"Pull along toy – working with wood"

Year 7 Design Technology Project 1

What previous learning am I building on?	What am I learning that is new?
This is their first resistant materials project. Using a ruler and pencil to measure and mark out accurately. Presenting their work in a neat and accurate way. Work in a workshop safely by following the workshop rules. Following instructions to stay safe and to successfully manufacture their toy.	By the end of this unit, I will: - Understand – The meaning of new keywords which helps develop their literacy skills. Working processes that will help them manufacture their toy. - Know – The differences between hardwood and softwood. Understand more about safety in a DT workshop and how to use the tools successfully to manufacture their product. - Be able to use workshop tools accurately and safely. To be able to use a ruler to accurately measure. To be able to support a partner during the marking out and making process. To be able to work efficiently to meet the project deadline.

Learning Journey – lesson title and main activities

1 **Baseline test** – this consists of a 30-minute written exam and a 30-minute drawing assessment. This will test basic skills like accurate measuring, product analysis, designing and drawing ability.
2 **Workshop Safety** – Introduction to safe use of the DT workshop. This covers what to do in an emergency and what precautions to follow each lesson to stay safe. Pillar Drill demonstration – this covers safety rules when using the machine, the different parts of the machine and all safety precautions associated with safe use.

3 Introduction to the new project design brief, target market and mind mapping information related to the design task. This lesson is about learning the first part of the design process and how to respond to it using the main points from the brief / situation and creating a mind map from it.
4. **Making** – This lesson will cover the manufacturing processes needed to make a successful product. I will explain and demonstrate each part of the process, and the students will explain each stage of the process and use of equipment in their own words.

5. **Wood theory** – The students will learn about hardwood and softwood. Their properties and uses. The theory will help to explain why the correct choice of material is related to the use of a product and where it will be used.
6. **Specification** – The students will learn what a specification is and how designers use them. They will write their own specification for their toy. This will be used to evaluate their designs and final product.
7. **Design Ideas** – Using their specifications to guide them the students will create x3 design ideas that focus on the design brief and the target audience. Their most successful idea will be evaluated.

8. **Tool Identification** – The students will need to identify and name a range of tools while explaining the safe use of each tool.
9. **Sustainable Forestry** – Theory – Reading/listening task – This will link to the students' knowledge and understanding of materials and how they are made sustainable for continued use.
10. **Final Evaluation** – The students will use their specification to help evaluate their finished toy.
11. **Cutting the shape safely** – Introduction to using the coping saw independently. The bench plan will provide a partner for each student. They will be encouraged to support each other during the making process and will work together to tidy up at the end of each lesson.

12 **Cutting and sanding** – health and safety reminders at the start of each practical lesson. The teacher will demonstrate the use of any tools or equipment and show examples to help foster high expectations.

13 **Sanding and drilling** - Sanding will continue until most of the saw marks are removed from the wood and it is smooth to touch. The technician will demonstrate and supervise the use of the pillar drill to drill holes into the side of the base ready for the axles.
14 **Finish manufacture** and final evaluation of your toy.

How will I be assessed at the end of this unit?

The students will be assessed using their final product, the pull along toy, using the different areas of manufacture.
Measuring and marking out – are the wheels in the correct position based on the measurements given by the teacher?
Cutting an accurate shape and axles using the template provided – does their shape relate to the original template in size and shape?
Sanding the toy shape to a smooth, safe and aesthetic finish – does the toy feel smooth and without saw blade marks. Does the toy look like the animal template that the student used?

Has the project booklet been completed to a good standard? Does it demonstrate good knowledge and understanding?			
How will my literacy skills be developed?	**What homework will I be set?**	**How can I learn more/stretch myself?**	**Where can I go for more help?**
You will be taught new key words and will be able to use them when completing your theory worksheets and online quizzes.	You will be given Satchel 1 quizzes every 2 weeks to test your knowledge and understanding of the theory and making processes that you will be taught.	You can use technologystudent.com to do some further study. YouTube has many videos on safety in the workshop and safe use of tools.	You can speak to the teacher during or after the lesson. You can search YouTube for helpful videos.

"Soft Drinks Carton"

[Design Technology Year 7 Project 2]

What previous learning am I building on?	What am I learning that is new?
You will build on your ability to ... work from a design brief and create a product that relates to the theme and is suitable for a specific target audience.	By the end of this unit, I will: - Understand [vocabulary, concepts] how the design process works from concept to final product. I will learn new vocabulary that I will use when annotating and evaluating my work. - Know [factual content] what pop art is and understand the formal qualities of pop art. I will know what typography is and learn theory related to colour. - Be able to [skills] produce design ideas related to a project brief, target audience and the client.

Learning Journey – lesson title and main activities

1 **Brief/ Mind map** - The students are introduced to what a design brief is/who it comes from and the purpose it serves to the designer. They will read through the situation (the reason for your product) and highlight the keywords. These words will help when writing your brief and creating a project mind map that focuses on the main aspects of the project.

2 **Mood board and annotation** - A mood board is a way of gathering images that will give ideas and inspiration during the design process. The students will be given a variety of pictures related to pop art. They will then decide which ones to draw, what size to make them and what composition to put them in. This task is an observational drawing task but also allows the students to be creative with the presentation of their work.

3 **Mood board and annotation** – The students will be given time to finish their mood boards then they will annotate them. Annotation is how we provide further information about the artwork we created. They will use a writing frame for this which helps them identify what information/language is necessary.

4 **Artist Study and response** – Discovering a pop artist. An artist study is an important part of student research. The students will learn about an artist linked to the theme and will copy a piece of their work. This observational drawing is a good way of helping the students understand how to create a similar outcome and what formal qualities are needed.

5 **Artist Response** - The students will be given time to finish their copy of the artist's work.

6 **Typography and Colour Theory** – Typography and colour are important elements of any graphic design. The students will learn about this, and they will complete a work sheet.

7 **Product Analysis and Specification** – Analysing an existing product is a good way to discover what works and what could be improved about the product. The students will look at existing cartons and write about them by answering the questions provided. This will allow them to identify the things their product will need as part of a design specification.

8 **Typography Research** – Typography Research – the students learn about the four main types of typography then they will use the computers to find examples of each, draw it and write about them.

9 **Typography Design Sheet** - Start designing your own lettering styles to suit your product, target audience and theme. A design sheet with guidelines will be provided for this as presentation will be important for a successful outcome. I will provide an example to help the students to see what is possible.

10 **Finish and evaluate typography design ideas** – WWW/EBI

11 **Initial Carton Designs** - Use the design sheet provided to create different ideas for the product that will suit the target audience, the theme and the client.

12 **Initial Carton Designs** – Finish designs and evaluate them against the brief/specification.

13 **CAD introduction** – Understanding Computer Aided Design. Teacher demonstration. Using basic tools to familiarise yourself with the software and to create a logo and lettering design ideas.

14 **CAD continued** – Finish design ideas from the previous lesson. Start final design using the net provided. This will include importing images from Goggle that help to communicate the theme of pop art.

15 **Continue/finish final design idea.** Your final idea will be printed onto card for your to cut out and fold into the shape of a drink's carton for evaluation.

How will I be assessed at the end of this unit?

Your product will be assessed based on the design brief. Your design ideas will be assessed to look for good knowledge and understanding of the theme, function of the product and target audience.

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?

You will be taught new key words and will be able to use them when completing your theory worksheets.	You will be given Satchel 1 quizzes every 2 weeks to test your knowledge and understanding of the theory and design processes that you will be taught.	You can practice creating your own design ideas at home for a specific target group with a specific function. You can watch and use YouTube videos to help improve your drawing/designing techniques.	You can speak to the teacher during or after the lesson. You can search YouTube for help videos.

"Mini Torch Project"

[Design Technology project 3]

What previous learning am I building on?	What am I learning that is new?
You will build on your previous knowledge of basic electronics and systems and control. You will have the opportunity to use computer aided design and manufacture.	By the end of this unit, I will: - Understand – components, circuits, LED, Acrylic - Know – how to make a circuit work. How an LED and a battery work together. I will learn about different types of plastics and their properties. - Be able to create a mini torch that works and suits the intended target group.

Learning Journey – lesson title and main activities

1 **Introduce the design brief** and a look at systems and control that we have in our everyday lives.

2 **Research: Product Analysis** – Analysing existing products to learn how they work and the positives and negatives of the products. The research will be used by the students to create a list of things their product will need to be successful (a specification).

3 **Electricity and electronic symbols** – Understanding how electricity works, and the symbols related to electronic components.

4 **Using CAD** – Working with 2D design to create ideas using the dimensions provided. Understanding the basic tools that will help you to measure and create using the software.

5 **Plastics and CAD** – Looking at the properties of thermoplastics and thermosetting plastics. Researching Computer Aided Design (CAD).

6 **CAD design and evaluation** – Completing design ideas then selecting the final idea and evaluating it against the design brief/specification.

7 **CAD package design 1** – creating a 3D model of the packaging for the torch. Introduction to isometric paper in 2D design.

8 **CAD package design 2** - creating a 3D model of the packaging for the torch. Using the measurement tools in 2D. Create x2 design ideas that suit the product and is to scale.

9 **CAD package design 3** - Create a final design based on the previous design work. Add rendering to the package where necessary.

How will I be assessed at the end of this unit?

You will be assessed through the quality and accuracy of your design and make and the work that you do in the project booklet.

How will my literacy skills be developed?	What homework will I be set?	How can I learn more/stretch myself?	Where can I go for more help?
You will be taught new key words and will be able to use them when completing your theory worksheets.	You will be given Satchel 1 quizzes every 2 weeks to test your knowledge and understanding of the theory and design processes that you will be taught.	You can practice creating your own design ideas at home for a specific target group with a specific function just for fun.	You can speak to the teacher during or after the lesson. You can search YouTube for help videos. You can look through your science textbook for more information on electricity and plastics.