

Design & Technology Key Stage 3 Curriculum Assessment

Y7	Development	Core	Advanced		
Y8		Development	Core	Advanced	
Y9			Development	Core	Advanced
knowledge	<p>To know:</p> <ul style="list-style-type: none"> basic units of measurement what design briefs and specifications are that you are designing for a customer. names of some tools, equipment, machinery (incl. CAD/CAM) names and basic properties of some materials some practical techniques and processes how to communicate simple ideas in 2D with labels Health & safety rules 	<ul style="list-style-type: none"> Measurements of length, width and depth different users have different needs, wants and requirements features of a design brief and specification research informs the design brief and specification names and uses of most tools, equipment and machinery names, properties and uses of a range of materials a range of practical techniques and processes (incl. CAD/CAM) how to communicate ideas using 2D drawings and simple analytical notes evaluation of ideas leads to improvements know the importance of health & safety rules 	<ul style="list-style-type: none"> how measurement within a tolerance improves accuracy and quality of function relevant research informs decisions names of a range of tools, equipment, machinery names and properties of a range of materials a wide range of practical techniques and processes (incl. CAD/CAM) how to communicate ideas using 2D and 3D drawings, analytical annotation and vocabulary how to use ACCESS FM to evaluate ideas in detail in order to find the best solution 	<ul style="list-style-type: none"> how to describe what tolerance is, giving an example carry out research, in some detail, that is used to inform design describe a range of tools and equipment found in a workshop and describe a wide range of practical techniques and processes (incl. CAD/CAM) how to communicate ideas using 2D and 3D drawings, analytical annotation, vocabulary and CAD with good presentation skills how to use ACCESS FM to complete a product analysis 	<ul style="list-style-type: none"> how to explain what are the benefits of using tolerances carry out various research in great detail, that is used to inform design describe a range of tools and equipment found in a workshop, giving examples of what they could be used for how to communicate ideas using 2D and 3D drawings, analytical annotation, vocabulary and CAD with excellent presentation skills how to explain the difference between primary and secondary research
Understanding	<p>Understand how to/that:</p> <ul style="list-style-type: none"> identify mm's and centimetres on a steel rule understand a design brief and specification understand some individual needs of a specific user the functions of basic tools, equipment and machinery for practical tasks know the basic properties of some materials A range of basic techniques and processes (incl. CAD/CAM) drawings and labels communicate their ideas to themselves and others the need to follow H&S rules to keep individuals safe in a workshop environment 	<ul style="list-style-type: none"> the value of accurate measurement by using mm's follow a basic design brief and specification research informs their designing the function of specific tools, equipment and machinery to carry out specific practical tasks understand the advantages and disadvantages of the properties of different materials a range of practical techniques and processes (incl. CAD/CAM) use methods of communicating ideas including 2D/3D sketching, basic CAD, notes and rendering how to keep themselves and others safe when carrying out practical activities by following H&S rules 	<ul style="list-style-type: none"> how to use tolerance calculations to improve accuracy properties of materials improve the functional and aesthetic features of a product justify some of their specification criteria justify the use of some tools, equipment, machinery to carry out specific practical tasks justify the use of a material based on their properties justify the use of a technique or process how CAD is used to communicate ideas to understand why evaluation is so important 	<ul style="list-style-type: none"> how to use tolerance and how it is linked to quality control properties of materials can improve the functional and aesthetic features of a product justify their specification criteria justify the use of tools, equipment, machinery to carry out practical tasks justify the use of different materials based on their properties justify the use of different techniques and processes how CAD is used to communicate ideas to different audiences 	<ul style="list-style-type: none"> how to add appropriate tolerances to dimensions, depending on their functionality the difference between quality control and quality assurance properties of materials can affect the final design justify their specification criteria in detail justify, in detail, the use of tools, equipment, machinery to carry out practical tasks justify, in detail, the use of different materials based on their properties, listing possible alternatives justify, in detail, the use of different techniques and processes how CAD is used to communicate ideas in the form of a presentation
Skills (Designing and making)	<p>Be able to:</p> <ul style="list-style-type: none"> use, with guidance, appropriate measurements use some of the information from a design brief and specification to generate ideas make some reference to the intended user mostly select appropriate tools, equipment and machinery for a given task select appropriate materials for the task based on their knowledge and understanding of properties use at least one technique or process (incl. CAD/CAM) to carry out practical activities draw and annotate designs using some presentation techniques follow and adhere to H&S regulations during practical activities at all times 	<ul style="list-style-type: none"> use appropriate measurements to achieve accuracy refer to the design brief and specification and use the information to generate ideas adapt designs to meet the needs of a specific user select and use appropriate tools, equipment and machinery for a given task use a some techniques and processes (incl. CAD/CAM) confidently to carry out practical tasks draw and annotate designs, evaluating against the specification 	<ul style="list-style-type: none"> apply tolerance throughout all practical activities apply quality control checks use iteration to adapt designs to meet the specification select and skilfully use appropriate tools, equipment and machinery through planned tasks skilfully use a range of techniques and processes (incl. CAD/CAM) following their own planned tasks presentation and communication demonstrates a high level of skill in 2D/3D and CAD with detailed annotation, evaluating against the specification 	<ul style="list-style-type: none"> inspect parts to check they are in tolerance apply quality control checks and report results develop designs to meet the specification select and skilfully use appropriate tools, equipment and machinery through planned tasks create a good quality outcome skilfully use a range of techniques and processes (incl. CAD/CAM) following their own planned tasks presentation and communication demonstrates a high level of skill in 2D/3D and CAD with detailed annotation containing explanation and evaluation against the specification 	<ul style="list-style-type: none"> create parts that are within tolerance apply quality control checks and report results and next steps required develop designs that meet a detailed specification select and skilfully use independently, appropriate tools, equipment and machinery through planned tasks independently create a good quality outcome independently and skilfully use a range of techniques and processes (incl. CAD/CAM) following their own planned tasks presentation and communication demonstrates a high level of skill in 2D/3D and CAD with detailed annotation containing explanation and evaluation against each part of the specification