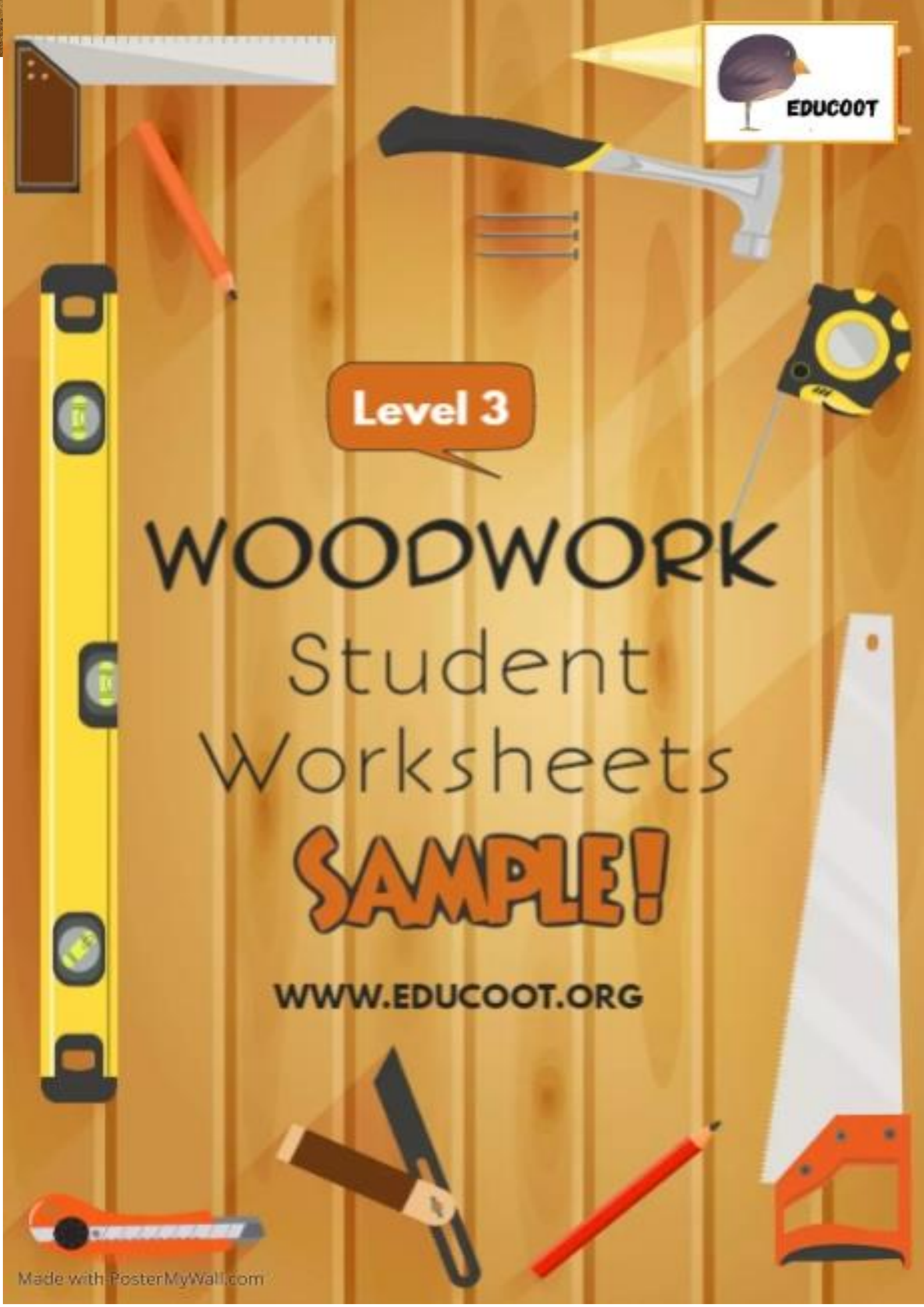
EDUCOOT
Level 3
WOODWORK
Student
Worksheets
SAMPLE!
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Contents

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2. Read:

Wooden board materials include: MDF/HDF, OSB, Plywood and Veneer.
In wood processing and the furniture industry, wooden panels are commonly applied. Frequently used wooden board materials are MDF (Medium Density Fibreboard), HDF (High Density Fibreboard), OSB (Oriented Strand Board), Particle Board and Plywood. These wooden panels come with different physical characteristics with fit into different kinds of construction or building applications.
Manufactured boards are man-made from wood products. They are made in factories, not cut directly from trees.
Man-made boards (sheets) come in lots of different sizes and thicknesses but the most common is 2440mm x 1220mm.

3. Study the materials below. (Zoom in if you need to)

MDF (MEDIUM DENSITY FIBREBOARD)

HDF (HIGH DENSITY FIBREBOARD)

OSB (ORIENTED STRAND BOARD)

PLYWOOD

CHIPBOARD

Materials that make manufactured boards:

- Veneers
- Sawdust
- Wood fibres
- Wood strips
- Wood flakes

4. Look at different materials in the

2. Briefly describe what seasoning is.

3. Name 2 advantages of using seasoned timber.

4. Name 3 differences between open air seasoning and kiln dry seasoning.

OPEN AIR SEASONING	KILN DRY SEASONING

SEASONED TIMBER

F. Measurement Tools

1. Read about measuring tools:

- The two most common tools used in the woodwork room for measuring are the steel ruler and the measuring tape.
- It is very important to mark out your work piece correctly, if you want to make good, accurate work pieces.
- The tools used for measuring must be looked after properly. They should not be used for anything else.
- The **steel ruler** is usually 300mm long. The markings on the ruler are either in millimetres (mm) or centimetres (cm). All measurements start at the square end of the rule.

- The measuring tape is mostly used for long measurements. It is used for checking the sizes of large work pieces and for marking out on boards. It comes in different lengths.

2. Measure and mark the following sizes on the lines below: (use a different colour, e.g., red)

(a)15mm (b) 10mm (c) 52mm (d) 28mm (e) 68mm

(a) _____

(b) _____

(c) _____

(d) _____

(e) _____

2. Choose YES or NO.

A VICE IN A WOODWORK CLASSROOM

a) Follow most of the safety notices in the room.
☐ YES ☐ NO

b) Once the woodwork is complete, all tools should be left displayed on the tables.
☐ YES ☐ NO

c) If you have a tie, remove it during your woodwork class.
☐ YES ☐ NO

d) Bags are a tripping hazard and should be placed out of the way.
☐ YES ☐ NO

e) While you are working, leave your tools on the floor.
☐ YES ☐ NO

f) If you have long hair, tie it back.
☐ YES ☐ NO

g) Goggles, a dust mask and ear muffs are examples of PPE you may need to wear in the woodwork room.
☐ YES ☐ NO

h) Your workspace should always be kept tidy.
☐ YES ☐ NO

i) Leave the vice open when it is not in use.
☐ YES ☐ NO

j) Wear sturdy, appropriate footwear in the woodwork room.
☐ YES ☐ NO

3. Write the labels.

5. Read about handsaws:

SAW TEETH

- A handsaw is a tool which has a metal blade with many sharp V-shaped teeth.
- The blade can vary from flat and wide to narrow and thin.
- The size and shape of handsaw teeth differ – it depends on what the saw is going to be used for.
- Handsaws are used for cutting wood, metal or plastic.
- Take care of saws because the teeth can be easily damaged.
- Blunt or damaged saw teeth will not cut properly and could cause an injury.
- The **coping saw** is used to cut shapes and/or curves in thin pieces of wood.
- The **tenon saw** is used for light bench work and cutting wood to length.
- The **panel saw** is used to cut thin sheet material such as manufactured boards like plywood and chipboard.

6. Label the saws:

*Look at the saws in the woodwork room and state what they are used for.

7. Complete the sentences about using handsaws safely:

damage, Store, OUT OF SERVICE, slowly, handle,
protection, clean, handsaw, defects, vice, fingers

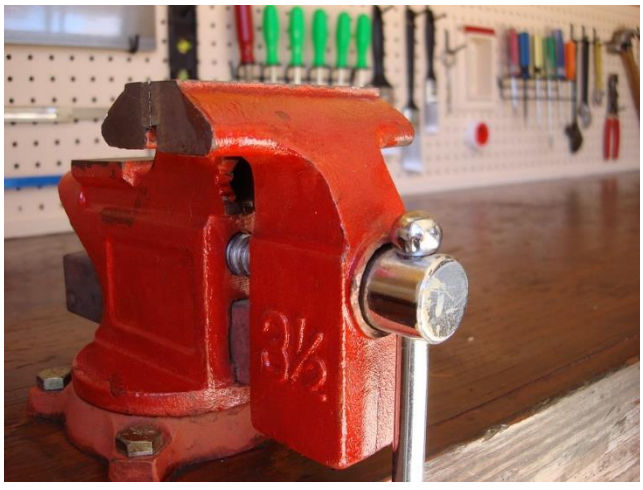
a) Inspect hand saws for _____ such as splintered or cracked handles, missing sawblade teeth, loose saw-blade connections, and bent saw blades or frame handles.
b) Notify your tutor or teacher and remove from service any handsaw that fails inspection by attaching a red tag that states "_____" Complete red tag with appropriate information.
c) Wear eye _____ when using a handsaw.
d) Do not test saw teeth on hands or _____ to check if a handsaw is sharp.
e) Carry a handsaw by its _____ with the saw end pointed down.
f) Use the proper type of _____ for the job you are doing. Choose the correct type of hacksaw blade for the type of material to be cut.
g) Inspect the wood for nails, knots, or imperfections in the wood that could _____ the handsaw.
h) Begin cutting by starting carefully and _____ to prevent the saw blade from jumping or binding.
i) Place wood in a _____ or hold stock firmly when sawing.
j) Keep all hand-saw blades sharp and _____.
k) Keep hacksaw blades lightly oiled.
l) _____ all handsaws in a safe place.

1. Read about vices:

- A woodworking vice is a type of vice made to solidly clamp wood without damaging the surface.
- Wood often needs to be clamped when completing tasks like sawing, drilling or carpentry. This is so that the user can keep both hands free and away from the material during applications.
- Most models of woodworking vices are made to be permanently bolted onto a workbench. They are usually attached underneath the workbench with the upper edge of the jaws level with the surface of the workbench.
- Woodworking vices are attached in this way in order to hold workpieces in a low position, to make applications such as sawing or planing easier for the user. This is to prevent the user from stooping whilst they are working.
- As the surface of a woodworker's bench is usually at the best working height for its user, the vice is then also in the best working position. Having the vice in this position also keeps the surface of the workbench clear for the user to complete other tasks.
- There are some models of woodwork vices which are portable and are designed to be clamped to the edge of a work surface, rather than be bolted to it.

a) What is the purpose of a woodworking vice?

b) Why is the vice often attached underneath the workbench?



B. Measuring and Marking out the Wood

1. What tools will you use to mark out the wood?

Examples:

a try-square, a sliding bevel, a steel rule, a marking gauge, a mortise gauge, an awl, a sharp pencil

2. Tick once you have completed the following:

- ☐ Used the appropriate marking out tool for the task
- ☐ Marked the face side and face edge
- ☐ Measured out each piece to the required length and marked the waste wood
- ☐ Used the try-square to draw lines perpendicular to the face side and face edge
- ☐ Marked out the location of embellishments, joints, holes to be drilled or angled saw cuts using a try-square, gauge, sliding bevel or awl, as appropriate
- ☐ Identified any wood that is to be removed

A CARPENTER MARKING OUT A PIECE OF WOOD

D. Assembling Your Project

1. Read about nails:

- A wood joint is any direct connection locking together two or more pieces of wood.
- The connection may be made by fasteners, like screws or nails, by glue, by wood joints, or by any combination of these.
- Using nails is an easy and quick way to join pieces of wood together.
- There are many different types and sizes of nails.
- It is very important that you use the right type of nail for the job that you are doing.
- Examples of nails include: round wire nails, oval wire nails and panel pins.

- Nails hold by friction. A nail driven into wood forces the fibres apart, and because of the very tight fit, the friction between the nail and the wood holds the nail in place.
- Nails can be used to stabilise a mitred or butt joint at the corner of something, to secure pieces of wood together that are not jointed (e.g., when working with MDF, plywood or chipboard)or to fasten a non-wood material to wood, for example, in upholstery.

2. Give examples of what can be used to join wood to wood.

3. Draw and label 3 types of nails.

5. Complete the sentences about the purpose of wood finishing:

deeper, fungus, smooth, wood, damage

a) It protects the wood surface from mechanical _____ damage, e.g., scratches and dents.

b) It prevents biological decay, e.g., _____ and insects.

c) It enhances the appearance of the _____ by highlighting the grain.

d) It makes the colour _____ and more lustrous.

e) It can change the colour, e.g., by staining.

f) It makes the surface _____ and pleasant to touch.

6. A good varnish should decorate and waterproof the wood, whilst at the same time enhancing its natural beauty.

What are good reasons to varnish your project? Tick the reasons.

- ☐ It provides a layer of protection.
- ☐ The wood will last for a shorter time.
- ☐ It makes the wood easier to keep clean.
- ☐ It makes it easier for bacteria to live on the surface of the wood.
- ☐ It allows water to be absorbed by the wood.
- ☐ It helps the wood to resist heat.
- ☐ It makes the wood more scratch-resistant.
- ☐ It makes the wood look dull.
- ☐ It will make the wood more water-resistant.

STAINING WOOD WITH SPRAY GUN

F. Tools and Equipment You Used

1. Tick the hand tools you used:

- ☐ tenon saw
- ☐ coping saw
- ☐ marking gauge
- ☐ try-square
- ☐ ruler
- ☐ sliding bevel
- ☐ plane
- ☐ chisel
- ☐ mallet
- ☐ other (list them)

2. Did you choose the correct tool for the task?

☐ YES ☐ NO

3. Did you maintain the tools correctly so that they were safe to use?

☐ YES ☐ NO

Give examples:

4. Can you name all the hand tools you used, and what you used them for?

☐ YES ☐ NO

Mapping of Learning Outcomes

1. Select the materials, power tools, hand tools, and equipment required to complete a range of woodwork exercises Pages 14 to 22 (materials available), Pages 27 to 34 (measurement tools), Pages 40 to 52 (hand tools – uses and safety), Pages 53 to 61 (power tools – uses and safety), Page 72 (measuring and marking out the wood), Pages 73 to 74 (processing the wood, cutting the wood), Pages 75 to 80 (assembling your project), Pages 81 to 85 (completing your projects), Pages 86 to 91 (tools used), **Project A (separate), Project B (separate)**
2. List the safety mechanisms for a limited range of power tools Pages 53 to 61 (power tools – uses and safety), **Project A (separate)**
3. Maintain tools and equipment correctly Pages 86 to 91 (tools used), throughout the course, **Project B (separate)**
4. Use correct language and terminology to describe tools, equipment, and processes Page 9 (discussing wooden artefacts), Pages 10 to 13 (trees and wood), Pages 14 to 22 (materials available), Pages 23 to 24 (seasoning), Pages 25 to 26 (wood defects), Pages 27 to 34 (measurement tools), Pages 40 to 52 (hand tools – uses and safety), Pages 53 to 61 (power tools – uses and safety), Pages 62 to 68 (reading drawings/sketches, cutting list), Pages 73 to 74 (processing the wood, cutting the wood), Pages 75 to 80 (assembling your project), Pages 81 to 85 (completing your projects), Pages 86 to 91 (tools used), Pages 93 to 94 (evaluation), **Project B (separate)**
5. Follow drawings, sketches, templates, instructions and other aids to mark out, measure and prepare cutting lists and work pieces, using appropriate marking and measuring tools Pages 27 to 34 (measurement tools), Pages 62 to 68 (reading drawings/sketches, cutting list), Page 72 (measuring and marking out the wood), **Project A (separate), Project B (separate)**

6. Use a range of electrical, cordless and hand tools to include an awl, marking gauge, vice clamp, planes, chisels, drills, routers, saws and sanders Page 72 (measuring and marking out the wood), Pages 73 to 74 (processing the wood, cutting the wood), Pages 75 to 80 (assembling your project), Pages 81 to 85 (completing your projects), Pages 86 to 91 (tools used), Project B (separate)
7. Follow manufacturer's instructions when changing saw blades, belts, guides and bit blades Pages 73 to 74 (processing the wood, cutting the wood), Pages 75 to 80 (assembling your project), Pages 81 to 85 (completing your projects), Pages 86 to 91 (tools used), Project B (separate)
8. Cut wood to given specification using the correct saw type and blade size Pages 73 to 74 (processing the wood, cutting the wood), Pages 86 to 91 (tools used), Project B (separate)
9. Estimate quantity of materials required to complete a specific project in wood Page 68 (estimating quantity of materials), Project A (separate)
10. Complete projects using a variety of methods including adhesives, glue, nails, screws, dowels and pins Pages 75 to 80 (assembling your project), Pages 81 to 85 (completing your projects), Project B (separate)
11. Apply appropriate health, safety and personal hygiene procedures when using materials, power tools, and hand tools. Pages 35 to 39 (general woodwork room safety), Pages 40 to 52 (hand tools – uses and safety), Pages 53 to 61 (power tools – uses and safety), throughout the course, Project B (separate)