

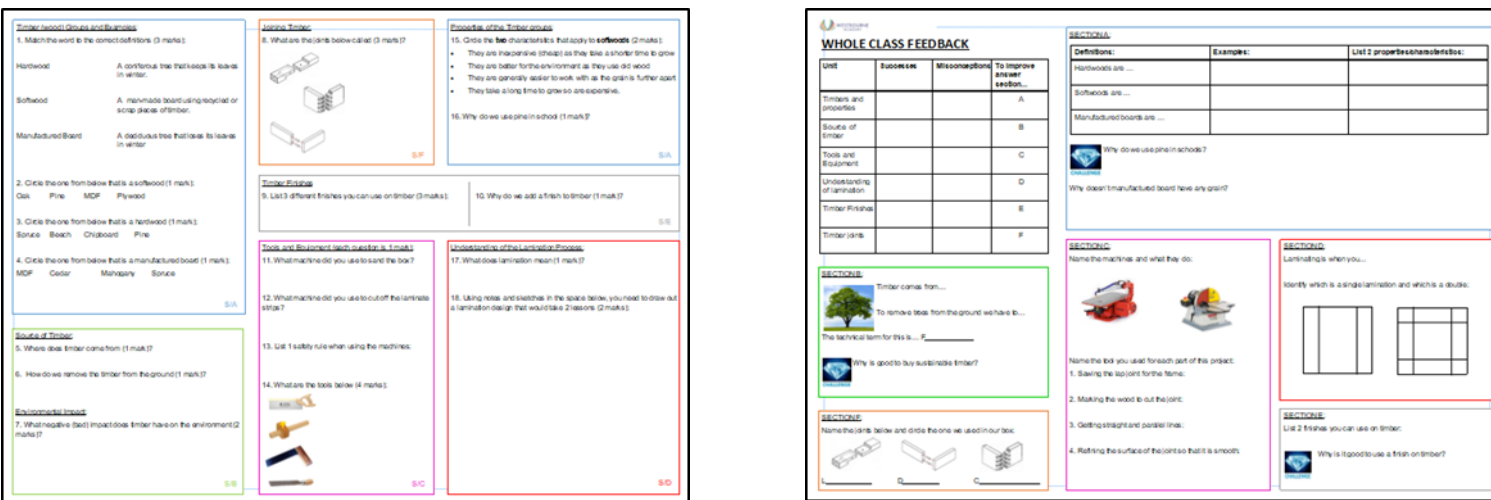
TEACHING & LEARNING JOURNAL - EDITION 19

Curriculum Focus Group—Journal Entry Ed 2

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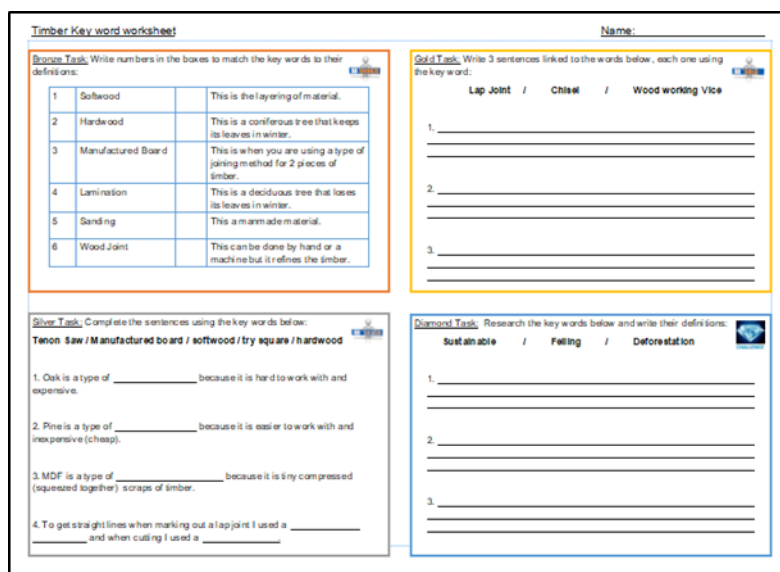
As Design and Technology moved to a holistic approach, the course is more demanding as they focus on all material areas as well as product design and manufacture. To ensure that students have a solid foundation at KS3 ready for KS4, there was a complete overhaul of the curriculum. Main changes involved removing the carousel system whereby teachers were less accountable towards the students' progress and redesigning the entire content throughout to ensure there was a clear goal at the end.

Teachers now keep their classes throughout the year and have been up skilled as they have had to develop their subject knowledge and practice new and developing techniques. Teachers collaborated on the curriculum and planned units of work they were most confident and specialised in. This gave the team an ownership of the unit planned and played to their strengths. Furthermore, we agreed on a set standard of content that was compulsory to ensure that knowledge needed at KS4 was starting to embed at KS3. An example of this are the 'Core Principles' of the material groups e.g. knowing the categorisation, properties and example uses of these materials. By giving the students these foundations, it has allowed them understand better the manipulation of material when they are using it in the workshop. They then start to develop the 'specialist technical principles' whilst working with the material and these skills develop in KS4 as they become more confident, prepping them for both the exam and coursework content. Here are some changes to testing and homework that have proven successful over the last year:



The collage shows several educational resources:

- Timber Joinery Worksheets:** Multiple pages with diagrams of joints (like mortise and tenon, dovetail) and questions about their uses and properties.
- Whole Class Feedback:** A table with columns for 'Success', 'Misconceptions', and 'To improve student session'. It lists topics like 'Timbers and properties', 'Sources of timber', 'Tools and Equipment', 'Understanding of lamination', 'Timber Finishes', and 'Timber joints'.
- Timber Key words worksheet:** A worksheet with a grid for matching key words to definitions and a section for writing sentences using the words.



**Timber Key words worksheet**

Name: \_\_\_\_\_

**Bronze Task:** Write numbers in the boxes to match the key words to their definitions.

1	Softwood	This is the layering of material.
2	Hardwood	This is a coniferous tree that keeps its leaves in winter.
3	Manufactured Board	This is when you are using a type of joining method for 2 pieces of timber.
4	Lamination	This is a deciduous tree that loses its leaves in winter.
5	Sanding	This is a man-made material.
6	Wood Joint	This can be done by hand or a machine but it aligns the timber.

**Silver Task:** Complete the sentences using the key words below:  
**Timber / Saw / Manufactured boards / softwood / try square / hardwood**

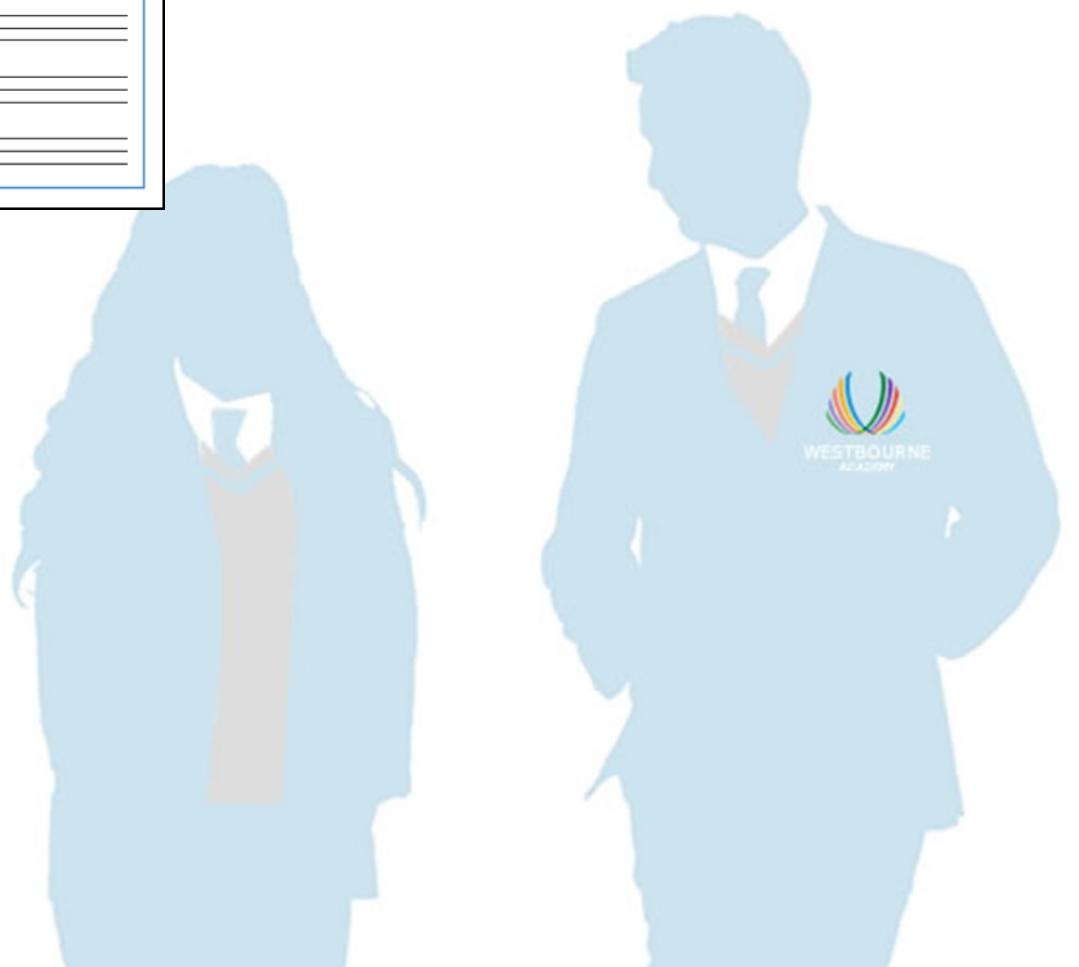
- Oak is a type of \_\_\_\_\_ because it is hard to work with and expensive.
- Pine is a type of \_\_\_\_\_ because it is easier to work with and inexpensive (cheap).
- MDF is a type of \_\_\_\_\_ because it is tiny compressed (squeezed together) scraps of timber.
- To get straight lines when marking out a lap joint I used a \_\_\_\_\_ and when cutting I used a \_\_\_\_\_.

**Gold Task:** Write 3 sentences linked to the words below, each one using the key word:  
**Lap Joint / Chisel / Wood working Vice**

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**Diamond Task:** Research the key words below and write their definitions:  
**sustainable / Felling / Deforestation**

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

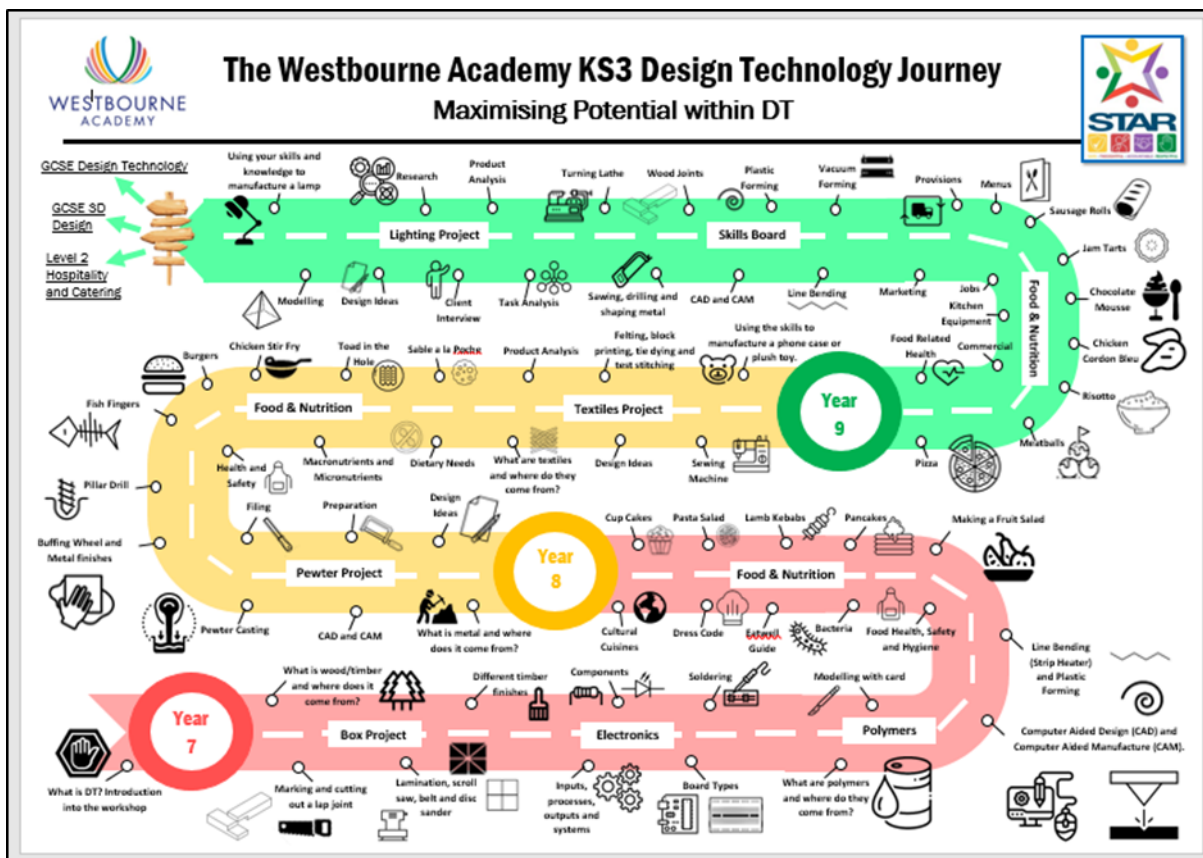


These new resources have improved their literacy skills in their homework and lessons, as they are required to write in full sentences and use the keywords provided. Furthermore, the examination has introduced exam style questions, which we are able to start embedding and strengthen their responses throughout KS3, providing better preparation for KS4. To develop the curriculum and retention of knowledge, we started to introduce low stake quizzing in the lessons as starters to assess where the students were at with their knowledge and revisit areas that were weaker. Further development on the progress of this will be from September 2020 due to COVID-19.

In addition, I attended the focus group based on curriculum to gain more insight into the new Ofsted framework, intent, implementation and impact. These group sessions were helpful as we discussed these 'keywords' and what they would look like in our subjects and whether or not this was taking place. These sessions then lead on to developing and investigating SOW's in which a proforma was generated (GCo) used in whole school; a clear and concise way of recording our new curriculum.

### During Lockdown:

To develop the curriculum further and to ensure students knew the path that they were on in DT, this detailed map of their journey at KS3 shows what they are learning. This can help them as a prompt when they are studying and used as a resource. For example, remember when we learned this and using this map as a reminder by pointing to the section, therefore, aiding the student to remember. This applies to the knowledge organisers created that provide in-depth detail of the knowledge needed from that unit. Students can reference to them when answering questions for either class or homework, it is a single place for all that is to be learned. As of September 2020, the use of these in lessons will aid student responses and provide them with more confidence when asking questions. It will give them a better grasp on subject terminology and again, start to embed keywords earlier on in the curriculum. Here are some examples:



### Materials and their Properties: Timbers & Manufactured Boards

#### HARDWOODS

They are deciduous trees which means that they lose their leaves. These trees are broadleaved, bulky and slow growing. Overall they tend to be harder to work with and more expensive than other types of timbers. They are less porous and denser and structures which makes them harder wearing and less prone to rotting.

**TYPES:**

Name	Characteristics	Uses
Ash	Flexible, tough and shock resistant. Laminates well. Pale brown/cream.	Sport equipment and tool handles.
Beech	Fine finish, tough and durable. Dense close grain with air.	Children's toys, models and furniture.
Mahogany	Beady worked, durable and finishes well. Rich reddish brown in.	High end furniture and joinery.
Oak	Tough, hard and durable. High quality finish possible. Light brown with variable grain.	Flooring, furniture and railway sleepers.
Balsa	Very soft and lightweight but can snap. Pale cream/white in colour. Unusually fast growing and soft.	Prototyping and modelling - especially in model aircraft.

#### SOFTWOODS

They are coniferous trees which means that they keep their leaves in winter - evergreen. These trees are tall and Christmas tree like shaped. Overall they tend to be easier to work with and less expensive than other types of timbers. They are more porous and if unprotected will rot. They have cones for leaves and grow quickly.

**TYPES:**

Name	Characteristics	Uses
Larch	Durable, tough and good water resistance. Machines well.	Boiler cladding, flooring, machine mouldings and furniture.
Pine	Lightweight, easy to work but can split.	Interior construction, cheaper furniture and decking.
Spruce	Easy to work, high stiffness to weight ratio.	Construction, furniture and musical instruments.
Redwood	Easy to work and machines well, some no resistance.	Outdoor furniture, beams, posts and decking.
Cedar	Easy to work, can stain back, finishes well and naturally resistant to rot.	Outdoor furniture, fences and cladding for buildings.

#### MANUFACTURED BOARDS

They are sheets of processed natural timber and adhesives - so they are human made boards. These are usually made from waste wood, by-grade and recycled timbers. Can be covered by thin slices of high quality wood known as veneer to make it look aesthetically pleasing. Cheaper than natural timber. Come in boards and have no grain.

**TYPES:**

Name	Characteristics	Uses
MDF	Rigid and stable, good value with a smooth easy to finish surface.	Flat pack furniture, toys and kitchen units.
Plywood	Stable in all directions as alternating layers. Flexible veneers available.	Furniture, shelving, toys, interior and exterior construction.
Chipboard	Good compressive strength, not water resistant and prone to chipping on edges.	Flooring, low end kitchen units and worktops.
OSB	Rigid and strong, good water resistance.	Construction in interior and exterior house building.
Block board	Stable, tough and heavy. Finishes well.	Furniture, doors, shelving and interior construction.
Hardboard	Flexible, even strength and easily damaged by water.	Furniture and photo frame backing.

#### SOURCE/ORIGIN

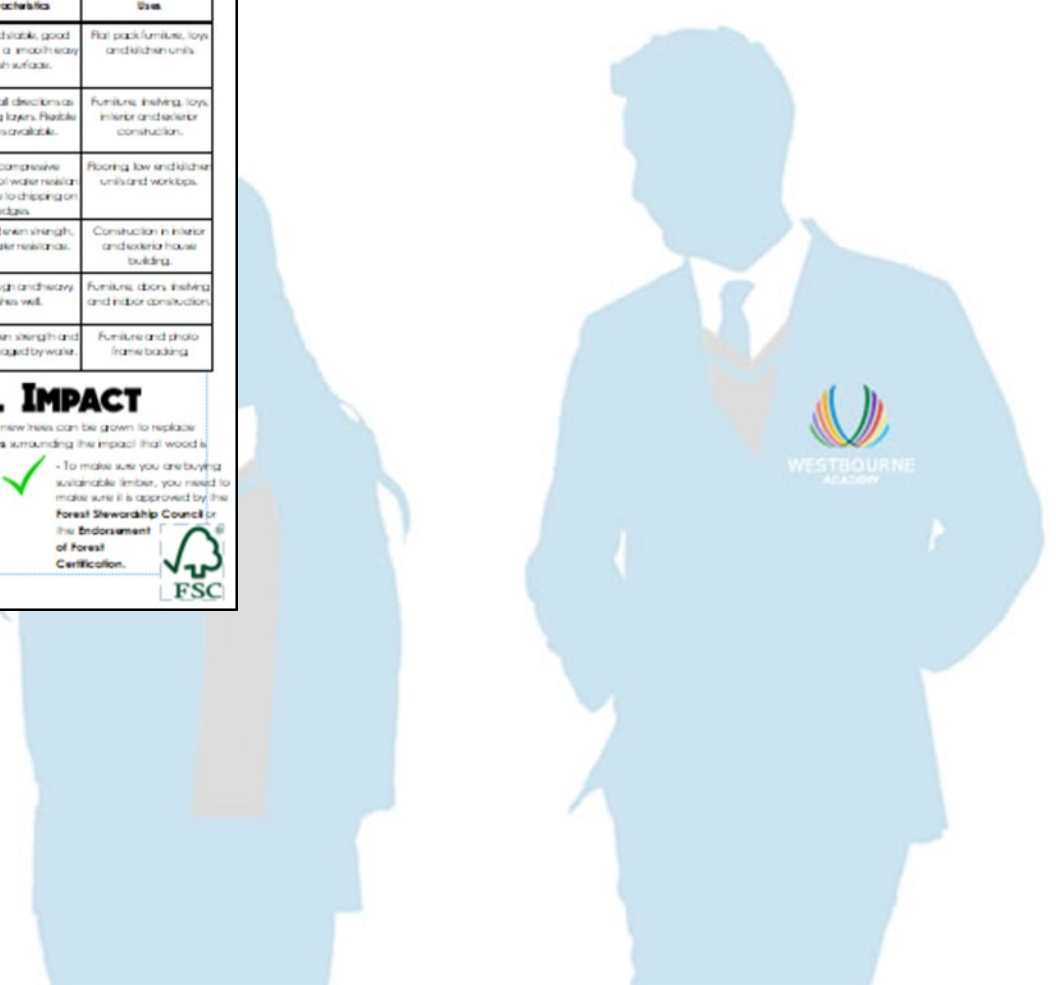
So timber comes from trees - this is known as the source or origin of the material. This is how we change into timber.

- Mature trees are chosen to be cut down. This is known as felling. Either by a chainsaw or through an axe.
- Branches are cut off and the logs are stored until they are transported to a sawmill.
- When at the sawmill, machines such as band saws and circular saws are used to create boards/planks.

#### ENVIRONMENTAL IMPACT

Wood is considered a **sustainable resource** as new trees can be grown to replace those felled. Here are some **likes and positives** surrounding the impact that wood is having on the environment.

- In many places, wood is being used at a greater rate which means it is unsustainable. ❌
- Regal felling is leading to deforestation as people aren't replanting trees.
- Deforestation helps with global warming. ❌
- To make sure you are buying sustainable timber, you need to make sure it is approved by the Forest Stewardship Council or the Endorsement of Forest Certification. ✅
- FSC logo.



## NPQML – Progress of Boys

Alongside developing the curriculum, I completed the NPQML based on the progress of boys, as this was an area in which is a whole school focus and an area to improve within DT. After consulting with the HOD, the weakest unit was the examination. Hence, the need to introduce at KS3 as there was not anything beforehand. The progress 8 score for boys when I started was -0.21 and by the end, it was 0.13, for the more able of the boys, it was -0.63 and it increased to 0.17. I researched into various strategies and implemented these in my lessons; I recorded what had been successful and what had not. After trial and error, the most successful with this particular class was consistent testing and quizzing. This proved over time the most effective for the majority of the boys within the group, I completed this with a detailed tracker to enable me to see clearly, where they were sitting in relation to their target grade. If anyone came in under the expected level of progress, the student would re-sit that unit exam again (a different one so the answers were not the same). I have taken this strategy through and it is still proving successful, I have started to introduce low stakes quizzing also to see if this will improve their first attempt. If you would like to read the investigation, then please let me know and I will happily share and answers any questions.

