

DESIGN & TECHNOLOGY DEPARTMENT

PATHWAYS





Design & Technology

PATHWAY 1 2 3

Assessment		
Year 11	<ul style="list-style-type: none"> • Analysis & Research: Research and produce a specification for a product • Create & Innovate: Use 2D and 3D sketching to present design ideas • Develop & Model: Develop ideas using modelling including the use of CAD • Manufacture :Produce quality products using a range of different materials • Evaluate: Evaluate others work considering strengths and areas of improvement • Materials & Properties: Use technical language when describing properties of materials and components • Manufacturing Processes: Use templates and jigs to mark out and shape materials • Real World D&T :Use ICT effectively in the design and make process • Wider Issues: Understand the 6R's and their links to the environment • Past & Future D&T: Evaluate historical products and explain the design features 	
Year 10	Analysis & Research	Write a design brief based on a given context
	Create & Innovate	Produce a range of ideas with some annotations
	Develop & Model	Use card to model ideas and develop them
	Manufacture	Produce products considering quality and accuracy
	Evaluate	Evaluate products considering strengths and weaknesses
	Materials & Properties	Name three specific materials and explain their properties
	Manufacturing Processes	Select appropriate tools to mark out, cut and shape materials
	Real World D&T	Mark and measure in mm with some accuracy
	Wider Issues	Name products that are bad for the environment and explain why
	Past & Future D&T	Name two past designers and features of their styles
Year 9	Analysis & Research	Explain who a product is being designed for and their likes and dislikes
	Create & Innovate	Use resources to help produce more than one idea with some labels
	Develop & Model	Sketch changes to ideas and label them
	Manufacture	Produce a product independently
	Evaluate	Use labels to highlight likes and dislikes about design ideas
	Materials & Properties	Name simple properties of materials based on their looks and how they work
	Manufacturing Processes	Name tools and equipment for marking out, cutting and shaping materials
	Real World D&T	Use science and maths in the design and make process
	Wider Issues	Have a secure knowledge of health and safety in the workshop
	Past & Future D&T	Name two current designers and features of their styles
Year 8	Analysis & Research	Research using secondary resources
	Create & Innovate	Produce an idea with some labels
	Develop & Model	Make changes to design and verbally explain them
	Manufacture	Produce a product with some accuracy
	Evaluate	Verbally explain likes and dislikes about other peoples products
	Materials & Properties	Name some specific materials and components
	Manufacturing Processes	Understand that different tools are for different materials
	Real World D&T	Use ICT to research different products
	Wider Issues	Understand recycling and why it is good for the environment
	Past & Future D&T	Name a past designer and a product they have designed
Year 7	Analysis & Research	Highlight key words in a design brief
	Create & Innovate	Produce an idea for a given context
	Develop & Model	Use card to model parts of an idea
	Manufacture	Produce a product from a single material
	Evaluate	Verbally explain likes and dislikes about your own products
	Materials & Properties	Name the three main material groups
	Manufacturing Processes	Use appropriate tools when guided
	Real World D&T	Mark and measure in cm with some accuracy
	Wider Issues	Work safely
	Past & Future D&T	Name a current designer and a product they have designed

	Key Area	Assessment
Year 11	Analysis & Research	Produce research selecting from secondary and primary resources
	Create & Innovate	Produce a range of creative and innovative concepts
	Develop & Model	Use 3D CAD as a development tool for products or components
	Manufacture	Plan for manufacture highlighting the key stages
	Evaluate	Evaluate design ideas and developments through the design process
	Materials & Properties	Name and use appropriate materials and components when modelling prototypes
	Manufacturing Processes	Consider alternative joining methods of materials
	Real World D&T	Design products considering size and comfort
	Wider Issues	Define the word sustainability and how it is relevant in the design process
	Past & Future D&T	Use past and current designers to influence design concepts
Year 10	Analysis & Research	Research and produce a specification for a product
	Create & Innovate	Use 2D and 3D sketching to present design ideas
	Develop & Model	Develop ideas using modelling including the use of CAD
	Manufacture	Produce quality products using a range of different materials
	Evaluate	Evaluate others work considering strengths and areas of improvement
	Materials & Properties	Use technical language when describing properties of materials and components
	Manufacturing Processes	Use templates and jigs to mark out and shape materials
	Real World D&T	Use ICT effectively in the design and make process
	Wider Issues	Understand the 6R's and their links to the environment
	Past & Future D&T	Evaluate historical products and explain the design features
Year 9	Analysis & Research	Write a design brief based on a given context
	Create & Innovate	Produce a range of ideas with some annotations
	Develop & Model	Use card to model ideas and develop them
	Manufacture	Produce products considering quality and accuracy
	Evaluate	Evaluate products considering strengths and weaknesses
	Materials & Properties	Name three specific materials and explain their properties
	Manufacturing Processes	Select appropriate tools to mark out, cut and shape materials
	Real World D&T	Mark and measure in mm with some accuracy
	Wider Issues	Name products that are bad for the environment and explain why
	Past & Future D&T	Name two past designers and features of their styles
Year 8	Analysis & Research	Explain who a product is being designed for and their likes and dislikes
	Create & Innovate	Use resources to help produce more than one idea with some labels
	Develop & Model	Sketch changes to ideas and label them
	Manufacture	Produce a product independently
	Evaluate	Use labels to highlight likes and dislikes about design ideas
	Materials & Properties	Name simple properties of materials based on their looks and how they work
	Manufacturing Processes	Name tools and equipment for marking out, cutting and shaping materials
	Real World D&T	Use science and maths in the design and make process
	Wider Issues	Have a secure knowledge of health and safety in the workshop
	Past & Future D&T	Name two current designers and features of their styles
Year 7	Analysis & Research	Research using secondary resources
	Create & Innovate	Produce an idea with some labels
	Develop & Model	Make changes to design and verbally explain them
	Manufacture	Produce a product with some accuracy
	Evaluate	Verbally explain likes and dislikes about other peoples products
	Materials & Properties	Name some specific materials and components
	Manufacturing Processes	Understand that different tools are for different materials
	Real World D&T	Use ICT to research different products
	Wider Issues	Understand recycling and why it is good for the environment
	Past & Future D&T	Name a past designer and a product they have designed

	Key Area	Assessment
Year 11	Analysis & Research	Analyse research highlighting reasons for inclusion
	Create & Innovate	Use different presentation techniques to produce high quality ideas
	Develop & Model	Produce final designs for 3 rd party manufacture
	Manufacture	Record manufacture considering health & safety and quality assurance
	Evaluate	Objectively evaluate others work using technical knowledge
	Materials & Properties	Understand the sources and conversion of the main materials groups
	Manufacturing Processes	Explain industrial manufacturing processes for different materials
	Real World D&T	Understand and apply anthropometrics and ergonomics when designing
	Wider Issues	Have knowledge of the legal health and safety laws in the UK and EU
	Past & Future D&T	Name three key design movements and their features
Year 10	Analysis & Research	Produce research selecting from secondary and primary resources
	Create & Innovate	Produce a range of creative and innovative concepts
	Develop & Model	Use 3D CAD as a development tool for products or components
	Manufacture	Plan for manufacture highlighting the key stages
	Evaluate	Evaluate design ideas and developments through the design process
	Materials & Properties	Name and use appropriate materials and components when modelling prototypes
	Manufacturing Processes	Consider alternative joining methods of materials
	Real World D&T	Design products considering size and comfort
	Wider Issues	Define the word sustainability and how it is relevant in the design process
	Past & Future D&T	Use past and current designers to influence design concepts
Year 9	Analysis & Research	Research and produce a specification for a product
	Create & Innovate	Use 2D and 3D sketching to present design ideas
	Develop & Model	Develop ideas using modelling including the use of CAD
	Manufacture	Produce quality products using a range of different materials
	Evaluate	Evaluate others work considering strengths and areas of improvement
	Materials & Properties	Use technical language when describing properties of materials and components
	Manufacturing Processes	Use templates and jigs to mark out and shape materials
	Real World D&T	Use ICT effectively in the design and make process
	Wider Issues	Understand the 6R's and their links to the environment
	Past & Future D&T	Evaluate historical products and explain the design features
Year 8	Analysis & Research	Write a design brief based on a given context
	Create & Innovate	Produce a range of ideas with some annotations
	Develop & Model	Use card to model ideas and develop them
	Manufacture	Produce products considering quality and accuracy
	Evaluate	Evaluate products considering strengths and weaknesses
	Materials & Properties	Name three specific materials and explain their properties
	Manufacturing Processes	Select appropriate tools to mark out, cut and shape materials
	Real World D&T	Mark and measure in mm with some accuracy
	Wider Issues	Name products that are bad for the environment and explain why
	Past & Future D&T	Name two past designers and features of their styles
Year 7	Analysis & Research	Explain who a product is being designed for and their likes and dislikes
	Create & Innovate	Use resources to help produce more than one idea with some labels
	Develop & Model	Sketch changes to ideas and label them
	Manufacture	Produce a product independently
	Evaluate	Use labels to highlight likes and dislikes about design ideas
	Materials & Properties	Name simple properties of materials based on their looks and how they work
	Manufacturing Processes	Name tools and equipment for marking out, cutting and shaping materials
	Real World D&T	Use science and maths in the design and make process
	Wider Issues	Have a secure knowledge of health and safety in the workshop
	Past & Future D&T	Name two current designers and features of their styles

	Key Area	Assessment
Year 11	Analysis & Research	Use analysis throughout the design process to explain choices
	Create & Innovate	Combine 2D and 3D sketching with CAD to present initial concepts
	Develop & Model	Annotate developments demonstrating technical knowledge
	Manufacture	Overcome problems and adapt prototypes during manufacture
	Evaluate	Evaluate products and explain developments for mass manufacture
	Materials & Properties	Have a knowledge of Smart, Nano & composite materials and their properties
	Manufacturing Processes	Understand the differences in manufacture when considering scale of production
	Real World D&T	Use the terms market pull and technology push to describe product development
	Wider Issues	Understand social, moral and cultural issues in product design
	Past & Future D&T	Evaluate the traditional skills and the importance of maintaining them
Year 10	Analysis & Research	Analyse research highlighting reasons for inclusion
	Create & Innovate	Use different presentation techniques to produce high quality ideas
	Develop & Model	Produce final designs for 3 rd party manufacture
	Manufacture	Record manufacture considering health & safety and quality assurance
	Evaluate	Objectively evaluate others work using technical knowledge
	Materials & Properties	Understand the sources and conversion of the main materials groups
	Manufacturing Processes	Explain industrial manufacturing processes for different materials
	Real World D&T	Understand and apply anthropometrics and ergonomics when designing
	Wider Issues	Have knowledge of the legal health and safety laws in the UK and EU
	Past & Future D&T	Name three key design movements and their features
Year 9	Analysis & Research	Produce research selecting from secondary and primary resources
	Create & Innovate	Produce a range of creative and innovative concepts
	Develop & Model	Use 3D CAD as a development tool for products or components
	Manufacture	Plan for manufacture highlighting the key stages
	Evaluate	Evaluate design ideas and developments through the design process
	Materials & Properties	Name and use appropriate materials and components when modelling prototypes
	Manufacturing Processes	Consider alternative joining methods of materials
	Real World D&T	Design products considering size and comfort
	Wider Issues	Define the word sustainability and how it is relevant in the design process
	Past & Future D&T	Use past and current designers to influence design concepts
Year 8	Analysis & Research	Research and produce a specification for a product
	Create & Innovate	Use 2D and 3D sketching to present design ideas
	Develop & Model	Develop ideas using modelling including the use of CAD
	Manufacture	Produce quality products using a range of different materials
	Evaluate	Evaluate others work considering strengths and areas of improvement
	Materials & Properties	Use technical language when describing properties of materials and components
	Manufacturing Processes	Use templates and jigs to mark out and shape materials
	Real World D&T	Use ICT effectively in the design and make process
	Wider Issues	Understand the 6R's and their links to the environment
	Past & Future D&T	Evaluate historical products and explain the design features
Year 7	Analysis & Research	Write a design brief based on a given context
	Create & Innovate	Produce a range of ideas with some annotations
	Develop & Model	Use card to model ideas and develop them
	Manufacture	Produce products considering quality and accuracy
	Evaluate	Evaluate products considering strengths and weaknesses
	Materials & Properties	Name three specific materials and explain their properties
	Manufacturing Processes	Select appropriate tools to mark out, cut and shape materials
	Real World D&T	Mark and measure in mm with some accuracy
	Wider Issues	Name products that are bad for the environment and explain why
	Past & Future D&T	Name two past designers and features of their styles

	Key Area	Assessment
Year 11	Analysis & Research	Produce a justified client profile highlighting the client's requirements
	Create & Innovate	Annotate ideas evaluating and highlighting developments
	Develop & Model	Combine different strategies of development with explained annotations
	Manufacture	Use relevant tools and equipment skilfully and safely.
	Evaluate	Test final prototypes against the design brief and specification.
	Materials & Properties	Have a knowledge of inputs, outputs and microcontrollers and their properties
	Manufacturing Processes	Evaluate different methods of permanently and temporarily joining materials
	Real World D&T	Independently apply maths when designing and developing products
	Wider Issues	Understand and apply Life Cycle Analysis to your own and existing products
	Past & Future D&T	Evaluate the role of automation in the production of products
Year 10	Analysis & Research	Use analysis throughout the design process to explain choices
	Create & Innovate	Combine 2D and 3D sketching with CAD to present initial concepts
	Develop & Model	Annotate developments demonstrating technical knowledge
	Manufacture	Overcome problems and adapt prototypes during manufacture
	Evaluate	Evaluate products and explain developments for mass manufacture
	Materials & Properties	Have a knowledge of Smart, Nano & composite materials and their properties
	Manufacturing Processes	Understand the differences in manufacture when considering scale of production
	Real World D&T	Use the terms market pull and technology push to describe product development
	Wider Issues	Understand social, moral and cultural issues in product design
	Past & Future D&T	Evaluate the traditional skills and the importance of maintaining them
Year 9	Analysis & Research	Analyse research highlighting reasons for inclusion
	Create & Innovate	Use different presentation techniques to produce high quality ideas
	Develop & Model	Produce final designs for 3 rd party manufacture
	Manufacture	Record manufacture considering health & safety and quality assurance
	Evaluate	Objectively evaluate others work using technical knowledge
	Materials & Properties	Understand the sources and conversion of the main materials groups
	Manufacturing Processes	Explain industrial manufacturing processes for different materials
	Real World D&T	Understand and apply anthropometrics and ergonomics when designing
	Wider Issues	Have knowledge of the legal health and safety laws in the UK and EU
	Past & Future D&T	Name three key design movements and their features
Year 8	Analysis & Research	Produce research selecting from secondary and primary resources
	Create & Innovate	Produce a range of creative and innovative concepts
	Develop & Model	Use 3D CAD as a development tool for products or components
	Manufacture	Plan for manufacture highlighting the key stages
	Evaluate	Evaluate design ideas and developments through the design process
	Materials & Properties	Name and use appropriate materials and components when modelling prototypes
	Manufacturing Processes	Consider alternative joining methods of materials
	Real World D&T	Design products considering size and comfort
	Wider Issues	Define the word sustainability and how it is relevant in the design process
	Past & Future D&T	Use past and current designers to influence design concepts
Year 7	Analysis & Research	Research and produce a specification for a product
	Create & Innovate	Use 2D and 3D sketching to present design ideas
	Develop & Model	Develop ideas using modelling including the use of CAD
	Manufacture	Produce quality products using a range of different materials
	Evaluate	Evaluate others work considering strengths and areas of improvement
	Materials & Properties	Use technical language when describing properties of materials and components
	Manufacturing Processes	Use templates and jigs to mark out and shape materials
	Real World D&T	Use ICT effectively in the design and make process
	Wider Issues	Understand the 6R's and their links to the environment
	Past & Future D&T	Evaluate historical products and explain the design features

	Key Area	Assessment
Year 11	Analysis & Research	Produce a manufacturing specification with a high level of justification
	Create & Innovate	Produce creative and innovative ideas which are accurately annotated
	Develop & Model	Apply technical knowledge and third party feedback as part product development
	Manufacture	Accurately record the manufacture of prototypes with justifications of the stages
	Evaluate	Use appropriate third party testing throughout the design and make process
	Materials & Properties	Name specific materials used in commercial manufacture and justify reasons for use
	Manufacturing Processes	Evaluate alternative methods of manufacturing products commercially
	Real World D&T	Evaluate the use of ICT, CAD and CAM in the commercial design and make process
	Wider Issues	Independently apply knowledge of ethics through the design process
	Past & Future D&T	Use a knowledge of past and future DT developments in the design process
Year 10	Analysis & Research	Produce a justified client profile highlighting the client's requirements
	Create & Innovate	Annotate ideas evaluating and highlighting developments
	Develop & Model	Combine different strategies of development with explained annotations
	Manufacture	Use relevant tools and equipment skilfully and safely.
	Evaluate	Test final prototypes against the design brief and specification.
	Materials & Properties	Have a knowledge of inputs, outputs and microcontrollers and their properties
	Manufacturing Processes	Evaluate different methods of permanently and temporarily joining materials
	Real World D&T	Independently apply maths when designing and developing products
	Wider Issues	Understand and apply Life Cycle Analysis to your own and existing products
	Past & Future D&T	Evaluate the role of automation in the production of products
Year 9	Analysis & Research	Use analysis throughout the design process to explain choices
	Create & Innovate	Combine 2D and 3D sketching with CAD to present initial concepts
	Develop & Model	Annotate developments demonstrating technical knowledge
	Manufacture	Overcome problems and adapt prototypes during manufacture
	Evaluate	Evaluate products and explain developments for mass manufacture
	Materials & Properties	Have a knowledge of Smart, Nano & composite materials and their properties
	Manufacturing Processes	Understand the differences in manufacture when considering scale of production
	Real World D&T	Use the terms market pull and technology push to describe product development
	Wider Issues	Understand social, moral and cultural issues in product design
	Past & Future D&T	Evaluate the traditional skills and the importance of maintaining them
Year 8	Analysis & Research	Analyse research highlighting reasons for inclusion
	Create & Innovate	Use different presentation techniques to produce high quality ideas
	Develop & Model	Produce final designs for 3 rd party manufacture
	Manufacture	Record manufacture considering health & safety and quality assurance
	Evaluate	Objectively evaluate others work using technical knowledge
	Materials & Properties	Understand the sources and conversion of the main materials groups
	Manufacturing Processes	Explain industrial manufacturing processes for different materials
	Real World D&T	Understand and apply anthropometrics and ergonomics when designing
	Wider Issues	Have knowledge of the legal health and safety laws in the UK and EU
	Past & Future D&T	Name three key design movements and their features
Year 7	Analysis & Research	Produce research selecting from secondary and primary resources
	Create & Innovate	Produce a range of creative and innovative concepts
	Develop & Model	Use 3D CAD as a development tool for products or components
	Manufacture	Plan for manufacture highlighting the key stages
	Evaluate	Evaluate design ideas and developments through the design process
	Materials & Properties	Name and use appropriate materials and components when modelling prototypes
	Manufacturing Processes	Consider alternative joining methods of materials
	Real World D&T	Design products considering size and comfort
	Wider Issues	Define the word sustainability and how it is relevant in the design process
	Past & Future D&T	Use past and current designers to influence design concepts

	Key Area	Assessment
Year 11	Analysis & Research	Explore design possibilities demonstrating a breadth of knowledge
	Create & Innovate	Produce initial concepts show creativity and innovation based on research & analysis
	Develop & Model	Produce developments anticipating problems and including relevant research
	Manufacture	Produce prototypes within tolerance and with evidence of quality control
	Evaluate	Justify all analysis and evaluation throughout the design process using technical knowledge
	Materials & Properties	Accurately evaluate material choices suggesting alternatives based on wider knowledge
	Manufacturing Processes	Analyse products accurately thoroughly explaining how they have been manufactured
	Real World D&T	Apply maths, science and ICT independently and appropriately through the design process
	Wider Issues	Evaluate the role of ethics in the design and make process
	Past & Future D&T	Use wider reading to extend knowledge of design and technology
Year 10	Analysis & Research	Produce a manufacturing specification with a high level of justification
	Create & Innovate	Produce creative and innovative ideas which are accurately annotated
	Develop & Model	Apply technical knowledge and third party feedback as part product development
	Manufacture	Accurately record the manufacture of prototypes with justifications of the stages
	Evaluate	Use appropriate third party testing throughout the design and make process
	Materials & Properties	Name specific materials used in commercial manufacture and justify reasons for use
	Manufacturing Processes	Evaluate alternative methods of manufacturing products commercially
	Real World D&T	Evaluate the use of ICT, CAD and CAM in the commercial design and make process
	Wider Issues	Independently apply knowledge of ethics through the design process
	Past & Future D&T	Use a knowledge of past and future DT developments in the design process
Year 9	Analysis & Research	Produce a justified client profile highlighting the client's requirements
	Create & Innovate	Annotate ideas evaluating and highlighting developments
	Develop & Model	Combine different strategies of development with explained annotations
	Manufacture	Use relevant tools and equipment skilfully and safely.
	Evaluate	Test final prototypes against the design brief and specification.
	Materials & Properties	Have a knowledge of inputs, outputs and microcontrollers and their properties
	Manufacturing Processes	Evaluate different methods of permanently and temporarily joining materials
	Real World D&T	Independently apply maths when designing and developing products
	Wider Issues	Understand and apply Life Cycle Analysis to your own and existing products
	Past & Future D&T	Evaluate the role of automation in the production of products
Year 8	Analysis & Research	Use analysis throughout the design process to explain choices
	Create & Innovate	Combine 2D and 3D sketching with CAD to present initial concepts
	Develop & Model	Annotate developments demonstrating technical knowledge
	Manufacture	Overcome problems and adapt prototypes during manufacture
	Evaluate	Evaluate products and explain developments for mass manufacture
	Materials & Properties	Have a knowledge of Smart, Nano & composite materials and their properties
	Manufacturing Processes	Understand the differences in manufacture when considering scale of production
	Real World D&T	Use the terms market pull and technology push to describe product development
	Wider Issues	Understand social, moral and cultural issues in product design
	Past & Future D&T	Evaluate the traditional skills and the importance of maintaining them
Year 7	Analysis & Research	Analyse research highlighting reasons for inclusion
	Create & Innovate	Use different presentation techniques to produce high quality ideas
	Develop & Model	Produce final designs for 3 rd party manufacture
	Manufacture	Record manufacture considering health & safety and quality assurance
	Evaluate	Objectively evaluate others work using technical knowledge
	Materials & Properties	Understand the sources and conversion of the main materials groups
	Manufacturing Processes	Explain industrial manufacturing processes for different materials
	Real World D&T	Understand and apply anthropometrics and ergonomics when designing
	Wider Issues	Have knowledge of the legal health and safety laws in the UK and EU
	Past & Future D&T	Name three key design movements and their features