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. *(The design context & consumer profile)*	❑ Lists few problems or opportunities within the design brief. ❑ States a potential user with little consideration to their needs.	❑ Describes some problems or opportunities within the design brief which has informed the development of possible design ideas. ❑ Identified a potential user with good consideration to their needs, values & wants.	❑ Detailed analysis of several problems or opportunities within the design brief which has informed the development of unique design ideas. ❑ Analysed a potential user in detail with consideration of their needs, values & wants, including reflection.
Generating & developing design ideas. *(Phone case design ideas, packaging design ideas)*	❑ Shows limited ability to communicate simple ideas to others. ❑ Limited details of materials, dimensions, production techniques mentioned. ❑ Basic or no use of testing to evolve ideas.	❑ Demonstrates a good use of skills to communicate average ideas to others. ❑ Basic details of materials, dimensions, production techniques mentioned. ❑ Some testing with consideration completed to evolve ideas.	❑ Demonstrates a sophisticated use of skills to clearly communicate a range of ideas to others. ❑ Comprehensive range of details including materials, dimensions & production techniques. ❑ Clear, detailed & effective use of testing to evolve ideas.
Manufacturing a prototype. *(Using CAD/CAM & manufacturing diary)*	❑ Used basic making skills to produce a partially functioning prototype. ❑ Lists basic stages of production with limited detail. ❑ Used tools, equipment & machinery with support & limited accuracy.	❑ Used appropriate making skills & processes to produce a good quality functioning prototype. ❑ Describes some relevant stages of production in detail. ❑ Used tools, equipment & machinery safely with some accuracy.	❑ Used a range of making skills & processes to produce a high quality functioning prototype. ❑ Clearly communicates relevant stages of production in detail. ❑ Used tools, equipment & machinery safely with independence & accuracy.
Analysing & evaluating design decisions & prototypes. *(Product analysis, evaluating ideas & final evaluation)*	❑ Lists some modifications & strengths of the final prototype. ❑ Limited evaluation of design ideas & decisions. ❑ Basic or no responding to feedback from others.	❑ Identifies a variety of modifications & strengths of the final prototype. ❑ Produced a basic evaluation of design ideas & decisions. ❑ Good use of responding to feedback from others.	❑ Responded to feedback from others & clearly identifies opportunity for development of the final prototype. ❑ Undertaken critical analysis & evaluation of designs & prototypes throughout.

Product Analysis

Unit	2-3	4-6	7-9
Analysing existing products	❑ I can analyse 1-3 product using ACCESS FM.	❑ 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.	❑ 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.
	❑ I can identify the needs and wants of the user. 5Ws	❑ I can identify the needs and wants of the user and have described the cultural and socio-economic factors of the user.	❑ 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.
	❑ I can identify the advantages and disadvantages of each product.	❑ I can evaluate each product in relation to the needs and wants of the user.	❑ I can evaluate each product in relation to the user, the materials and components.
	❑ I can suggest how the product could be improved.	❑ 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.	❑ 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)

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Polymers

	2-3	4-6	7-9
Polymers	❑ Identify what a polymer is.	❑ Describe what a polymer is.	❑ Explain what a polymer is.
	❑ Identify the differences between a thermosetting polymer and thermoplastic polymer is.	❑ Describe the differences between a thermosetting polymer and thermoplastic polymer is.	❑ Explain the difference between a thermosetting polymer and thermoplastic polymer is.
	❑ Identify a range of polymers and their common uses	❑ Describe the properties of a range of polymers and their common uses.	❑ Explain the properties of a range of polymers and their common uses.
	❑ Identify the advantages and disadvantages of a range of polymers	❑ Describe the advantages and disadvantages of a range of polymers	❑ Explain the advantages and disadvantages of a range of polymers.
	❑ Identify the impact of using polymers on the environment.	❑ Describe the impact of using polymers on the environment.	❑ Explain the impact of using polymers on the environment.
	❑ Create a design that applies good knowledge of polymers.	❑ Create a design that applies a sound knowledge of polymers and their properties.	❑ 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	❑ I can write a design specification based on ACCESS FM.	❑ I can write a design specification based on ACCESS FMM and the end users needs and wants being met.	❑ I can write a detailed design specification based on ACCESS FMM and the end users needs and wants being met.
	❑ I can identify measurable criteria to inform my design.	❑ I can identify measurable criteria such as ergonomics how the product could be manufactured in industry in terms of quantities.	❑ 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.
	❑ I can explain **how** I will meet each of my specification points.	❑ I can explain **how** I will meet each of my specification points.	❑ I can explain **how** I will meet each of my specification points.
		❑ I can **justify** and give reasons for each of my design specification points linking to my research.	❑ I can **justify** and give reasons for each of my design specification points linking to my research.
		❑ I can identify how each of my points meet the needs of my user.	❑ I can explain how each of my points meet the needs of my user
		❑ I can prioritise each of my speciation points.	❑ I can prioritise each of my specification points and explain why I have put them in this order of importance.

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

Unit	2-3	4-6	7-9
Developing Ideas	❑ I can draw out 2-3 design ideas and label using ACCESS FM	❑ I can draw out 4-5 design ideas and label using ACCESS FMM.	❑ I can draw 4-5 design ideas and label using ACCESS FMM. These designs are creative, innovative and appealing.
	❑ I can identify social, moral and economic factors.	❑ I can identify social, moral and economic factors relevant to the user	❑ I can explain how social, moral and economic factors relevant to the user and how these have informed my design ideas.
	❑ I can generate ideas that meet most of my specification points.	❑ I can generate ideas that meet all of my specification points.	❑ I can generate ideas that meet all of my specification points and I can explain how I have met them.
	❑ I can evaluate my design ideas identifying advantages and disadvantages for each idea.	❑ 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.	❑ 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.
	❑ I can identify 2-3 ways of improving my designs based on my evaluations.	❑ I can identify 4-6 improvements and can explain how these could be made.	❑ I can identify 6-8 improvements and can explain how these could be made.
	❑ I can test and evaluate my designs through 3D prototyping.	❑ I can explain how each prototype could be tested and evaluated against my design specification.	❑ I can explain how each prototype could be tested and evaluated against my design specification. ❑ I can explain how each of my prototypes could be improved.
	❑ I can show improvements through drawings and prototypes. (2-3 improvements)	❑ I can show improvements through drawings and prototypes. (4-6 improvements)	❑ 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	❏ I can identify most stages needed to manufacture my prototype. ❏ I can identify how to carry out each of the stages safely. ❏ I can identify the correct tools, equipment and materials needed to carry out each of the stages. ❏ I can identify a quality control check for each stage. ❏ I can specify dates and timings for each stage.	❏ I can describe each of the stages needed to manufacture my prototype. ❏ I can explain what risk assessments must be carried out for each stage ❏ I can identify the correct size tools, equipment and materials needed to carry out each of the stages. ❏ I can identify quality control checks for each stage and can explain how and why they should be carried out. ❏ I can specify dates, timings, costings and scales of production. ❏ I can identify the key stages needed to operate CAD/CAM machinery.	❏ I can describe in detail each of the stages needed to manufacture my prototype. ❏ I can explain what risk assessments must be carried out for each stage ❏ 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. ❏ I can identify quality control checks for each stage and can explain how and why they should be carried out. ❏ I can specify dates, timings, costings and scales of production ❏ 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.	❑ I can test and evaluate my prototypes against my specification using a template.	❑ I can test and evaluate my prototypes against my specification and the views of my client and user in an extended writing piece.	❑ I can test and evaluate my prototypes against my specification and the views of my client and user in an extended writing piece.
	❑ I can record my findings and identify some improvements and modifications as a result of my findings.	❑ I can record the views of my user and client and explain how I could improve the design further based on their negative points	❑ I can record the views of my user and client and explain how I could improve the design further based on their negative points
	❑ I can use the Life Cycle Analysis to evaluate the impact of each of my prototypes on the environment.	❑ I can record my findings and can explain what improvements, modifications and refinements have been made at every stage of developing and making.	❑ I can record my findings and can explain what improvements, modifications and refinements have been made at every stage of developing and making.
	❑ I can identify the positives and negatives of my prototypes and suggest 1-2 improvements for each.	❑ 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.	❑ 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.
	❑ I can show these improvements through further drawings and prototypes. (1-2)	❑ I can identify the positives and negatives of my prototypes and suggest 3-4 improvements for each.	❑ I can identify the positives and negatives of my prototypes and suggest 5-7 improvements for each.
		❑ I can show these improvements through further drawings and prototypes. (3-4)	❑ I can show these improvements through further drawings and prototypes. (5-7)
		❑ I can explain how these improvements have been made and why they have been made.	❑ I can explain how these improvements have been made and why they have been made referring to technical knowledge of materials and components.

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Making

Unit	2-3	4-6	7-9
Making	❏ I can select and safely use specialist tools, techniques, processes, equipment and machinery.	❏ I can select and safely use specialist tools, techniques, processes, equipment and machinery.	❏ I can select and safely use specialist tools, techniques, processes, equipment and machinery including CAD/CAM.
	❏ I can make a final prototype that is accurate in parts.	❏ I can make a final prototype that is accurate in most parts due to accurate marking out.	❏ I can make a final prototype that is accurate all parts due to accurate marking out and construction.
	❏ I can make a final prototype that meets some of the needs, wants and values of the user	❏ I can make a final prototype that meets most of the needs, wants and values of the user.	❏ I can make a final prototype that meets all of the needs, wants and values of the user.
	❏ I can make a prototype that meets some of my specification points.	❏ I can make a prototype that meets most of my specification points.	❏ I can make a prototype that meets all of my specification points.
	❏ I can make a prototype that uses more than one skill.	❏ I can make a prototype that uses a range of skills and techniques.	❏ I can make a prototype that uses a range of skills and techniques including CAD/CAM.

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