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**ASSIGN
BUSTER**

IntroductionOn the 30/10/2017 Paul and Tony introduced us to the wood workshop; I enjoyed this lesson most from all the other lessons as it was the first practical session and it was different to what we usually get taught as most of the other lessons we view presentations and get information given to us like that but on this project I was able to get hands on and I was able to plan ahead and work out what I had to needed to do to be able to complete this lesson. Tony took us around every machine and explained what it was used for; he explained that a circular saw was used for cutting big pieces of wood and you would use the table saw if you needed to cut smaller pieces of wood or do a straight line cut out. Tony told us that there was a saw called a band saw that is used for cutting complicated bends or for creating a cut out which has tight curves or is in the inner part of your project. The table saw would be unable to do the band saws job as it is unable to bend. He also showed us how to keep ourselves safe when working on the machines; such as wearing protective equipment like goggles and ensuring the guard is down on the machines blades to avoid cutting yourself. By putting the guard down before using the machine you are ensuring that you and whoever is to use the machine after you are not at risk of cutting themselves. It is important to put your safety before everything else and to be sensible when using the machines that are available in the wood workshop. You can also avoid cutting your hand by using the push stick to push an object rather than having your hand close to the blade; this promotes safety first.

After Tony explained all the safety precautions he told us to make sure the extractor fan is on when using any machine and to close the gate on the extractor when you're finished. After this we were told to have a go on the

machines to see that we could it safely, we were shown different kinds of saws; one of these machines were a table saw which is good for cutting straight lines but we were also shown a band saw which is used for tight corners and sharp bends etc. Another machine we were told to use was the sanding disc; there are two different size sanding discs in the workshop; the large one is used for big pieces and the small one used to sand down pieces of wood that only require to sanded down slightly. The sanding disc is used to sand down large pieces of wood because if you were to use a sanding block or a file this would take too long, it is much more efficient to use the machines available. Health and SafetyHealth and safety is an important act in both the workplace and places such as schools, the health and safety act was regulated in workplaces in 1974, this act is important because it protects both the employer and employee if anything was to occur within the workplace. Everyone is entitled to work in an environment where risks to their health and safety are properly controlled. If the area you are working is not kept up to the health and safety regulations and you experience an injury that isn't your fault you will be entitled to full compensation.

The health and safety at work act 1974 ensures that the safety and welfare of all employees in any work activity are protected as well as others, the act would try and minimise the risks to health and also the safety of anyone who is affected by work activities such as pupils, students, visitors to educational sites and also lecturers or workers. There are many people within the health and safety at work act whom undertake responsibilities - Everyone has a duty to comply with the act, this includes both the employersand employees. A risk assessment would be carried out every so often so that the workplace

can be checked to make sure it is following the regulations and to avoid anybody getting hurt within the workplace. This ensures that the workplace has less risks, this includes workshops and other practical spaces. This would initially make individuals safer as there are risks which can be avoided.

This act ensures that everyone has to follow the rules which they have been assigned for example to make sure that they always put out signs on a wet floor or putting signs up to make others aware of the dangers around them. There should be copies of the health and safety at work act posted around the workplace. Machinery A lot of machinery is used in the wood workshop, this includes:

- Sanding disc (two different sizes)
- Drill

There are lots of different sizes of sanding discs but only two sizes are commonly used in workshops, the little sanding disc is used to smooth down small pieces of wood such as a small storage box or a small part that would make up a large project. There are drawings marked out on the bench of the sanding disc and if the piece of wood is too small then you cannot use the sanding disc as it is dangerous and you can hurt your hand, pieces like this that are too small for the disc must be sanded down using either a sanding block or sanding paper. The drill is fixed onto a bench and can be rotated from left to right and moves down to make holes in the piece of wood, the piece of wood is held in a clamp and then clamped down to the bottom of the bench, the drill size can be changed by using a chuck to remove the current size and replacing it with the size you require. The big sanding disc is used to sand down large pieces of wood such as a table top or a piece of a wooden wardrobe, we use this machine as it is much quicker than using sanding

paper, a sanding block or a file. The band saw is used to make cuts in a piece of wood; the blade is very skinny and makes cuts by using a up and down movement, this machine is good at making intricate cuts and cutting round tight corners and sharp bends. A circular saw is a type of fixed bench saw, the circular teeth spin up to a speed between 3500 and 3800 rpm.

It makes quick work of making cuts. The most sensible way to avoid hurting yourself whilst using this machine is to wear protective equipment such as an overall and goggles, also using a push stick helps to avoid cutting your hand as your hand will be a safe distance away from the blades. The table saw is yet another kind of bench saw.

Whilst using this saw it is important to lower the size of the blade, this stops you cutting your hand when pushing a piece of wood near the blade. You also need to lower the guard, this avoids any injury being caused; this saw is only good for making straight cuts as the blade is in a fixed position and is unable to bend. Creating a gearbox leverWe were shown a labelled diagram of a gear lever on a piece of paper, this diagram included a lot of measurements which we had to draw out on the piece of wood and measure to ensure they were right. I started out by using a metal ruler to measure out the piece of wood, we used a metal ruler rather than a plastic one because the plastic ones are not precise and do not start at 0. The wood piece was slightly too big so I trimmed it down slightly using the sanding disc.

Using the metal ruler and an engineer's square I drew all the necessary lines and then measured the wood and plotted the points and used a metal scribe to make an indentation where I was going to drill the three holes

needed. Looking at the diagram I realised there was a curve so to recreate this I used a compass circle tool and measured it against a ruler to get the precise angle. I then clamped down the piece of wood to the bench part of the drill and made three holes where I had previously put the indentation. After drilling the holes out I moved on to use the table saw and then cut out the lines next to where I had drilled.

By drilling these holes it meant that the section I was about to remove would have a smooth edge and wouldn't be rough. After cutting these lines I moved on and started cutting the middle section out but I couldn't complete this because it is impossible to change the angle of the table saw, this is because the blade on the saw is fixed and unable to bend. I then used the band saw to finish cutting the middle section out; the band saw moves up and down and can cut tight corners so this helped to remove the inner section.

Continuing by using the band saw I cut the outer curve that I drew on the wood and then to smoothen it out I used a sanding disc. Both the inner section and the cuts that I created using the band saw were slightly rough so I started slowly using a file to smoothen it out and I was able to complete the project. Conclusion I personally think health and safety played a major part in the wood workshop and was especially useful on this project, it helped keep me safe whilst I was using different machinery to create my gearbox lever.

If Tony didn't take us through the machinery at the start of the lesson I would have never known about lowering the guard to keep myself safe from the sharp blade. I really enjoyed creating the gearbox as it challenged me to take measurements from a piece of a paper and recreate them on a piece of wood; it also showed me how to use different tools for a number of different

jobs; for example by drilling the holes before using the band saw to cut the lines ensured the end of the line had a smooth curve and no extra work would be required for this. I also learnt that by using a sanding disc to sand down the curve on the outside of the wood is much quicker as I could have used a file instead of the sanding disc but this would just take too long. Then I used a file to smoothen the inner part of the wood as the sanding disc was unable to do this.