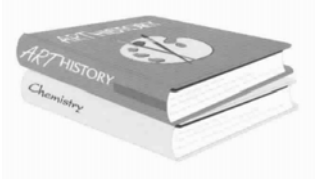
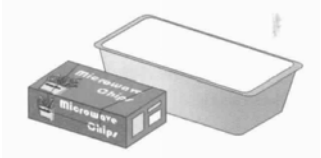
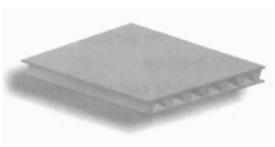
Name……Form……Mark…..

TECHNO WORLD

'YOUR' Work in Product Design

GCSE Product Design

MATERIALS AND COMPONENTS
Revision Sheet 1 – Paper and Board

Name and Description		Uses and properties…
LAYOUT AND TRACING PAPER Both translucent (you can see through them)		• Used for tracing and copying. • Its used for this because you can see through it.
CARTRIDGE PAPER A tough and lightly textured paper.		• Used for general drawing • Used for this because it takes pencils and colours well.
CARDBOARD Can be laminated together to make thicker boards. Often made of recycled material.		• Used for general packaging and modelling uses. • It's used for this because it is cheap and widely available
SOLID WHITE BOARD Made from bleached wood pulp		• Used for book covers and more expensive packaging. • Used for this because it is strong and good for printing on.
DUPLEX BOARD Made from pure wood pulp with a bleached liner on one side.		• Used in food packaging • Used for this because it can be easily printed on and can be lined to protect it from drinks and foods.
FOIL LINED BOARD Made by laminating aluminium to any of the boards above.		• Lids for food liners • Used for this to help insulate the container and to help keep moisture in.
CORRUGATED BOARD This is made up of a liner board (flat sheet) and the fluted sheet sandwiched in the centre.		• Used for large cartons which transport smaller items. • Used for this because it offers strength without undue weight.

How **paper** is made…

1. Tiny wood chips are cooked in water to make a mushy wood pulp.
2. Starch, dye and chalk are added to produce the required texture and surface finish.
3. Poured over fine mesh
4. As the water drains away the wood fibres (less than 1mm in length) link together when they touch.
5. This web is passed through rollers to squeeze out the excess water.

Paper is commonly available in the 'A' sizes e.g. A4, A3 etc.

Board is heavier, thicker and more rigid than paper and is made from several layers of pulp.

e.g. Cardboard
Carton board
Mounting board
Corrugated board

Laminating – sticking several sheets of card together to make very thick card.

Composite materials – laminating (sticking together) a wide range of different materials such as aluminium foil, plaster of paris, rigid plastic foams etc. creates boards with very different properties. You are trying to get the best properties from each material.

Eg.

Product	A foil lined lid to a takeaway carton
Composition	Board laminated to foil laminated to a thin plastic layer
Properties	Board – adds rigidity Foil – preserves food and keeps in heat Plastic lining – keeps food dry

Questions

1. Explain the how the properties of solid white board make it suitable for book covers.

2. Explain why Duplex board is especially used for printed goods.

3. Name a material that is suitable for large boxes – explain why you chose it.

4. In your own words explain what lamination is.

5. Name a paper based product that is laminated (not on the example sheet)

6. Explain why composite materials have been developed and give one example (not on example sheet)