

Design & Technology Progression in Skills & Technical Knowledge



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Structures						
Design	<ul style="list-style-type: none"> • Learning the importance of a clear design criteria • Including individual preferences and requirements in a design 	<ul style="list-style-type: none"> • Generating and communicating ideas using sketching and modelling • Learning about different types of structures, found in the natural world and in everyday objects 	<ul style="list-style-type: none"> • Designing a castle with key features to appeal to a specific person/purpose • Drawing and labelling a castle design using 2D shapes, labelling: <ul style="list-style-type: none"> -the 3D shapes that will create the features - materials need and colours • Designing and/or decorating a castle tower on CAD software 	<ul style="list-style-type: none"> • Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect • Building frame structures designed to support weight 	<ul style="list-style-type: none"> • Designing a stable structure that is able to support weight • Creating frame structure with focus on triangulation 	<ul style="list-style-type: none"> • Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs

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<p>Make</p>	<ul style="list-style-type: none"> • Making stable structures from card, tape and glue • Following instructions to cut and assemble the supporting structure of a windmill • Making functioning turbines and axles which are assembled into a main supporting structure 	<ul style="list-style-type: none"> • Making a structure according to design criteria • Creating joints and structures from paper/card and tape 	<ul style="list-style-type: none"> • Constructing a range of 3D geometric shapes using nets • Creating special features for individual designs • Making facades from a range of recycled materials 	<ul style="list-style-type: none"> • Creating a range of different shaped frame structures • Making a variety of free standing frame structures of different shapes and sizes • Selecting appropriate materials to build a strong structure and for the cladding • Reinforcing corners to strengthen a structure • Creating a design in accordance with a plan • Learning to create different textural effects with materials 	<ul style="list-style-type: none"> • Making a range of different shaped beam bridges • Using triangles to create truss bridges that span a given distance and supports a load • Building a wooden bridge structure Independently measuring and marking wood accurately • Selecting appropriate tools and equipment for particular tasks • Using the correct techniques to saws safely • Identifying where a structure needs reinforcement and using card corners for support • Explaining why selecting appropriating materials is an important part of the design process • Understanding basic wood functional properties 	<ul style="list-style-type: none"> • Building a range of play apparatus structures drawing upon new and prior knowledge of structures • Measuring, marking and cutting wood to create a range of structures • Using a range of materials to reinforce and add decoration to structures
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Evaluation	<ul style="list-style-type: none"> • Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't • Suggest points for improvements 	<ul style="list-style-type: none"> • Exploring the features of structures • Comparing the stability of different shapes • Testing the strength of own structures • Identifying the weakest part of a structure • Evaluating the strength, stiffness and stability of own structure 	<ul style="list-style-type: none"> • Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design • Suggesting points for modification of the individual designs 	<ul style="list-style-type: none"> • Evaluating structures made by the class • Describing what characteristics of a design and construction made it the most effective • Considering effective and ineffective designs 	<ul style="list-style-type: none"> • Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary • Suggesting points for improvements for own bridges and those designed by others 	<ul style="list-style-type: none"> • Improving a design plan based on peer evaluation • Testing and adapting a design to improve it as it is developed • Identifying what makes a successful structure
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Technical Knowledge	<ul style="list-style-type: none"> • Describing the purpose of structures, including windmills • Learning how to turn 2D nets into 3D structures • Learning that the shape of materials can be changed to improve the strength and stiffness of structures • Understanding that cylinders are a strong type of structure that are often used for windmills and lighthouses • Understanding that windmill turbines use wind to turn and make the machines inside work • Understanding that axles are used in structures and mechanisms to make parts turn in a circle • Developing awareness of different structures for different purposes 	<ul style="list-style-type: none"> • Identifying natural and man-made structures • Identifying when a structure is more or less stable than another • Knowing that shapes and structures with wide, flat bases or legs are the most stable • Understanding that the shape of a structure affects its strength • Using the vocabulary: strength, stiffness and stability • Knowing that materials can be manipulated to improve strength and stiffness • Building a strong and stiff structure by folding paper 	<ul style="list-style-type: none"> • Identifying features of a castle • Identifying suitable materials to be selected and used for a castle, considering weight, compression, tension • Extending the knowledge of wide and flat based objects are more stable • Understanding the terminology of strut, tie, span, beam • Understanding the difference between frame and shell structure 	<ul style="list-style-type: none"> • Learning what pavilions are and their purpose • Building on prior knowledge of net structures and broadening knowledge of frame structures • Learning that architects consider light, shadow and patterns when designing • Implementing frame and shell structure knowledge • Considering effective and ineffective designs 	<ul style="list-style-type: none"> • Exploring how to create a strong beam Identifying arch and beam bridges and understanding the terms: compression and tension • Identifying stronger and weaker structures • Finding different ways to reinforce structures • Understanding how triangles can be used to reinforce bridges • Articulating the difference between beam, arch, truss and suspension bridges 	<ul style="list-style-type: none"> • Knowing that structures can be strengthened by manipulating materials and shapes • Identifying the shell structure in everyday life (cars, aeroplanes, tins, cans) • Understanding man made and natural structures
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Mechanisms						
Design	<ul style="list-style-type: none"> Explaining how to adapt mechanisms, using bridges or guides to control the movement Designing a moving story book for a given audience Designing a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move Creating clearly labelled drawings which illustrate movement 	<ul style="list-style-type: none"> Creating a class design criteria for a moving monster Designing a moving monster for a specific audience in accordance with a design criteria Selecting a suitable linkage system to produce the desired motions Designing a wheel Selecting appropriate materials based on their properties 	<ul style="list-style-type: none"> Designing a toy which uses a pneumatic system Developing design criteria from a design brief Generating ideas using thumbnail sketches and exploded diagrams Learning that different types of drawings are used in design to explain ideas clearly 	<ul style="list-style-type: none"> Designing a shape that reduces air resistance Drawing a net to create a structure from Choosing shapes that increase or decrease speed as a result of air resistance Personalising a design 	<ul style="list-style-type: none"> Designing a pop-up book which uses a mixture of structures and mechanisms Naming each mechanism, input and output accurately Storyboarding ideas for a book 	<ul style="list-style-type: none"> Experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement Understanding how linkages change the direction of a force Making things move at the same time Understanding and drawing cross-sectional diagrams to show the inner-workings of the automata

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Make	<ul style="list-style-type: none"> • Following a design to create moving models that use levers and sliders • Adapting mechanisms 	<ul style="list-style-type: none"> • Making linkages using card for levers and split pins for pivots • Experimenting with linkages adjusting the widths, lengths and thicknesses of card used • Cutting and assembling components neatly • Selecting materials according to their characteristics • Following a design brief 	<ul style="list-style-type: none"> • Creating a pneumatic system to create a desired motion • Building secure housing for a pneumatic system • Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy • Selecting materials due to their functional and aesthetic characteristics • Manipulating materials to create different effects by cutting, creasing, folding, weaving 	<ul style="list-style-type: none"> • Measuring, marking, cutting and assembling with increasing accuracy • Making a model based on a chosen design 	<ul style="list-style-type: none"> • Following a design brief to make a pop up book, neatly and with focus on accuracy • Making mechanisms and/or structures using sliders, pivots and folds to produce movement • Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result 	<ul style="list-style-type: none"> • Measuring, marking and checking the accuracy of the jelutong and dowel pieces required • Measuring, marking and cutting components accurately using a ruler and scissors • Assembling components accurately to make a stable frame • Understanding that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles • Selecting appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set
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Evaluation	<ul style="list-style-type: none"> • Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed • Reviewing the success of a product by testing it with its intended audience • Testing mechanisms, identifying what stops wheels from turning, knowing that a wheel needs an axle in order to move 	<ul style="list-style-type: none"> • Evaluating own designs against design criteria • Using peer feedback to modify a final design • Evaluating different designs • Testing and adapting a design 	<ul style="list-style-type: none"> • Using the views of others to improve designs • Testing and modifying the outcome, suggesting improvements • Understanding the purpose of exploded-diagrams through the eyes of a designer and their client 	<ul style="list-style-type: none"> • Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance 	<ul style="list-style-type: none"> • Evaluating the work of others and receiving feedback on own work • Suggesting points for improvement 	<ul style="list-style-type: none"> • Evaluating the work of others and receiving feedback on own work • Applying points of improvements • Describing changes they would make/do if they were to do the project again
Technical Knowledge	<ul style="list-style-type: none"> • Learning that levers and sliders are mechanisms and can make things move • Identifying whether a mechanism is a lever or slider and determining what movement the mechanism will make • Using the vocabulary: up, down, left, right, vertical and horizontal to describe movement • Identifying what mechanism makes a toy or vehicle roll forwards • Learning that for a wheel to move it must be attached to an axle 	<ul style="list-style-type: none"> • Learning that mechanisms are a collection of moving parts that work together in a machine • Learning that there is an input and output in a mechanism • Identifying mechanisms in everyday objects • Learning that a lever is something that turns on a pivot • Learning that a linkage is a system of levers that are connected by pivots • Exploring wheel mechanisms • Learning how axels help wheels to move a vehicle 	<ul style="list-style-type: none"> • Understanding how pneumatic systems work • Learning that mechanisms are a system of parts that work together to create motion • Understanding that pneumatic systems can be used as part of a mechanism • Learning that pneumatic systems force air over a distance to create movement 	<ul style="list-style-type: none"> • Learning that products change and evolve over time • Learning that all moving things have kinetic energy • Understanding that kinetic energy is the energy that something (object person) has by being in motion 	<ul style="list-style-type: none"> • Knowing that an input is the motion used to start a mechanism • Knowing that output is the motion that happens as a result of starting the input • Knowing that mechanisms control movement • Describing mechanisms that can be used to change one kind of motion into another 	<ul style="list-style-type: none"> • Using a bench hook to saw safely and effectively • Exploring cams, learning that different shaped cams produce different follower movements • Exploring types of motions and direction of a motion

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Textiles						
Design	<ul style="list-style-type: none"> Using a template to create a design for a puppet 	<ul style="list-style-type: none"> Designing a pouch 	<ul style="list-style-type: none"> Designing and making a template from an existing cushion and applying individual design criteria 	<ul style="list-style-type: none"> Writing design criteria for a product, articulating decisions made Designing a personalised Book sleeve 	<ul style="list-style-type: none"> Designing a stuffed toy considering the main component shapes required and creating an appropriate template Considering the proportions of individual components 	<ul style="list-style-type: none"> Designing a waistcoat in accordance to specification linked to set of design criteria to fit a specific theme Annotating designs
Make	<ul style="list-style-type: none"> Cutting fabric neatly with scissors Using joining methods to decorate a puppet Sequencing steps for construction 	<ul style="list-style-type: none"> Selecting and cutting fabrics for sewing Decorating a pouch using fabric glue or running stitch 	<ul style="list-style-type: none"> Following design criteria to create a cushion Selecting and cutting fabrics with ease using fabric scissors Sewing cross stitch to join fabric Decorating fabric using appliqué Completing design ideas with stuffing and sewing the edges 	<ul style="list-style-type: none"> Making and testing a paper template with accuracy and in keeping with the design criteria Measuring, marking and cutting fabric using a paper template Selecting a stitch style to join fabric, working neatly sewing small neat stitches Incorporating fastening to a design 	<ul style="list-style-type: none"> Creating a 3D stuffed toy from a 2D design Measuring, marking and cutting fabric accurately and independently Creating strong and secure blanket stitches when joining fabric Using applique to attach pieces of fabric decoration 	<ul style="list-style-type: none"> Using a template when pinning panels onto fabric Marking and cutting fabric accurately, in accordance with a design Sewing a strong running stitch, making small, neat stitches and following the edge Tying strong knots Decorating a waistcoat -attaching objects using thread and adding a secure fastening

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Evaluation	<ul style="list-style-type: none"> • Reflecting on a finished product, explaining likes and dislikes 	<ul style="list-style-type: none"> • Troubleshooting scenarios posed by teacher • Evaluating the quality of the stitching on others' work • Discussing as a class, the success of their stitching against the success criteria • Identifying aspects of their peers' work that they particularly like and why 	<ul style="list-style-type: none"> • Evaluating an end product and thinking of other ways in which to create similar items 	<ul style="list-style-type: none"> • Testing and evaluating an end product against the original design criteria • Deciding how many of the criteria should be met for the product to be considered successful • Suggesting modifications for improvement 	<ul style="list-style-type: none"> • Testing and evaluating an end product and giving point for further improvements 	<ul style="list-style-type: none"> • Evaluating work continually as it is created
Technical Knowledge	<ul style="list-style-type: none"> • Learning different ways in which to join fabrics together: pinning, stapling, gluing 	<ul style="list-style-type: none"> • Joining items using fabric glue or stitching Identifying benefits of these techniques • Threading a needle • Sewing running stitch, with evenly spaced, neat, even stitches to join fabric • Neatly pinning and cutting fabric using a template 	<ul style="list-style-type: none"> • Threading needles with greater independence • Tying knots with greater independence • Sewing cross stitch and appliqué • Understanding the need to count the thread on a piece of evenweave fabric in each direction to create uniform size and appearance • Understanding that fabrics can be layered for affect 	<ul style="list-style-type: none"> • Understanding that there are different types of fastenings and what they are • Articulating the benefits and disadvantages of different fastening types 	<ul style="list-style-type: none"> • Learning to sew blanket stitch to join fabric • Applying blanket stitch so the space between the stitches are even and regular • Threading needles independently 	<ul style="list-style-type: none"> • Learning different decorative stitches • Application and outcome of the individual technique • Sewing accurately with even regularity of stitches

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Cooking & Nutrition						
Design	<ul style="list-style-type: none"> Designing smoothie carton packaging by-hand or on ICT software 	<ul style="list-style-type: none"> Designing a healthy wrap based on a food combination which work well together 	<ul style="list-style-type: none"> Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish 	<ul style="list-style-type: none"> Designing a biscuit within a given budget, drawing upon previous taste testing 	<ul style="list-style-type: none"> Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients Writing an amended method for a recipe to incorporate the relevant changes to ingredients Designing appealing packaging to reflect a recipe 	<ul style="list-style-type: none"> Writing a recipe, explaining the key steps, method and ingredients Including facts and drawings from research undertaken
Make	<ul style="list-style-type: none"> Chopping fruit and vegetables safely to make a smoothie Identifying if a food is a fruit or a vegetable Learning where and how fruits and vegetables grow 	<ul style="list-style-type: none"> Slicing food safely using the bridge or claw grip Constructing a wrap that meets a design brief 	<ul style="list-style-type: none"> Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination Following the instructions within a recipe 	<ul style="list-style-type: none"> Following a baking recipe Cooking safely, following basic hygiene rules Adapting a recipe 	<ul style="list-style-type: none"> Cutting and preparing vegetables safely Using equipment safely, including knives, hot pans and hobs Knowing how to avoid cross-contamination Following a step by step method carefully to make a recipe 	<ul style="list-style-type: none"> Following a recipe, including using the correct quantities of each ingredient Adapting a recipe based on research Working to a given timescale Working safely and hygienically with independence

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Evaluation	<ul style="list-style-type: none"> • Tasting and evaluating different food combinations • Describing appearance, smell and taste • Suggesting information to be included on packaging 	<ul style="list-style-type: none"> • Describing the taste, texture and smell of fruit and vegetables • Taste testing food combinations and final products • Describing the information that should be included on a label • Evaluating which grip was most effective 	<ul style="list-style-type: none"> • Establishing and using design criteria to help test and review dishes • Describing the benefits of seasonal fruits and vegetables and the impact on the environment • Suggesting points for improvement when making a seasonal tart 	<ul style="list-style-type: none"> • Evaluating a recipe, considering: taste, smell, texture and appearance • Describing the impact of the budget on the selection of ingredients • Evaluating and comparing a range of products • Suggesting modifications 	<ul style="list-style-type: none"> • Identifying the nutritional differences between different products and recipes • Identifying and describing healthy benefits of food groups 	<ul style="list-style-type: none"> • Evaluating a recipe, considering: taste, smell, texture and origin of the food group • Taste testing and scoring final products • Suggesting and writing up points of improvements in productions • Evaluating health and safety in production to minimise cross contamination
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Technical Knowledge	<ul style="list-style-type: none"> • Understanding the difference between fruits and vegetables • Describing and grouping fruits by texture and taste 	<ul style="list-style-type: none"> • Understanding what makes a balanced diet • Knowing where to find the nutritional information on packaging • Knowing the five food groups 	<ul style="list-style-type: none"> • Learning that climate affects food growth • Working with cooking equipment safely and hygienically • Learning that imported foods travel from far away and this can negatively impact the environment • Learning that vegetables and fruit grow in certain seasons • Learning that each fruit and vegetable gives us nutritional benefits • Learning to use, store and clean a knife safely 	<ul style="list-style-type: none"> • Understanding the impact of the cost and importance of budgeting while planning ingredients for biscuits • Understanding the environmental impact on future product and cost of production 	<ul style="list-style-type: none"> • Understanding where food comes from - learning that beef is from cattle and how beef is reared and processed • Understanding what constitutes a balanced diet • Learning to adapt a recipe to make it healthier • Comparing two adapted recipes using a nutritional calculator and then identifying the healthier option 	<ul style="list-style-type: none"> • Learning how to research a recipe by ingredient • Recording the relevant ingredients and equipment needed for a recipe • Understanding the combinations of food that will complement one another • Understanding where food comes from, describing the process of 'Farm to Fork' for a given ingredient
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Electrical Systems (KS2)						
Design	N/A	N/A	<ul style="list-style-type: none"> • Designing a game that works using static electricity, including the instructions for playing the game Identifying a design criteria and a target audience 	<ul style="list-style-type: none"> • Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas 	<ul style="list-style-type: none"> • Designing an electronic greetings card with a copper track circuit and components • Creating a labelled circuit diagram showing positive and negative parts in relation to the LED and the battery • Writing design criteria for an electronic greeting card • Compiling a moodboard relevant to my chosen theme, purpose and recipient 	<ul style="list-style-type: none"> • Designing a steady hand game - identifying and naming the components required • Drawing a design from three different perspectives • Generating ideas through sketching and discussion • Modelling ideas through prototypes • Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'
Make	N/A	N/A	<ul style="list-style-type: none"> • Making an electrostatic game, referring to the design criteria • Using a wider range of materials and equipment safely • Using electrostatic energy to move objects in isolation as well as in part of a system 	<ul style="list-style-type: none"> • Making a torch with a working electrical circuit and switch • Using appropriate equipment to cut and attach materials • Assembling a torch according to the design and success criteria 	<ul style="list-style-type: none"> • Making a functional series circuit • Creating an electronics greeting card, referring to a design criteria • Mapping out where different components of the circuit will go 	<ul style="list-style-type: none"> • Constructing a stable base for a game • Accurately cutting, folding and assembling a net • Decorating the base of the game to a high quality finish • Making and testing a circuit Incorporating a circuit into a base

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Evaluation	N/A	N/A	<ul style="list-style-type: none"> • Learning to give constructive criticism on own work and the work of others • Testing the success of a product against the original design criteria and justifying opinions 	<ul style="list-style-type: none"> • Evaluating electrical products • Testing and evaluating the success of a final product and taking inspiration from the work of peers 	<ul style="list-style-type: none"> • Evaluating a peer's product against design criteria and suggesting modifications that could be made to improve the reliability or aesthetics of it or to incorporate another type of circuit component • Stating what Sir Rowland Hill invented and why it was important for greeting cards • Analysing and evaluating a range of existing greeting cards. 	<ul style="list-style-type: none"> • Testing own and others finished games, identifying what went well and making suggestions for improvement • Gathering images and information about existing children's toys • Analysing a selection of existing children's toys
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Design & Technology Progression in Skills & Technical Knowledge



Technical Knowledge	N/A	N/A	<ul style="list-style-type: none"> • Understanding what static electricity is and how it moves objects through attraction or repulsion • Generating static electricity independently • Using static electricity to make objects move in a desired way 	<ul style="list-style-type: none"> • Learning how electrical items work • Identifying electrical products • Learning what electrical conductors and insulators are • Understanding that a battery contains stored electricity and can be used to power products • Identifying the features of a torch • Understanding how a torch works • Articulating the positives and negatives about different torches 	<ul style="list-style-type: none"> • Learning the key components used to create a functioning circuit • Learning that copper is a conductor and can be used as part of a circuit • Understanding that breaks in a circuit will stop it from working • Explaining how a series circuit will work in my card • Identifying the negative and positive leg of an LED • Drawing a series circuit diagram and symbols 	<ul style="list-style-type: none"> • Learning that batteries contain acid, which can be dangerous if they leak • Identifying and naming the circuit components in a steady hand game
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Digital world (KS2)						
Design	N/A	N/A	<ul style="list-style-type: none"> • Problem solving by suggesting potential features on a Micro: bit and justifying my ideas • Developing design ideas for a technology pouch • Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge 	<ul style="list-style-type: none"> • Writing design criteria for a programmed timer (Micro:bit) • Exploring different mindfulness strategies • Applying the results of my research to further inform my design criteria • Developing a prototype case for my mindful moment timer • Using and manipulating shapes and clipart, using computer-aided design (CAD), to produce a logo • Following a list of design requirements 	<ul style="list-style-type: none"> • Researching (books, internet) for a particular (user's) animal's needs • Developing design criteria based on research • Generating multiple housing ideas using building bricks • Understanding what a virtual model is and the pros and cons of traditional and CAD modelling • Placing and manoeuvring 3D objects, using CAD • Changing the properties of, or combine one or more 3D objects, using CAD 	<ul style="list-style-type: none"> • Writing a design brief from information submitted by a client • Developing design criteria to fulfil the client's request • Considering and suggesting additional functions for my navigation tool • Developing a product idea through annotated sketches • Placing and manoeuvring 3D objects, using CAD • Changing the properties of, or combine one or more 3D objects, using CAD

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Make	N/A	N/A	<ul style="list-style-type: none"> • Using a template when cutting and assembling the pouch • Following a list of design requirements • Selecting and using the appropriate tools and equipment for cutting, joining, shaping and decorating a foam pouch • Applying functional features such as using foam to create soft buttons 	<ul style="list-style-type: none"> • Developing a prototype case for my mindful moment timer • Creating a 3D structure using a net 	<ul style="list-style-type: none"> • Understanding the functional and aesthetic properties of plastics 	<ul style="list-style-type: none"> • Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo) • Explaining material choices and why they were chosen as part of a product concept
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Evaluation	N/A	N/A	<ul style="list-style-type: none"> • Analysing and evaluating an existing product • Identifying the key features of a pouch 	<ul style="list-style-type: none"> • Investigating and analysing a range of timers by identifying and comparing their advantages and disadvantages • Evaluating my micro:bit program against points on my design criteria and amending them to include any changes I made • Documenting and evaluating my project • Understanding what a logo is and why they are important in the world of design and business 	<ul style="list-style-type: none"> • Stating an event or fact from the last 100 years of plastic history • Explaining how plastic is affecting planet Earth and suggesting ways to make more sustainable choices 	<ul style="list-style-type: none"> • Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool • Developing an awareness of sustainable design • Identifying key industries that utilise 3D CAD modelling and explain why • Describing how the product concept fits the client's request and how it will benefit the customers
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Technical Knowledge	N/A	N/A	<ul style="list-style-type: none"> • Identifying key product developments that occurred as a result of the digital revolution • Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm • Understanding what a loop is in programming • Explaining the basic functionality of my eCharm program • Understanding what is meant by 'point of sale display' 	<ul style="list-style-type: none"> • Writing design criteria for a programmed timer (Micro:bit) • Programming a micro:bit in the Microsoft micro:bit editor, to time a set number of seconds/minutes upon button press • Testing my program for bugs (errors in the code) • Finding and fixing the bugs (debug) in my code 	<ul style="list-style-type: none"> • Describing key developments in thermometer history • Programming to monitor the ambient temperature and coding an (audible or visual) alert when the temperature rises above or falls below a specified range • Explaining key functions in my program (audible alert, visuals) • Explaining how my product would be useful for an animal carer including programmed features 	<ul style="list-style-type: none"> • Programming an N,E, S,W cardinal compass • Explaining the key functions in my program, including any additions • Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool • Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch • Demonstrating a functional program as part of a product concept
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