

By the end of KS3, pupils will know: • How to create design ideas, label and link to design movements and influences, create a range of different representations of their ideas. • How to safely select and use a wide variety of tools, equipment and machinery to develop a product that is functional and stable. • The importance of designing and making a product to suit a particular user, being able to differentiate between a need and a want. • Evaluate effectively using a range of techniques and be able to analyse findings to suggest improvements or modifications. • Develop sound technical knowledge, know how ACCESSFM is used to develop a product success criterion and understand characteristics, properties and functions of components and materials.							
		Potential outcomes from projects delivered	Design	Make	Evaluate	Technical knowledge	Personal development strand using PIES
Year 9 Greater Depth	Theory	• Can profile a customer, identifying key facts and able to conduct an interview using ACCESSFM. • Can create a design brief and justify key points. • Understands what ACCESSFM means and can create a detailed specification and justify points made. • Can understand how designers have influenced and shaped the world by identifying key facts and explain how the designs have evolved. • Can create design ideas and link to designers. • Can Identify a range of materials and describe a fact for each as well as identify some advantages and disadvantages. • Can create a skilled drawing using negative spacing. • Ideas created labels linking to ACCESSFM labelling and annotation. • Can understand how components/ingredients are assembled and integrated to function and explain their individual purpose. • Can develop and explain the final solution developed. • Can use a range of software to communicate a design and its' benefits.	• Designs must show how they function and purpose, innovation. • Cross sectional drawings attempted and annotated and shows development. • Outcomes with labels with links to all ACCESSFM points. • Know at least three designers and their influence on how it has shaped the world. • Design must consider themselves when developing a design and link to other TMG. • Know a designer and an inventor and their influence on how it has shaped the world. • Develop three ideas based on a theme that represents their TMG. • Mind map a theme and created the main points for their TMG • Be able to draw using basic shapes and isometric shapes, 2D designs created. • Be able to use software like google sketch up to create	• Understand how more advanced electrical and electronic systems can be powered and used in their products [e.g., circuits with light and 555 timers] • Know the use of a wide range of materials, components and make links to products. • Can identify a wide range of tools and equipment and explain what they are used for and how. • Can use software to develop a product that is functional independently. • Can problem solve ideas to create a refined idea, linking to customer needs and wants through discussion with independence. • Can identify hazards and preventions for a wide range of materials and equipment and explain the use of most. • Understands the hazards and preventions in a workshop of a wide range of tools and equipment and always be aware of their surroundings. • Able to identify the correct materials with confidence making links to products. • Complete a diary of making identifying all main steps completed. • Know the function of a wide range materials,	Justified links to functional properties and aesthetics. • Complete third-party feedback making justified points. • Identify two key events of influence when designing and making in detail. • Know how a survey, questionnaire can affect the outcome of a product, be able to complete a Questionnaire in some detail. • Evaluate own ideas against all the design criteria with justification. • Analyse two products that strongly links to ACCESSFM. • Evaluate a range of existing products linking to ACCESSFM with justification.	• Some links to functional properties and aesthetics with justification in most places. • Evidence with justified detail in most places of Investigation of existing products. Some exploration of the use of mechanisms with some strong links to existing products. • Some detailed understanding justified of how more advanced mechanical systems used in their products enable changes in movement and force. • Some detailed understanding justified how levers, sliders, wheels and axels are used in products. • Some links to functional properties and aesthetics with some of detailed justifications. • Can state and understand a timeline of a product. • Mostly understand the difference between mass, batch and one-off production and make links with products.	• Create a mind map when developing a customer profile that outlines the PIES of the client. • Link the summary to needs and wants of the client. • Can articulate the type of client suited to the product and link to the PIES activity conducted. • Completed the task independently, profile matches the needs and wants of the final product and evaluated against the criteria.

			designs with some creativity.	components and equipment. • Can use software to develop a product that is functional independently. • Can problem solve ideas to create a refined idea, making links to customer needs and wants with justifications.			
	Practical	• Practices health and safety and can justify all hazards and preventions. • Can use a range of hand tools & machinery and understand their use with competence. • Can use equipment, tools and machinery independently when developing a product as well as use a range of specialist tools independently. • Can independently develop templates and understand their use in industry. • Can use technology to develop and produce a final outcome that is functional and technically challenging to manufacture. • Can understand how to work with electronics and embed intelligence into products independently. • Can analyse products using ACCESSFM to gain an understanding of the strengths and weaknesses of the products to provide an insight into how they will develop or create their own outcome, these are well justified.	• Outcomes mock up created independently labels with links to information and communication technology. • Create templates and know their benefits independently. • Can manipulate materials to create a functional design independently. • Can apply decoration with little guidance to create a product that is aesthetically pleasing based on a theme.	• Able to build a structure, understand how they can be made stronger, stiffer and more stable independently. • Select and use materials, components. • Can understand what prototypes, pattern pieces are and know how computer aided design could be used with confidence. • Apply computing and use electronics to embed intelligence in products that respond to inputs [light, sensor, 555 timer] and control outputs, using programmable components [e.g., microcontrollers] independently. • Understand how construction materials and textiles are used according to characteristics by manufacturing with a range confidently. • Select and use a variety of materials, components with independence. • Can use a varied range of tools and equipment with links to cutting, shaping, joining, and finishing safely and independently. • Select and use a wide variety range of materials, components with independence.	• Throughout most of the making process, solve issues independently. • Seek out most improvements from feedback given independently. • Identify most issues and resolve while making. • Correct most mistakes by improving the process independently. • Seek out improvements from feedback given most places.	• Mostly understand and use the properties of materials for performance and structural elements achieving functional solutions showing some reference to products. Select and use tools and equipment with little accuracy. • Be able to identify and state the tools use for most items and explain the link to most tasks completed in lesson. • Understand how to work in a practical environment with a level of caution and safety with some guidance. • Select and use tools and equipment with some accuracy. With some guidance. • Be able to provide some understanding when identifying and stating the tools use.	

				• Use construction materials and textiles according to characteristics. • Use a variety range of tools and equipment to perform practical tasks independently.			
Year 9 Expected Year 8 Greater Depth	Theory	• Can profile a customer, identifying key facts and able to conduct a simple interview using ACCESSFM. • Can create a design brief and justify most key points. • Understands what ACCESSFM means and can create a detailed specification and justify most points made. • Can understand how designers have influenced and shaped the world by identifying key facts and explain most of how the designs have evolved. • Can create design ideas and link to designers' style. • Can Identify some materials and describe a fact for most as well as identify some advantages and disadvantages. • Can create a skilled drawing using negative spacing. • Ideas created with some labels linking to ACCESSFM with some annotation. • Can apply some understanding of how components/ingredients are assembled and integrated to function and explain some of their individual purpose. • Can suggest developments for the final solution developed. • Can use some software to communicate a design and its' benefits.	• Outcomes with labels with links to most ACCESSFM points. • Know at least three designers and their influence on how it has shaped the world. • Design must consider themselves when developing a design and link to other TMG. • Know a designer and an inventor and their influence on how it has shaped the world. • Develop three ideas based on a theme that represents their TMG. • Mind map a theme and created the main points for their TMG • Be able to draw using basic shapes and isometric shapes, 2D designs created. • Be able to use software like google sketch up to create designs with some creativity.	• Understand how more advanced electrical and electronic systems can be powered and used in their products [e.g., circuits with light and 555 timers] • Know the use of a wide range of materials, components. • Can identify a wide range of tools and equipment and explain their use. • Can use software to develop a product that is functional with little guidance. • Can problem solve ideas to create a refined idea, linking to customer needs and wants through discussion with some independence. • Can identify hazards and preventions for a wide range of materials and equipment and explain the use of some. • Understands the hazards and preventions in a workshop of a wide range of tools and equipment. • Able to identify the correct materials with confidence. • Complete a diary of making identifying a wide range of the main steps completed. • Know the function of a wide range materials, components and equipment. • Can use software to develop a product that is functional with little guidance.	Mostly links to functional properties and aesthetics. • Complete third-party feedback making some points. • Identify two key events of influence when designing and making in some detail. • Know how a survey, questionnaire can affect the outcome of a product, be able to complete a survey in detail. • Evaluate own ideas against all of the design criteria. • Analyse two product that mostly links to ACCESSFM. • Evaluate a range of existing products mostly links to ACCESSFM.	• Some links to functional properties and aesthetics with justification in most places. • Evidence with justified detail in places of Investigation of existing products. Some exploration of the use of mechanisms with links to existing products. • Some detailed understanding of how more advanced mechanical systems used in their products enable changes in movement and force. • Some detailed understanding how levers, sliders, wheels and axels are used in products. • Some links to functional properties and aesthetics with elements of detailed justifications. • Verbally understand a timeline of a product. • Mostly understand the difference between mass, batch and one-off production.	• Create a mind map when developing a customer profile that outlines the PIES of the client. • Link the summary to needs and wants of the client. • Can articulate the type of client suited to the product and link to the PIES activity conducted.

				Can problem solve ideas to create a refined idea, linking to customer needs & wants with some justifications.			
	Practical	- Student is aware of health and safety and can justify most hazards and preventions. - Can use a range of hand tools & machinery and understand their use with competence. - Can use equipment, tools and machinery independently when developing a product as well as use a range of specialist tools. - Can independently develop templates and understand their use in industry. - Can use technology to develop and produce a final outcome that is functional and has some technical challenge. - Can understand how to work with electronics and embed intelligence into products independently. - Can analyse products using ACCESSFM to gain an understanding of some of the strengths and weaknesses of the products to provide an insight into how they will develop or create their own outcome.	- Outcomes mock up created with guidance, labels with links to information and communication technology in places. - Create templates and know their benefits with little guidance. - Can manipulate materials to create a functional design with some guidance. - Can apply decoration with some guidance to create a product that is aesthetically pleasing based on a theme.	- Able to build a structure, understand how they can be made stronger, stiffer and more stable with little guidance. - Select and use materials, components. - Can understand what prototypes, pattern pieces are and know the most of how computer aided design could be used. - Apply computing and use electronics to embed intelligence in products that respond to inputs [light, sensor, 555 timer] and control outputs, using programmable components [e.g., microcontrollers] - Understand how construction materials and textiles are used according to characteristics by manufacturing with a range. - Select and use a variety of materials, components. - Can use a varied range of tools and equipment with links to cutting, shaping, joining, and finishing. - Select and use a wide variety range of materials, components. - Use construction materials and textiles according to characteristics. - Use a variety range of tools and equipment to perform practical tasks.	- Throughout most of the making process, solve issues independently. - Seek out most improvements from feedback given independently. - Identify most issues and resolve while making. - Correct most mistakes by improving the process independently. - Seek out improvements from feedback given most places.	- Mostly understand and use the properties of materials for performance and structural elements achieving functional solutions. Select and use tools and equipment with some accuracy. - Be able to identify and state the tools use for most items and explain the link to some tasks completed in lesson. - Understand how to work in a practical environment with a level of caution and safety with little guidance. - Select and use tools and equipment with some accuracy. With little guidance. - Be able to provide limited understanding when identifying and stating the tools use.	
Year 8 Expected Year 7 Greater Depth	Theory	Can identify the needs and wants of a client and create a basic profile.	Outcomes with labels with links to some ACCESSFM points.	Understand how more advanced electrical and electronic systems can be powered and used in their	Some links to functional properties and aesthetics.	Some links to functional properties and aesthetics,	Create a mind map when developing a customer profile that outlines the PIES of the client.

		• Can understand the purpose of a design criteria and create a design brief and justify some points. • Understands what ACCESSFM means and can create a detailed specification. • Can understand how designers have influenced and shaped the world by identifying key facts and describe how the designs have evolved. • Can Identify the three groups of woods and describe a fact for each as well as make links to a product. • Ideas created labels with some linking to ACCESSFM labelling and annotation. • Can apply some understand how components/ ingredients are assembled and integrated to function and explain their individual purpose. • Can develop and explain some the final solution developed. • Can use some of software to communicate a design and its' benefits.	• Know a couple designers and their influence on how it has shaped the world. • Design must consider themselves when developing a design and have awareness of other TMG. • Know of designers and their influence on how it has shaped the world. • Develop a couple ideas based on a theme that represents their TMG. • Mind map a theme and create a basic profile for their TMG • Be able to draw using basic shapes using oblique drawings, 2D designs created. • Be able to use software like google sketch up to create basic shapes.	products [e.g., circuits with light, sensors] • Know the use of some range of materials, components. • Can identify a range of tools and equipment and explain their use. • Can use software to develop a product that is functional with some guidance. • Can problem solve ideas to create a refined idea, linking to customer needs and wants through discussion and some teacher guidance. • Can identify hazards and preventions for a range of materials and equipment. • Understands the hazards and preventions in a workshop of a range of tools and equipment. • Able to identify the correct materials most of the times. • Complete a diary of making identifying a range of the main steps completed. • Know the function of a range materials, components and equipment. • Can use software to develop a product that is functional with some guidance. • Can problem solve ideas to create a refined idea, making some links to customer needs and wants with a couple of justifications.	• Complete third-party feedback making basic points. • Identify two key events of influence when designing and making. • Know how a survey, questionnaire can affect the outcome of a product, be able to complete a survey. • Evaluate own ideas against most of the design criteria. • Analyse two product with some links to ACCESSFM. • Evaluate a range of existing products with some links to ACCESSFM.	• Evidence with some detail of Investigation of existing products. Some exploration of the use of mechanisms. • Some understanding of how more advanced mechanical systems used in their products enable changes in movement and force. • Some understanding how levers, sliders, wheels and axels are used in products. • Some links to functional properties and aesthetics with elements of detail. • Visually understand a timeline of a product. • Some understand the difference between mass, batch and one-off production.	• Link the summary to needs and wants of the client.
	Practical	• Student is aware of health and can justify most hazards and preventions. • Can use a range of hand tools & machinery and understand their use.	• Can manipulate materials to create a functional design with some guidance.	• Able to build a structure, understand how they can be made stronger, stiffer and more stable with some guidance. • Select and use materials, components.	• Throughout most of the making process, solve issues. • Seek out most improvements from feedback given.	• Some understand and use the properties of materials for performance and structural elements achieving functional solutions.	

		• Can use equipment, tools and machinery with minimal guidance when developing a product as well as use some specialist tools. • Can develop a product with some independence to develop templates and understand their use in industry. • Can use technology to develop and produce a final outcome that is mostly functional and has some technical challenge to manufacture. • Can understand how to work with electronics and embed intelligence into products with some independence. • Can analyse a product using ACCESSFM to gain an understanding of some strengths and weaknesses of the product to provide some points into how they will develop or create their own outcome.	• Can use a template the student has created themselves. • Can apply decoration with some guidance to create a product that is aesthetically pleasing based on a theme.	• Can understand what prototypes, pattern pieces are and know the some of how computer aided design could be used. • Apply computing and use electronics to embed intelligence in products that respond to inputs [light, sensor] and control outputs [for example, actuators] using programmable components [e.g., microcontrollers] • Understand how construction materials and textiles are used according to characteristics by manufacturing with some. • Select and use a range of materials, components. • Can use a varied range of tools and equipment with links to cutting, shaping, joining, and finishing. • Select and use a varied range of materials, components. • Use construction materials and textiles according to characteristics. • Use a varied range of tools and equipment to perform practical tasks.	• Identify most issues and resolve while making. • Correct most mistakes by improving the process. • Seek out improvements from feedback given some places.	• Select and use some tools and equipment with some accuracy. • Be able to identify and state the tools use for most items. • Understand how to work in a practical environment with a level of caution and safety with some guidance. • Select and use tools and equipment with some accuracy. With some guidance. • Be able to provide some understanding when identifying and stating the tools use.	
Year 7 Expected	Theory	• Can mind map a range of themes and create at least two design ideas with some labels. • Can identify the needs and wants of a client. • Can understand the purpose of a design criteria and create a basic design brief. • Understands what ACCESSFM means and can create a basic specification. • Can understand how designers have influenced and shaped the world by identifying key facts. • Can Identify the three groups of woods and state a fact for each.	• Outcomes with labels. • Know a designer and their influence on how it has shaped the world. • Design must consider themselves when developing a design. • Know of designers and their influence on how it has shaped the world. • Develop a couple ideas based on a theme that	• Understand how more advanced electrical and electronic systems can be powered and used in their products [e.g., circuits with light] • Know the use of a basic range of materials, components. • Can identify some tools and equipment and explain their use. • Can use software to develop a product that is functional with guidance. • Can problem solve ideas to create a refined idea,	• Basic links to functional properties and aesthetics. • Complete third-party feedback verbally with peers. • Identify some key events of influence when designing and making. • Know how a survey, questionnaire can affect the outcome of a product.	• Basic links to functional properties and aesthetics. • Some evidence of Investigation of existing products. • Basic exploration of the use of mechanisms. • Basic understanding how more advanced mechanical systems used in their products enable changes in movement and force. • Basic understanding how levers, sliders,	• Create a mind map when developing a customer profile that outlines the PIES of the client.

		- Can apply some points of understanding of how components/ ingredients are assembled and integrated to function and explain their individual purpose. - Can develop and explain some of the final solution developed. - Can explain the difference between movement and force. - Can use a software to communicate a design.	represents their TMG. - Mind map a theme and create a basic profile for their TMG - Be able to draw using basic shapes, 2D designs created. - Be able to use software like google sketch up to create basic shapes. - Hand draw using basic oblique drawing.	linking to customer needs and wants through discussion and teacher guidance. - Can identify hazards and preventions for some materials and equipment. - Understands the hazards and preventions in a workshop of some tools and equipment. - Able to identify the correct materials some of the times. - Complete a diary of making identifying some of the main steps completed. - Know the function of some materials, components and equipment. - Can use software to develop a product that is functional with guidance. - Can problem solve ideas to create a refined idea, making some links to customer needs and wants.	- Evaluate own ideas against some of the design criteria. - Analyse a product with basic links to ACCESSFM.	wheels and axels are used in products. - Some links to functional properties and aesthetics. - Visually understand a timeline of a product. - Basic understand the difference between mass, batch and one-off production.	
	Practical	- Student is aware of health and can identify hazards and preventions. - Can use a range of hand tools and understand their use. - Can use equipment, tools and machinery with some guidance or assistance when developing a product. - Can develop a product with some guidance to develop templates and understand their use in industry. - Can use technology to develop and produce a final outcome that has some functionality and has some technical challenge to manufacture. - Can understand how to work with electronics and embed intelligence into products with some guidance. - Can analyse a product using ACCESSFM to gain an understanding of some strengths and weaknesses of the product.	- Can manipulate materials to create a functional design with guidance. - Can use a template provided by the teacher. - Can apply decoration with guidance and assistance to create a product that is aesthetically pleasing based on a theme.	- Able to build a structure, understand how they can be made stronger, stiffer and more stable with guidance. - Select and use materials, components. - Can understand what prototypes, pattern pieces are and know the basics of how computer aided design could be used. - Apply computing and use electronics to embed intelligence in products that respond to inputs [light] and control outputs [for example, actuators] using programmable components [e.g., microcontrollers] - Understand how construction materials and textiles are used according to characteristics.	- Throughout some of the making process, solve issues. - Seek out some improvements from feedback given. - Identify some issues and resolve while making. - Correct some mistakes by improving the process. - Seek out improvements from feedback given in places.	- Basic understand and use the properties of materials for performance and structural elements achieving functional solutions. Select and use tools and equipment with some accuracy. - Be able to identify and state the tools use for some items. - Understand how to work in a practical environment with a level of caution and safety with guidance. - Select and use tools and equipment with some accuracy. With guidance. - Be able to provide a basic understanding	

				• Select and use a basic range of materials, components. • Can use a basic range of tools and equipment with links to cutting, shaping, joining, and finishing. • Select and use a basic range of materials, components. • Use construction materials and textiles according to characteristics. • Use a basic range of tools and equipment to perform practical tasks.		when identifying and stating the tools use.	
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