

Y8 Design & Technology

CASE REPLACE



Name			
Teacher			
DT Group		GCSE Target	

TOPIC	GCSE 1-3	GCSE 4-6	GCSE 7-9
Identifying & investigating design opportunities. <i>(The design context & consumer profile)</i>	<ul style="list-style-type: none"> <input type="checkbox"/> Lists few problems or opportunities within the design brief. <input type="checkbox"/> States a potential user with little consideration to their needs. 	<ul style="list-style-type: none"> <input type="checkbox"/> Describes some problems or opportunities within the design brief which has informed the development of possible design ideas. <input type="checkbox"/> Identified a potential user with good consideration to their needs, values & wants. 	<ul style="list-style-type: none"> <input type="checkbox"/> Detailed analysis of several problems or opportunities within the design brief which has informed the development of unique design ideas. <input type="checkbox"/> Analysed a potential user in detail with consideration of their needs, values & wants, including reflection.
Generating & developing design ideas. <i>(Phone case design ideas, packaging design ideas)</i>	<ul style="list-style-type: none"> <input type="checkbox"/> Shows limited ability to communicate simple ideas to others. <input type="checkbox"/> Limited details of materials, dimensions, production techniques mentioned. <input type="checkbox"/> Basic or no use of testing to evolve ideas. 	<ul style="list-style-type: none"> <input type="checkbox"/> Demonstrates a good use of skills to communicate average ideas to others. <input type="checkbox"/> Basic details of materials, dimensions, production techniques mentioned. <input type="checkbox"/> Some testing with consideration completed to evolve ideas. 	<ul style="list-style-type: none"> <input type="checkbox"/> Demonstrates a sophisticated use of skills to clearly communicate a range of ideas to others. <input type="checkbox"/> Comprehensive range of details including materials, dimensions & production techniques. <input type="checkbox"/> Clear, detailed & effective use of testing to evolve ideas.
Manufacturing a prototype. <i>(Using CAD/CAM & manufacturing diary)</i>	<ul style="list-style-type: none"> <input type="checkbox"/> Used basic making skills to produce a partially functioning prototype. <input type="checkbox"/> Lists basic stages of production with limited detail. <input type="checkbox"/> Used tools, equipment & machinery with support & limited accuracy. 	<ul style="list-style-type: none"> <input type="checkbox"/> Used appropriate making skills & processes to produce a good quality functioning prototype. <input type="checkbox"/> Describes some relevant stages of production in detail. <input type="checkbox"/> Used tools, equipment & machinery safely with some accuracy. 	<ul style="list-style-type: none"> <input type="checkbox"/> Used a range of making skills & processes to produce a high quality functioning prototype. <input type="checkbox"/> Clearly communicates relevant stages of production in detail. <input type="checkbox"/> Used tools, equipment & machinery safely with independence & accuracy.
Analysing & evaluating design decisions & prototypes. <i>(Product analysis, evaluating ideas & final evaluation)</i>	<ul style="list-style-type: none"> <input type="checkbox"/> Lists some modifications & strengths of the final prototype. <input type="checkbox"/> Limited evaluation of design ideas & decisions. <input type="checkbox"/> Basic or no responding to feedback from others. 	<ul style="list-style-type: none"> <input type="checkbox"/> Identifies a variety of modifications & strengths of the final prototype. <input type="checkbox"/> Produced a basic evaluation of design ideas & decisions. <input type="checkbox"/> Good use of responding to feedback from others. 	<ul style="list-style-type: none"> <input type="checkbox"/> Responded to feedback from others & clearly identifies opportunity for development of the final prototype. <input type="checkbox"/> Undertaken critical analysis & evaluation of designs & prototypes throughout.

Product Analysis

Unit	2-3	4-6	7-9
Analysing existing products	<input type="checkbox"/> I can analyse 1-3 product using ACCESS FM.	<input type="checkbox"/> I can analyse 3-4 products using ACCESS FMM. I can explain and justify each the design decisions made by both the designer and manufacturer.	<input type="checkbox"/> I can analyse 3-4 products using ACCESSFM. I can explain and justify each of the design decisions made both designer and manufacturer and explain how this will impact on my designs.
	<input type="checkbox"/> I can identify the needs and wants of the user. 5Ws	<input type="checkbox"/> I can identify the needs and wants of the user and have described the cultural and socio-economic factors of the user.	<input type="checkbox"/> I can explain the needs and wants of the user in relation to cultural and socio-economic factors of the user and how this will impact on my design decisions.
	<input type="checkbox"/> I can identify the advantages and disadvantages of each product.	<input type="checkbox"/> I can evaluate each product in relation to the needs and wants of the user.	<input type="checkbox"/> I can evaluate each product in relation to the user, the materials and components.
	<input type="checkbox"/> I can suggest how the product could be improved.	<input type="checkbox"/> I can suggest several improvements for each of the products in relation to the user. I can explain how and why these improvements could be made.	<input type="checkbox"/> I can suggest several improvements for each product in relation to the user. I can explain how and why these improvements could be made using materials and components subject knowledge.

Target	Below (R)	Emerging (A)	On (G)	Exceeding (E)

Polymers

	2-3	4-6	7-9
Polymers	<ul style="list-style-type: none"> <input type="checkbox"/> Identify what a polymer is. <input type="checkbox"/> Identify the differences between a thermosetting polymer and thermoplastic polymer is. <input type="checkbox"/> Identify a range of polymers and their common uses <input type="checkbox"/> Identify the advantages and disadvantages of a range of polymers <input type="checkbox"/> Identify the impact of using polymers on the environment. <input type="checkbox"/> Create a design that applies good knowledge of polymers. 	<ul style="list-style-type: none"> <input type="checkbox"/> Describe what a polymer is. <input type="checkbox"/> Describe the differences between a thermosetting polymer and thermoplastic polymer is. <input type="checkbox"/> Describe the properties of a range of polymers and their common uses. <input type="checkbox"/> Describe the advantages and disadvantages of a range of polymers <input type="checkbox"/> Describe the impact of using polymers on the environment. <input type="checkbox"/> Create a design that applies a sound knowledge of polymers and their properties. 	<ul style="list-style-type: none"> <input type="checkbox"/> Explain what a polymer is. <input type="checkbox"/> Explain the difference between a thermosetting polymer and thermoplastic polymer is. <input type="checkbox"/> Explain the properties of a range of polymers and their common uses. <input type="checkbox"/> Explain the advantages and disadvantages of a range of polymers. <input type="checkbox"/> Explain the impact of using polymers on the environment. <input type="checkbox"/> Create a design that applies a sound knowledge of polymers and their properties with clear justifications for material decisions stated

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Design Specification

Unit	2-3	4-6	7-9
Design Specification	<ul style="list-style-type: none"> <input type="checkbox"/> I can write a design specification based on ACCESS FM. <input type="checkbox"/> I can identify measurable criteria to inform my design. <input type="checkbox"/> I can explain how I will meet each of my specification points. 	<ul style="list-style-type: none"> <input type="checkbox"/> I can write a design specification based on ACCESS FMM and the end users needs and wants being met. <input type="checkbox"/> I can identify measurable criteria such as ergonomics how the product could be manufactured in industry in terms of quantities. <input type="checkbox"/> I can explain how I will meet each of my specification points. <input type="checkbox"/> I can justify and give reasons for each of my design specification points linking to my research. <input type="checkbox"/> I can identify how each of my points meet the needs of my user. <input type="checkbox"/> I can prioritise each of my specification points. 	<ul style="list-style-type: none"> <input type="checkbox"/> I can write a detailed design specification based on ACCESS FMM and the end users needs and wants being met. <input type="checkbox"/> I can identify measurable criteria such as ergonomics how the product could be manufactured in industry in terms of quantities and its impact on cost and the environment. <input type="checkbox"/> I can explain how I will meet each of my specification points. <input type="checkbox"/> I can justify and give reasons for each of my design specification points linking to my research. <input type="checkbox"/> I can explain how each of my points meet the needs of my user <input type="checkbox"/> I can prioritise each of my specification points and explain why I have put them in this order of importance.

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Developing Ideas

Unit	2-3	4-6	7-9
	<ul style="list-style-type: none"> <input type="checkbox"/> I can draw out 2-3 design ideas and label using ACCESS FM <input type="checkbox"/> I can identify social, moral and economic factors. <input type="checkbox"/> I can generate ideas that meet most of my specification points. <input type="checkbox"/> I can evaluate my design ideas identifying advantages and disadvantages for each idea. <input type="checkbox"/> I can identify 2-3 ways of improving my designs based on my evaluations. <input type="checkbox"/> I can test and evaluate my designs through 3D prototyping. <input type="checkbox"/> I can show improvements through drawings and prototypes. (2-3 improvements) 	<ul style="list-style-type: none"> <input type="checkbox"/> I can draw out 4-5 design ideas and label using ACCESS FMM. <input type="checkbox"/> I can identify social, moral and economic factors relevant to the user <input type="checkbox"/> I can generate ideas that meet all of my specification points. <input type="checkbox"/> I can evaluate my design ideas explaining the advantages and disadvantages for each idea linking back to ACCESS FM and the needs and wants of the user. <input type="checkbox"/> I can identify 4-6 improvements and can explain how these could be made. <input type="checkbox"/> I can explain how each prototype could be tested and evaluated against my design specification. <input type="checkbox"/> I can show improvements through drawings and prototypes. (4-6 improvements) 	<ul style="list-style-type: none"> <input type="checkbox"/> I can draw 4-5 design ideas and label using ACCESS FMM. These designs are creative, innovative and appealing. <input type="checkbox"/> I can explain how social, moral and economic factors relevant to the user and how these have informed my design ideas. <input type="checkbox"/> I can generate ideas that meet all of my specification points and I can explain how I have met them. <input type="checkbox"/> I can evaluate my design ideas explaining the advantages and disadvantages for each idea linking back to ACCESS FM and the needs and wants of the user. <input type="checkbox"/> I can identify 6-8 improvements and can explain how these could be made. <input type="checkbox"/> I can explain how each prototype could be tested and evaluated against my design specification. <input type="checkbox"/> I can explain how each of my prototypes could be improved. <input type="checkbox"/> I can show improvements through drawings and prototypes. (6-8 improvements)

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Plan Of Make

Unit	2-3	4-6	7-9
Plan of Make	<ul style="list-style-type: none"> <input type="checkbox"/> I can identify most stages needed to manufacture my prototype. <input type="checkbox"/> I can identify how to carry out each of the stages safely. <input type="checkbox"/> I can identify the correct tools, equipment and materials needed to carry out each of the stages. <input type="checkbox"/> I can identify a quality control check for each stage. <input type="checkbox"/> I can specify dates and timings for each stage. 	<ul style="list-style-type: none"> <input type="checkbox"/> I can describe each of the stages needed to manufacture my prototype. <input type="checkbox"/> I can explain what risk assessments must be carried out for each stage <input type="checkbox"/> I can identify the correct size tools, equipment and materials needed to carry out each of the stages. <input type="checkbox"/> I can identify quality control checks for each stage and can explain how and why they should be carried out. <input type="checkbox"/> I can specify dates, timings, costings and scales of production. <input type="checkbox"/> I can identify the key stages needed to operate CAD/CAM machinery. 	<ul style="list-style-type: none"> <input type="checkbox"/> I can describe in detail each of the stages needed to manufacture my prototype. <input type="checkbox"/> I can explain what risk assessments must be carried out for each stage <input type="checkbox"/> I can identify the correct size tools, equipment and materials needed to carry out each of the stages and use the correct units for each. <input type="checkbox"/> I can identify quality control checks for each stage and can explain how and why they should be carried out. <input type="checkbox"/> I can specify dates, timings, costings and scales of production <input type="checkbox"/> I can explain how CAD/CAM machinery is operated to a third party.

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Evaluation

Unit	2-3	4-6	7-9		
Analysing & evaluating design decisions & prototypes.	<input type="checkbox"/> I can test and evaluate my prototypes against my specification using a template.	<input type="checkbox"/> I can test and evaluate my prototypes against my specification and the views of my client and user in an extended writing piece.	<input type="checkbox"/> I can test and evaluate my prototypes against my specification and the views of my client and user in an extended writing piece.		
	<input type="checkbox"/> I can record my findings and identify some improvements and modifications as a result of my findings.	<input type="checkbox"/> I can record the views of my user and client and explain how I could improve the design further based on their negative points	<input type="checkbox"/> I can record the views of my user and client and explain how I could improve the design further based on their negative points		
	<input type="checkbox"/> I can use the Life Cycle Analysis to evaluate the impact of each of my prototypes on the environment.	<input type="checkbox"/> I can record my findings and can explain what improvements, modifications and refinements have been made at every stage of developing and making.	<input type="checkbox"/> I can record my findings and can explain what improvements, modifications and refinements have been made at every stage of developing and making.		
	<input type="checkbox"/> I can identify the positives and negatives of my prototypes and suggest 1-2 improvements for each.	<input type="checkbox"/> I can use the Life Cycle Analysis to evaluate the impact of each of my prototypes on the environment and explain how I could reduce impact further.	<input type="checkbox"/> I can use the Life Cycle Analysis to evaluate the impact of each of my prototypes on the environment and explain how I could reduce impact further.		
	<input type="checkbox"/> I can show these improvements through further drawings and prototypes. (1-2)	<input type="checkbox"/> I can identify the positives and negatives of my prototypes and suggest 3-4 improvements for each.	<input type="checkbox"/> I can identify the positives and negatives of my prototypes and suggest 5-7 improvements for each.		
		<input type="checkbox"/> I can show these improvements through further drawings and prototypes. (3-4)	<input type="checkbox"/> I can show these improvements through further drawings and prototypes. (5-7)		
		<input type="checkbox"/> I can explain how these improvements have been made and why they have been made.	<input type="checkbox"/> I can explain how these improvements have been made and why they have been made referring to technical knowledge of materials and components.		
	Target	Below (R)	Emerging (A)	On (G)	Exceeding (E)

Making

Unit	2-3	4-6	7-9
Making	<ul style="list-style-type: none"> <input type="checkbox"/> I can select and safely use specialist tools, techniques, processes, equipment and machinery. <input type="checkbox"/> I can make a final prototype that is accurate in parts. <input type="checkbox"/> I can make a final prototype that meets some of the needs, wants and values of the user <input type="checkbox"/> I can make a prototype that meets some of my specification points. <input type="checkbox"/> I can make a prototype that uses more than one skill. 	<ul style="list-style-type: none"> <input type="checkbox"/> I can select and safely use specialist tools, techniques, processes, equipment and machinery. <input type="checkbox"/> I can make a final prototype that is accurate in most parts due to accurate marking out. <input type="checkbox"/> I can make a final prototype that meets most of the needs, wants and values of the user. <input type="checkbox"/> I can make a prototype that meets most of my specification points. <input type="checkbox"/> I can make a prototype that uses a range of skills and techniques. 	<ul style="list-style-type: none"> <input type="checkbox"/> I can select and safely use specialist tools, techniques, processes, equipment and machinery including CAD/CAM. <input type="checkbox"/> I can make a final prototype that is accurate all parts due to accurate marking out and construction. <input type="checkbox"/> I can make a final prototype that meets all of the needs, wants and values of the user. <input type="checkbox"/> I can make a prototype that meets all of my specification points. <input type="checkbox"/> I can make a prototype that uses a range of skills and techniques including CAD/CAM.

Target	Below (R)	Emerging (A)	On (G)	Exceeding (E)