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# Year 10 – Nut Cracker

This project is a FOCUSED TASK. This means that you will be concentrating on a number of specific tasks in order to complete the project.

During this project you will be focusing on the following

1. Research Techniques.
2. Measurement and labelling a diagram.
3. Laminating and shaping wood.
4. Finishing techniques on wood
5. Produce a thread using a tap.

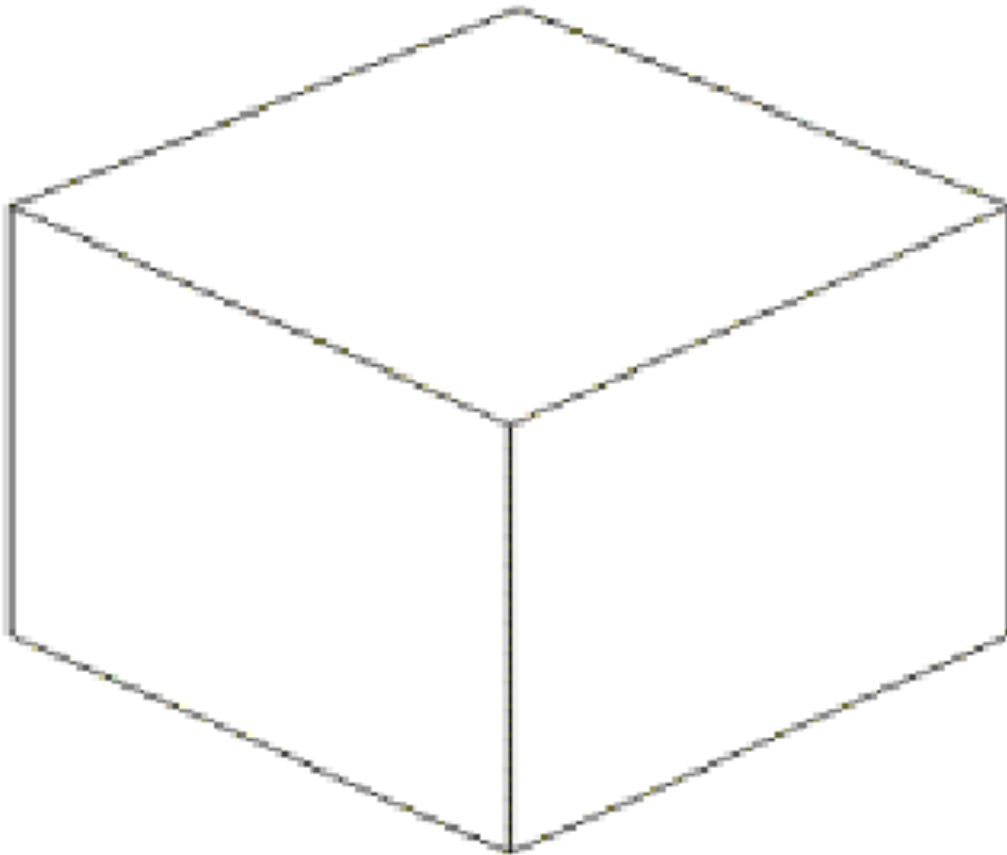
## **1: Research Nut Crackers**

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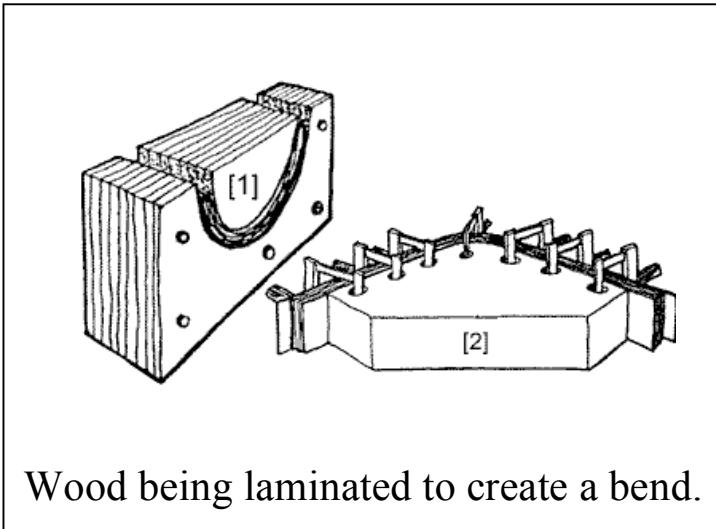
2 - Accurately measure the shape below and place the measurements on the diagram.



2 – Complete the 3D sketch of your nut cracker. You must show sizes and any design shape you wish to produce.



## Laminating and Shaping Wood



Laminating wood has 2 functions:

1. To bend it into shape
2. To create layers of different material.

Q. What is the purpose of laminating your project?

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Q. Do you have anything at home which is made of laminated wood?  
Name it.

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Make a list of the procedures and techniques used in the manufacture of this project.

Investigate products which use lamination

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The term finish is often used loosely to refer to any chemical that is applied to wood. The term actually refers to a clear protective coating that sits on or in the surface of the wood.

Stain, Paint, and Finish are the three primary classifications for common wood treatments. Stains contain pigments and are used to tint the wood. Paints contain coloured pigments and sit on the wood to form a protective coating. Some finishes are simply paint with out the pigment that lay down a clear protective coating. There are five common types of finishes on the market. They are:





- Oil
- Varnish and Polyurethane
- Shellac
- Lacquer
- Water-based Finishes

Applying finishes is one part of woodworking that doesn't require many tools. In fact there are only three main tools used to apply all of the finishes listed above; rags, brushes, and a spray gun. Many professionals will use a spray gun for smooth even coats.

Using notes and sketches describe how you achieved the required finish on you project.

## **NUTS AND BOLTS**

Complete the following table. These are all some of the items you will use during this project.

<b>Lock Nuts</b>		<b>What are these used for?</b>
<b>Taps and Dies.</b>		<b>What are these used for?</b>
<b>Threaded Bar</b>		<b>What are this used for?</b>
<b>PVA Glue</b>		<b>How does it work?</b>
<b>Name an item you used in this project that you have never used before. Find out information about this item and make notes on it.</b>	Name and pictures of the item.	<b>Purpose of the item</b>

## Assessment page

### Assessment criteria:

#### **Communication**

Accurate, well presented title page, showing relevant graphics and colour. 0 - 10

Completed booklet with colour and labelled sketches 0 - 30

#### **Manufacture**

All elements completed demonstrating a high level of skill in manufacturing (Tolerance as per template +/- 0.5mm), assembly and finish. 60

All elements completed, product functioning but lacking evidence of a high skill level with respect to the manufacturing, (Tolerance as per template +/- 1mm), assembly and finish. 45

All elements attempted demonstrating limited skills in the manufacturing (Tolerance as per template +/- 1.5mm), assembly and finish. 25

Attempted all aspects of the project. 10

Feedback	Agreed total
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