

# **Year 10**

# **Design & Technology**

# **Remote Learning**

**Work your way through the booklet  
completing all tasks.**

Q1) Timber based materials can be separated into three different categories. Name these three categories:

1. ....
2. ....
3. ....



Q2) There are a wide variety of natural timbers. Name three natural woods:

1. ....
2. ....
3. ....

Q3) Manmade boards are also timber based. Name three types of manufactured boards:

1. ....
2. ....
3. ....



Q4) What main ingredient is added to Saw dust when manufacturing MDF?:

1. ....

Q8) What can happen to natural timber when its moisture content changes?

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Q6) Explain why you may choose to use a manufactured board for a job instead of natural timber:

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Q9) Give an example of the type of stock form a timber-based material can be bought in:

1. ....

Q10) What is the primary source of timber and is timber sustainable? Explain your answer:

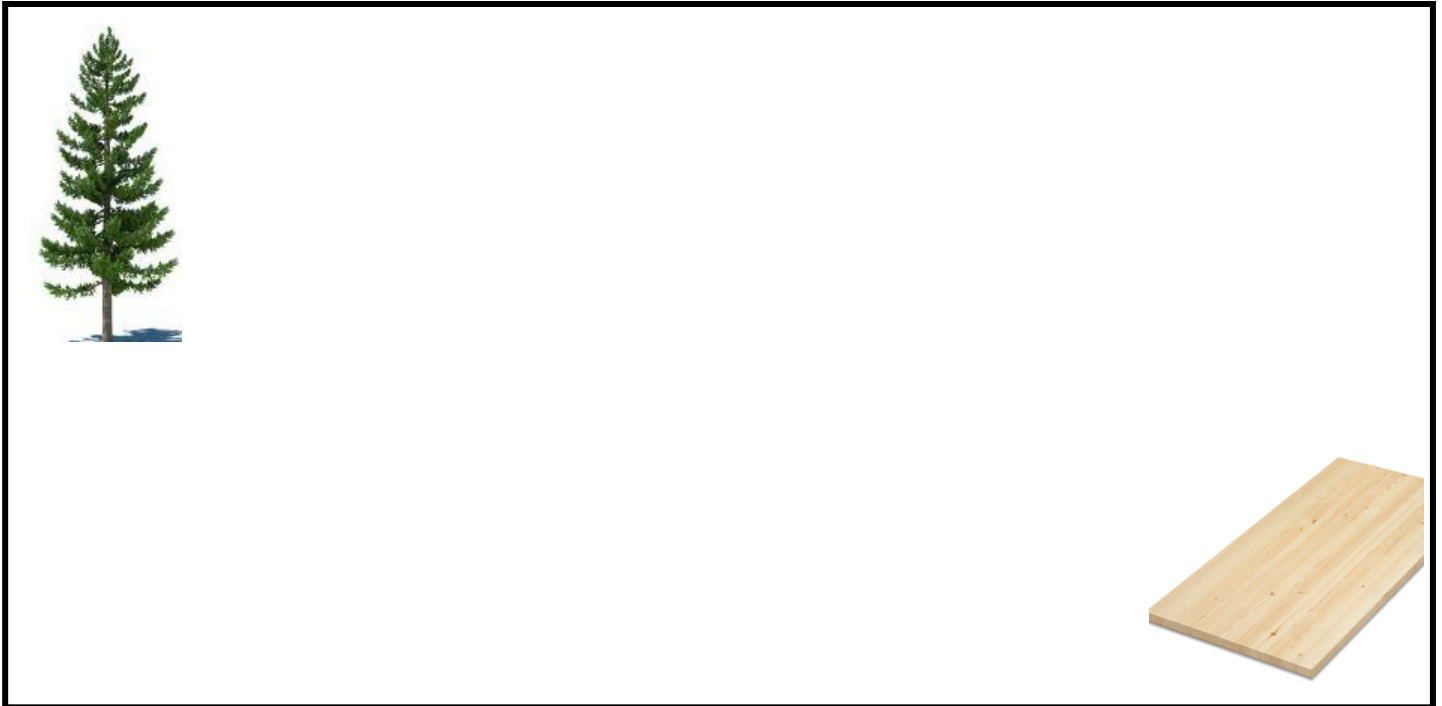
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Natural Pine Plank

What is the original source of the stock form above.

Source:

Using notes and sketches show how the original source is turned into the stock form.

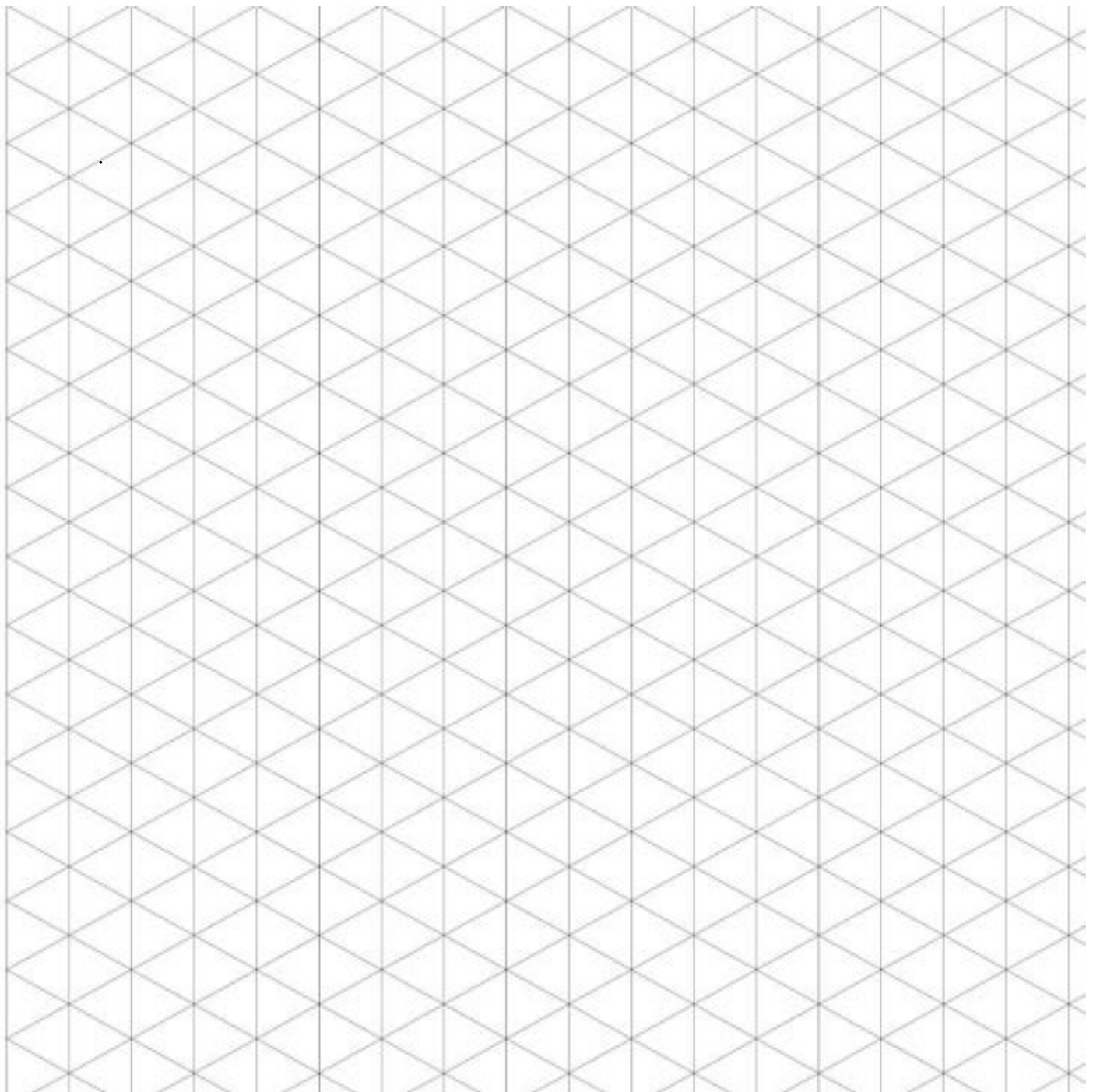
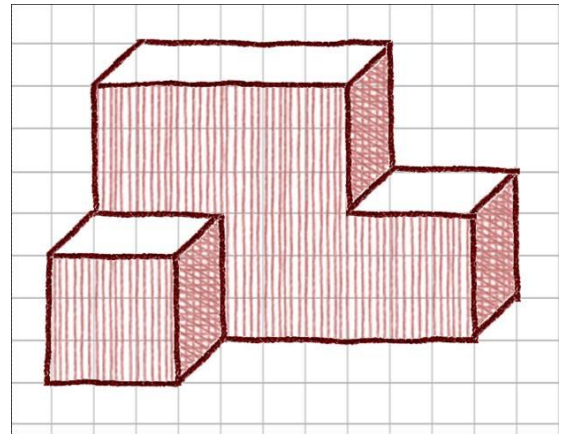


Laminating timber.

Use notes and sketches to show how the process of laminating timber is performed.



Look at the oblique drawing on the right. You must convert (draw) it in isometric. Use the isometric paper below.



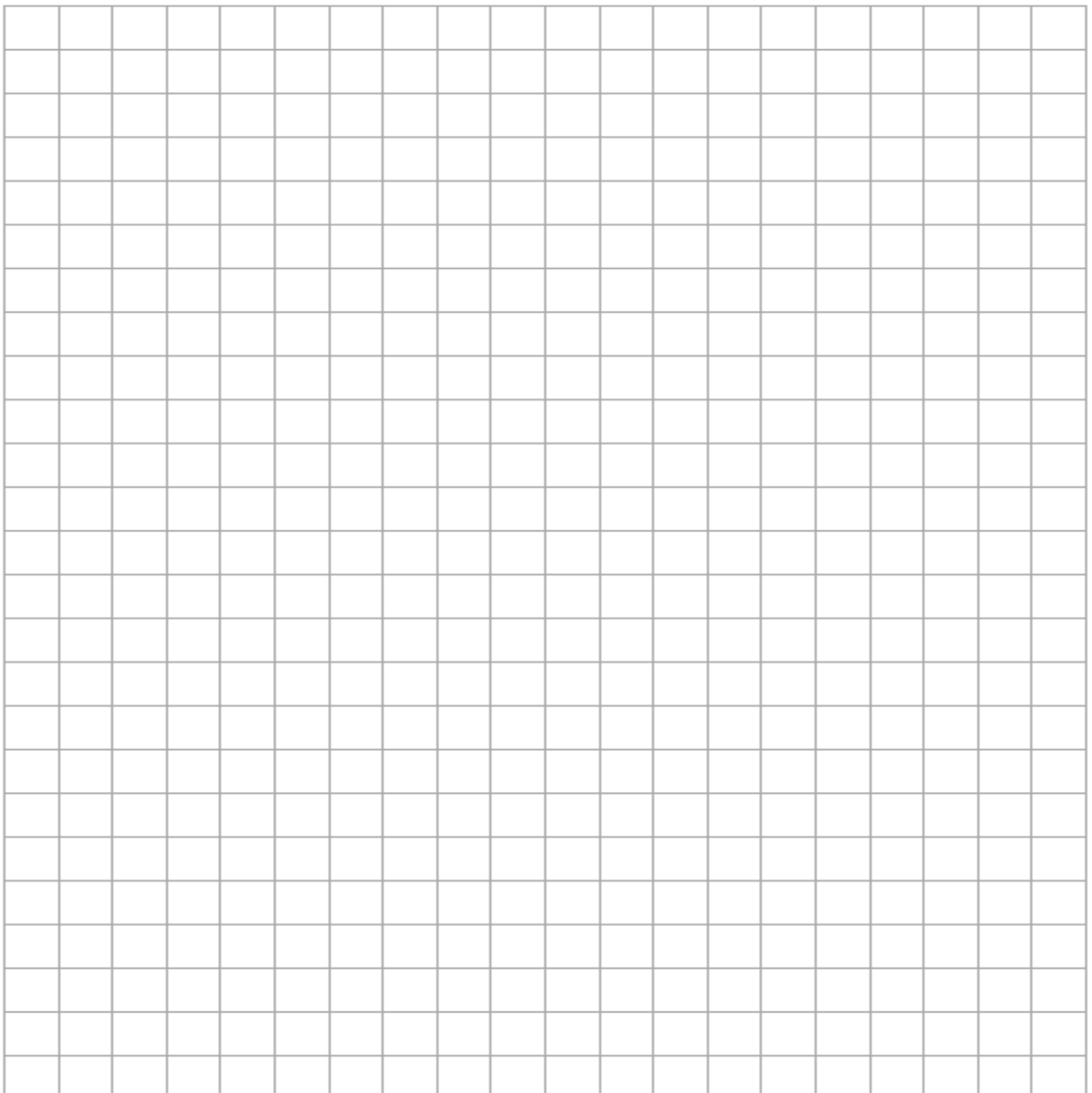
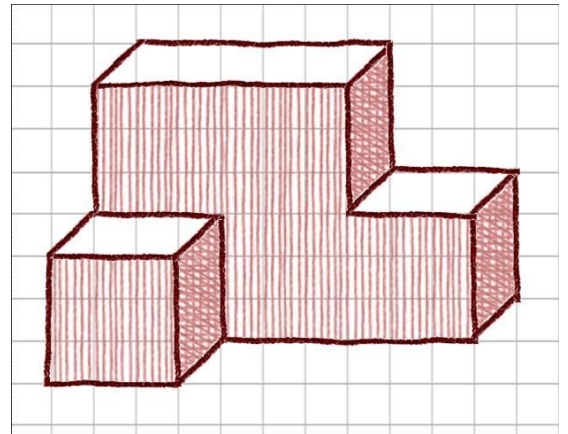
Using the oblique shape to the right and your isometric drawing you now must convert it into orthographic projection on the grid below. Keep the sizes in proportion.

Remember to use;

**Plan**

**Front**

**Side.**



1.Explain why designers research (analyse and evaluate) products from other manufacturers before starting to design new products.

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2. Opposite is a baby walker.

Analyse the information provided in the specification and the image to evaluate the product in terms of its;

- 2. Safety
- 3. Suitability for the user
- 4. Aesthetics

**Specification.**

- Detachable learning centre packed with activities.
- Stimulates all 5 senses
- Developments hand eye co-ordination.
- Encourages first steps
- Sturdy design



**Safety**

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**Suitability for the user**

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**Aesthetics**

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There are 2 groups of polymer (plastic). Name them.

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Explain the difference between the 2 groups of polymer (plastic)

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Name for stock forms that polymers (plastic) are available in.

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.....  
.....

Plastic	Group
Polypropylene	
Melamine formaldehyde	
Acrylic	
Low Density Polythene	
Urea formaldehyde	
Polyethylene Terephthalate	

Label the plastic (polymer) symbols to the correct specific material



These plastic items are all formed using different processes.

1. Identify the process used to manufacture each. (Injection, blow moulding, extrusion, vacuum forming..)
2. Use notes and sketches to explain each process. **Or copy and paste a diagram.**
3. State the method of production used for each process. For example Mass, batch, one off





Different products are made on different scales: **One off, Batch, Mass, Continuous**

One off: Only one item is made. Usually expensive.

Batch: A number of 100- 1000 are made. Production is easily change for different items

Mass: Large volume production. 10,000's. Expensive to start up, uses automation (robots).

Continuous: Very large numbers produced. Production never stops it runs 24hours, 365 days a year.

For each product, suggest whether it should be produced as a one-off, in a batch. mass or continuously produced. Give reasons why.

Product	Scale of production (1 mark)	Reasons why (2 marks)
Metal screw		
Concept car		
Green Christmas baubles		
World Cup 2018 footballs		
Personalised silver necklace		
Scissors		
Food leaflets		