

What are the aims and intentions of this curriculum?

The aim of our Key Stage 3 Curriculum is to allow pupils to explore their creativity using a range of materials, equipment and techniques. Pupils have the opportunity to design and make high quality products that respond to a wide variety of problems within a range of contexts. Resistant Materials specifically develops pupils design skills as well as their practical skills, focusing particularly on problem solving and evaluation skills.

Term	Topics	Knowledge and key terms	Skills developed	Assessment
Autumn 1	THE PENCIL HOLDER PROJECT	<p>Students will learn:</p> <ul style="list-style-type: none"> The design process. Situation and Design Brief. Task Analysis Writing specifications Research and Analysis 	<p>Students will develop:</p> <p>An understanding that designing and making has aesthetic, environmental, technical, economic, ethical and social dimensions and impacts on the world.</p> <p>An understanding for the importance of the design process and the different stages all products must undergo during production.</p> <p>The skills needed to explore a given design brief, specifications, along with appropriate research to effectively analyse the task of creating a pencil holder for the required target market.</p>	<p>Writing a suitable problem and design brief.</p> <p>Creating a mind map for task analysis</p> <p>Writing specifications and explaining the importance.</p> <p>Homework to research existing pencil holder designs.</p>
	GENERATING IDEAS	<ul style="list-style-type: none"> Developing initial pencil holder Ideas 1 and 2 Developing initial pencil holder ideas 3 and 4 Peer design review Modification of design Final pencil holder design <ul style="list-style-type: none"> CAD drawings/Final Design 	<p>An appreciation of existing products and solutions to inform their designing ideas.</p> <p>The skills needed to create suitable design ideas that meet the given specifications and suit the intended target market.</p> <p>An appreciation of constructive teacher and peer criticism to improve design ideas if necessary and then choose the most suitable final design.</p>	<p>Drawing and colouring initial design ideas.</p> <p>Peer design review</p> <p>Drawing the final design.</p>

THE ANALOGUE CLOCK PROJECT
EXPLORING IDEAS AND THE TASK

Students will learn:

- The design process.
- Situation and Design Brief.
- Task Analysis
- Writing specifications
- Research and Analysis

Students will develop:

An understanding that designing and making has aesthetic, environmental, technical, economic, ethical and social dimensions and impacts on the world.

An understanding for the importance of the design process and the different stages all products must undergo during production.

(This was taught in the previous project therefore; the teacher will quickly reinforce this by linking the design process to the new project).

The skills needed to explore a given design brief, specifications, along with appropriate research to effectively analyse the task of creating a simple analogue clock for the required target market.

An appreciation of existing products and solutions to inform their designing ideas.

The skills needed to create suitable design ideas that meet the given specifications and suit the intended target market.

An appreciation of constructive teacher and peer criticism to improve design ideas if necessary and then choose the most suitable final design.

The skills needed to accurately navigate the CAD software to complete a working drawing or 3d model of their analogue clock.

The skills required to generate a cardboard model of the clock.

Writing a suitable problem and design brief.

Creating a mind map for task analysis

Writing specifications and explaining the importance.

Homework to research existing simple analogue clock designs.

Drawing and colouring initial design ideas.

Peer design review

Drawing the final design.

Using CAD software to produce a working drawing or 3d model.

Production of cardboard model

Design a flow chart sequence to highlight the procedure for making the clock.

GENERATING IDEAS

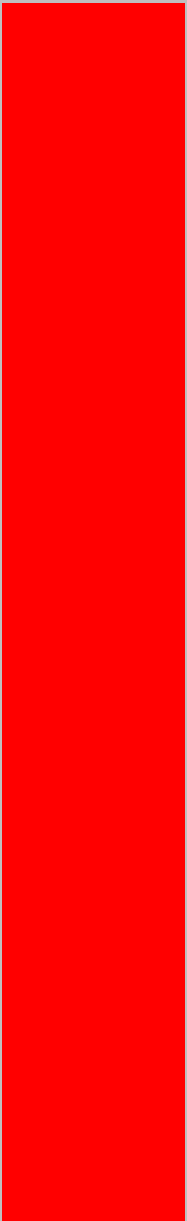
- Developing initial analogue clock Ideas 1 and 2
- Developing initial clock ideas 3 and 4
- Peer design review
- Modification of design
- Final analogue clock design

DEVELOPING AND MODELLING IDEAS

- CAD drawings/Final Design
- 3rd Angle Orthographic Projection (Working Drawing)
 - Cardboard Model
 - Gantt Chart

PLANNING

- plastic working tools, equipment, materials

		<ul style="list-style-type: none"> • Developing initial deas 1 and 2 • Developing initial 3 and 4 • Peer design review • Modification of design • Final design <ul style="list-style-type: none"> • CAD drawings/Final Design • 2D Design Software, Vinyl cutter and Heat Press use. 	<p>this by linking the design process to the new project).</p> <p>The skills needed to explore a given design brief, specifications, along with appropriate research to effectively analyse the task of creating night lights</p> <p>An appreciation of existing products and solutions to inform their designing ideas.</p> <p>The skills needed to create suitable design ideas that meet the given specifications and suit the intended target market.</p> <p>An appreciation of constructive teacher and peer criticism to improve design ideas if necessary and then choose the most suitable final design.</p> <p>The skills needed to accurately navigate the CAD software to complete designs.</p> <p>A general understanding of the equipment used in manufacturing night light circuits.</p> <p>A knowledge for the sequence of operations to successfully create a fully working night light circuit and holder designs.</p>	<p>Homework to research existing products on the market.</p> <p>Drawing and colouring initial design ideas.</p> <p>Peer design review</p> <p>Drawing the final design.</p> <p>Using CAD software to produce designs.</p>
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