Curriculum journey: Design Technology Year: 7

Grace Academy

Students rotate between Food Technology and Design Technology completing 3 half-terms on each

The Big Questions:
1. How to use a design brief to support my initial designs?
2. How do I use a specification to refine my designs?
3. How do I analyse products to influence my design?
4. What is a prototype?
5. How do I successfully create a prototype using a range of textiles materials and equipment?
6. How do I successfully construct a Moroccan lantern?
7. How do I successfully evaluate a prototype?

Moroccan Lantern

Powerful knowledge	Skills
First Half Term **Focus:** How to use a design brief to support my initial designs? How do I use a specification to refine my designs? How do I analyse products to influence my design? ● **Students will be learning about basic workshop health and safety.** ● **Students will be introduced to the Moroccan lantern brief.** Students will be learning how to create a product for a client. Students will learn how to create a mind map to inform their product specification. ● **Students will learn about the key term ACCESS FM and how it is used to analyse products.** ● **Students will learn about Moroccan patterns and draw patterns inspired by the culture using pencil/ coloured pencils.** ● **Students will learn what 'Net' is and how it is used in Design Technology.** Students will design their product nets using pencil, applying colours and creating colour swatches. ● **Students will learn how to effectively collect feedback [user-centered design], to help refine their final product design.**	● Hand-sewing/ embroidery (hand-eye coordination) ● Applying stencils ● Building 3D nets ● Tie Dye ● Designing using geometric shapes ● Designing based on another culture ● Marking out accurately

Second Half Term

Focus:

What is a prototype?

How do I successfully create a prototype using a range of textiles materials and equipment?

- **Students will learn why designers use prototypes in the designing process.**
- **Students will learn how to create a prototype to show their final product design.**
- **Students will learn how to use consumer feedback on their prototypes to inform their final product design.**
- **Students will learn how to do five basic sewing techniques and embroidery.**
- **Students will learn the step by step tie dye process.**

Third Half Term:

Focus:

How do I successfully construct a Moroccan lantern?

How do I successfully evaluate a prototype?

- **Students will learn how to apply tie dye.**
- **Students will learn the properties of decovil and polyester.**
- **Students will learn how to construct their final design using appropriate materials and equipment.**
- **Students will learn how to self evaluate their final product design.**

Links to KS2	End Points
Students will build on their initial design skills by creating a range of designs and prototypes. Students will build on their knowledge on making a product by using a wider variety of tools and equipment. Students will build on their communication on their ideas through annotated sketches.	● Students will have an annotated design brief. ● Students will have research to inform their ideas through a homework piece. ● Students will have compared products using ACCESSFM in an extended writing task. ● Students have produced two initial product designs using inspiration from the information they have learnt. ● Students will create a final design net and complete an extended writing piece evaluating their design.

	● Students produce two 3D paper net prototypes as their final piece. ● Students create two samples of tie dye and show basic sewing skills. ● Students transfer the skills they have learnt throughout the project to create a textiles Moroccan lantern.

Curriculum journey: Design Technology Year: 8

Grace Academy

Students rotate between Food Technology and Design Technology completing 3 half-terms on each

The Big Question:

What is workshop machinery and how do we use it?

How do we use technical drawings to present our final ideas?

Why do we use templates?

Why is CAD/CAM important in the design industry?

Why is it important that we understand the properties of materials?

How do I join different materials?

How do I apply a quality finish to my final piece?

How do I use consumer feedback to improve my product?

Identity Speaker Project

Powerful knowledge	Skills
First Half Term **Focus:** 1. What is workshop machinery and how do we use it? 2. How do we use technical drawings to present our final ideas? 3. Why do we use templates? ● Students will learn about workshop health and safety. ● Students will learn the key term 'design specification' and how elaborate specific points have been chosen. ● Students will learn how to use orthographic drawing to design their initial products. ● Students will learn how to apply ACCESS FM onto their initial product designs.	● Designing for a target audience. ● Building layered objects in Illustrator ● Using computer aided design ● Planning a circuit ● Soldering ● Experimenting with different materials: wood and acrylic ● Developing accuracy skills to produce a high quality product

● Students will understand templates and why they are useful. **Second Half Term** **Focus:** **1.** Why is CAD/ CAM important in the design industry? 2. Why is it important for us to understand the properties of materials? ● Students will learn why CAD is important in the design industry ● Students will learn how to use CAD to design their final product. ● Students will learn how to use a range of programme tools to create a CAD final design. ● Students will learn how to CAD/ CAM their final design. ● Students will learn the properties of wood and acrylic. ● Students will learn about electronics inputs and outputs. ● Students will learn how to solder safely and accurately. **Third Half Term:** **Focus:** How do I join different materials? How do I apply a quality finish to my final piece? How do I use consumer feedback to improve my product? ● Students will learn how to join different materials (wood and plastic). ● Students will learn how to use the appropriate tools with selected materials to create their final piece. ● Students will learn to finish a product to a high standard. ● Students will learn how to use consumer feedback to evaluate and improve their product.	
Links to Year 7	**End Points**

Students will build on their knowledge of what is a design brief into a design specification. Students will build on creating initial product ideas that connect to the design specification. Students will continue to use external feedback to develop their initial product designs. Students will further their knowledge of choosing the correct equipment to construct a final product.	● Students will create a template independently. ● Students will be able to use workshop machinery independently. ● Students will have a detailed, annotated design brief ● Students will have created a reasoned specification. ● Students will have designed two initial ideas for the identity speaker using their knowledge of the specification. ● Students will have used feedback to make improvements to their final design. ● Students will have created a prototype. ● Students will have evaluated their prototype through an extended writing piece. ● Students will have created a 2D image of their product net using CAD. ● Students will have created a final product using woods, plastic and electronics. ● Students will have an evaluation based on customer feedback.

Curriculum journey:
Graphic Design using Photography Year: 9

Grace Academy

Students rotate between Food Technology and Design Technology completing 3 half-terms on each

The Big Questions:	Enrichment Week
1. How do I use a designer to influence my initial designs? 2. How do I solve a scenario successfully? 3. **How do I communicate a message successfully in an advertisement?** 4. **How do I use feedback to develop my designs?** 5. Why is collecting feedback important in the final designing process? 6. How do I create a quality final advertisement design?	

Concealment Graphic Design using Photography Project		Design Technology STEM challenge
Powerful knowledge	**Skills**	**Powerful knowledge**
First Half Term **Focus:** 7. How do I use a designer to influence my initial designs? 8. How do I solve a scenario successfully? ● Students will learn about photographers and designers. ● Students will learn how to create photographs that connect to the photographers and designers via hand manipulation. ● Students will learn about discrimination and equality. ● Students will learn about problem solving through a scenario. ● Students will learn about typography and how to draw their own fonts.	● How to research designers, photographers and artists. ● Problem solving a scenario. ● Hand manipulation. ● Computer editing software - Adobe and Photopea. ● Planning and experimenting layouts. ● Typography - Drawing fonts.	● Students will learn how to draw an initial 3D sketch. ● Students will learn how to construct their initial sketch design. ● Students will learn how to use the appropriate materials. ● Students will learn about adapting and problem solving design faults. ● Students will learn about using mechanical systems in a construction.

Second Half Term **Focus:** 1. How do I communicate a message successfully in an advertisement? 2. How do I use feedback to develop my designs? ● Students will learn how graphic design is used to promote advertisement. ● Students will learn how to use the appropriate editing softwares. ● Students will learn about designing layouts through advertisement. ● Students will learn how to apply graphic designs onto their initial photographs. **Third Half Term:** **Focus:** 1. Why is collecting feedback important in the final designing process? 2. How do I create a quality final advertisement design? ● Students will learn how to apply their final advertisement design to a realistic setting. ● Students will learn how to use feedback to develop and refine their advertisement designs. ● Students will learn how to create a final advertisement design to a high standard.		
Links to Year 7 & 8	**End Points**	**End Points**
Students will independently research and explore designers and photographers to inform their initial ideas. Students will continue to build on independently drawing sketches that communicate their designs.	● Students will have two research pages on designers, photographers or artists they have explored. ● Students will have an annotated scenario that they have adapted to suit the project theme.	● Students will have an initial sketch design with detailed annotations.

Students will continue to build on using new computer aided software to appropriately develop their design ideas.	● Students will have a typography page and have drawn their own typography. ● Students will have a range of photographs that connect to the designers, photographers and artist they have explored. ● Students will have an extended piece of writing on their formed opinion. ● Students will have computer edited photographs. ● Students will have developed advertisement layouts with annotations. ● Students will have a final advertisement design completed to a high standard.	● Students will have constructed a structure that connects to the scenario. ● Students will have used consumer feedback to make improvements.