The King's CHURCH OF ENGLAND SCHOOL KIDSGROVE

Curriculum plan: D&T

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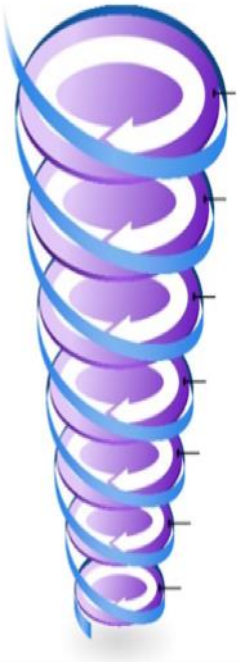
INTENT:



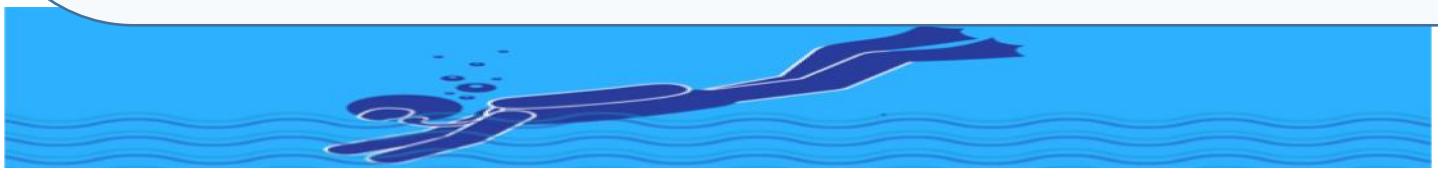
"Enjoy failure and learn from it. You never learn from success."

James Dyson

Design and Technology is all around us in our modern world. Learning about D&T helps our students understand the world in which they are living, and actively engage in it. It helps them know where we have been and develop where we are going.

The D&T curriculum at The Kings consists of a range of creative, imaginative and innovative experiences of designing and practical based activities. Using a range of materials from four main areas graphics, engineering, textiles and food in conjunction with drawing on additional knowledge from other STEAM subjects and links to other curriculum area such as science, art and maths.

The curriculum is designed to give all students the opportunity to learn the skills and knowledge to engage positively with materials, components, products, and technologies in the world around them. Through these types of activities students are actively contributing to the creativity, culture, wealth and well-being of themselves and their community.



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Half Term points

AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Pewter casting jewellery / keyring inspired by arts and crafts **Learning to include:** • Arts and crafts movement and key designers • Analysing existing products using ACCESSFM • Properties of pewter • Iterative design and inclusive design • JIG / template • CAD / CAM • Deconstructing an exam question • End of project assessment		**Mini contextual challenge** Selected from 2020 challenges **Learning to include:** • Explore the task • Task analysis; problem and solution • Analysing existing products using ACCESSFM • Chosen client profile and specification constructed • Inclusive designs and iterative designs, market pull, planned obsolescence and life cycle assessment • Drawing in oblique, isometric and 1 point perspective • Tonal shading and rendering • Analysing, comparing and contrasting ideas and data • Prototypes • Orthographic projection • CAD / CAM • Manufacturing diary • Scales of production • Industrial modifications • Testing, evaluating and modifications • Deconstructing an exam question • Mock GCSE		**Start GCSE controlled assessment when the contextual challenge is released in June.** **Start A01- research and investigation** **Learning to include:** Explore the task • Task analysis • Existing products	

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Half Term points

AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Controlled assessment				Exam preparation	

A01- research and investigation

Learning to include:
- Selected client or clients
- Questionnaire and results
- Design brief
- Design specification
- Materials selected

A02- design ideas
- Inclusive designs and iterative designs
- Drawing in oblique, isometric and 1 point perspective
- Tonal shading and rendering
- CAD designs
- Development of ideas CAD / prototypes
- Working drawing
- A01 and A02 to be completed by November half term

A03- Manufacturing
- Quality assurance and control, tolerance and accuracy
- CAD / CAM
- Diary of making

Theory covered:
- How to draw charts and tables to show information
- Analysing, comparing and contrasting ideas and data
- Anthropometric and ergonomics
- Design specification
- Working and physical properties
- Inclusive designs and iterative design process, market pull, planned obsolescence and life cycle assessment
- Sustainability and 6R's
- Working drawings- orthographic projection
- Scale and ratio
- CAD / CAM
- Quality assurance and control, tolerance and accuracy
- How to deconstruct a question
- Mock GCSE

A03- Manufacturing

Learning to include:
- Quality assurance and control, tolerance and accuracy
- CAD / CAM
- Diary of making
- A03- to be completed by the end of January

A04- evaluation
- Testing, evaluating and modifications
- Final product images
- A04- to be completed by February half term

Theory covered:
- CAD / CAM
- Quality assurance and control, tolerance and accuracy
- Working out the area and perimeter
- Flow charts
- Analysing, comparing and contrasting ideas and data
- Scales of manufacture
- Industrial processes – injection moulding and blow moulding
- Testing, evaluating and modifications
- How to deconstruct a question
- Mock GCSE

Learning to include:
- Forces and stresses
- Mechanisms
- New and modern materials and smart materials
- Renewable energy
- Finite materials
- Sources of materials and environment impact
- Conversion of raw materials into workable materials
- Recap categories of timbers and polymers and properties
- Recap- scales of manufacture
- Working out the area and perimeter of compound shapes
- Working out the percentage of waste material
- Working out the volume
- Recap- scales of manufacture
- Printing and industrial processes
- Standard forms and standard components
- Anthropometric and ergonomics
- Analysing data and products
- ACCESSFM
- Key designer and art movements
- Isometric, 1 point perspective and orthographic projection
- Input processes and out puts
- Exam preparation and how to deconstruct a question

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