

Design and technology

**Progression of skills and knowledge**

Subject leader overview EYFS (Reception) - Year 6

An overview of the **skills** and **knowledge** covered in each year group and strand and how these are developed through our Design and technology scheme of work.

***Introduction***

This document was last updated on 14.10.24. Please check [here](https://www.kapowprimary.com/featured_documents/dt-progression-of-skills-featured-document/) for the most up to date version.

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If you are following our Condensed Long-term plan, please use the accompanying: [D&T Progression of skills and](https://www.kapowprimary.com/featured_documents/dt-condensed-progression-of-skills/) [knowledge - Condensed version.](https://www.kapowprimary.com/featured_documents/dt-condensed-progression-of-skills/)

If you also subscribe to Art and follow our alternating Art and DT Long-term plan, please use the accompanying: [Art](https://www.kapowprimary.com/featured_documents/combined-art-and-dt-progression-of-skills-and-knowledge/) [and DT Progression of skills and knowledge](https://www.kapowprimary.com/featured_documents/combined-art-and-dt-progression-of-skills-and-knowledge/).

**How is the Design and technology scheme of work organised?**



**Design**

**Make**

**Evaluate**

**Technical knowledge**

Kapow Primary scheme of work



Kapow primary key areas - EYFS (Reception), Key stage 1 and 2

**Cooking and nutrition**

**Mechanisms**

**/ Mechanical systems**

**Structures**

**Textiles**

Key stage 2 only

**Electrical systems**

**Digital world**

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|  | | **EYFS (Reception)** | |
| [**Junk modelling**](https://www.kapowprimary.com/subjects/design-technology/dt-reception/reception-units/workshop-junk-modelling/) | [**Boats**](https://www.kapowprimary.com/subjects/design-technology/dt-reception/reception-units/structures-boats/) |
| **Skills** | **Design** | * Making verbal plans and material choices. * Developing a junk model. | * Designing a junk model boat. * Using knowledge from exploration to inform design. |
| **Make** | * Improving ﬁne motor/scissor skills with a variety of materials. * Joining materials in a variety of ways (temporary and permanent). * Joining different materials together. * Describing their junk model, and how they intend to put it together. | * Making a boat that ﬂoats and is waterproof, considering material choices. |
| **Evaluate** | * Giving a verbal evaluation of their own and others’ junk models with adult support. * Checking to see if their model matches their plan. * Considering what they would do differently if they were to do it again. * Describing their favourite and least favourite part of their model. | * Making predictions about, and evaluating different materials to see if they are waterproof. * Making predictions about, and evaluating existing boats to see which ﬂoats best. * Testing their design and reﬂecting on what could have been done differently. * Investigating the how the shapes and structure of a boat affect the way it moves. |
| **Knowledge** | **Technical** | * To know there are a range to different materials that can be used to make a model and that they are all slightly different. * Making simple suggestions to ﬁx their junk model. | * To know that ‘waterproof’ materials are those which do not absorb water. |
| **Additional** |  | * To know that some objects ﬂoat and others sink. * To know the different parts of a boat. |

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|  | | **Year 1** | **Year 2** |
| [**Constructing a windmill**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-1/new-structures-constructing-a-windmill/) | [**Baby bear’s chair**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/structures-baby-bears-chair/) |
| **Skills** | **Design** | * Learning the importance of a clear design criteria. * Including individual preferences and requirements in a design. | * Generating and communicating ideas using sketching and modelling. * Learning about different types of structures, found in the natural world and in everyday objects. |
| **Make** | * Making stable structures from card. * 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. * Finding the middle of an object. * Puncturing holes. * Adding weight to structures. * Creating supporting structures. * Cutting evenly and carefully. | * Making a structure according to design criteria. * Creating joints and structures from paper/card and tape. * Building a strong and stiff structure by folding paper. |
| **Evaluate** | * 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. | * 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. |
| **Knowledge** | **Technical** | * To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses). * To understand that axles are used in structures and mechanisms to make parts turn in a circle. * To begin to understand that different structures are used for different purposes. * To know that a structure is something that has been made and put together. * To know that the sails or blades of a windmill are moved by the wind. * To know that a structure is something built for a reason. * To know that stable structures do not topple. * To know that adding weight to the base of a structure can make it more stable. | * To know that shapes and structures with wide, ﬂat bases or legs are the most stable. * To understand that the shape of a structure affects its strength. * To know that materials can be manipulated to improve strength and stiffness. * To know that a structure is something which has been formed or made from parts. * To know that a ‘stable’ structure is one which is ﬁrmly ﬁxed and unlikely to change or move. * To know that a ‘strong’ structure is one which does not break easily. * To know that a ‘stiff’ structure or material is one which does not bend easily. |
| **Additional** | * To know that design criteria is a list of points to ensure the product meets the clients needs and wants. * To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity. * To know that windmill turbines use wind to turn and make the machines inside work. * To know that a windmill is a structure with sails that are moved by the wind. * To know the three main parts of a windmill are the turbine, axle and structure. * To know that windmills are used to generate power and were used for grinding ﬂour. | * To know that natural structures are those found in nature. * To know that man-made structures are those made by people. |

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|  | | **Year 3** | **Year 4** |
| [**Constructing a castle**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-3/structures-constructing-a-castle/) | [**Pavilions**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-4/structure-pavilions/) |
| **Skills** | **Design** | * Designing a castle with key features to appeal to a speciﬁc person/purpose. * Drawing and labelling a castle design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours. * Designing and/or decorating a castle tower on CAD software. | * Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. * Building frame structures designed to support weight. |
| **Make** | * Constructing a range of 3D geometric shapes using nets. * Creating special features for individual designs. * Making facades from a range of recycled materials. | * 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 cladding. * Reinforcing corners to strengthen a structure. * Creating a design in accordance with a plan. * Learning to create different textural effects with materials. |
| **Evaluate** | * 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. | * Evaluating structures made by the class. * Describing what characteristics of a design and construction made it the most effective. * Considering effective and ineffective designs. |
| **Knowledge** | **Technical** | * To understand that wide and ﬂat based objects are more stable. * To understand the importance of strength and stiffness in structures. | * To understand what a frame structure is. * To know that a ‘free-standing’ structure is one which can stand on its own. |
| **Additional** | * To know the following features of a castle: ﬂags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse - and their purpose. * To know that a façade is the front of a structure. * To understand that a castle needed to be strong and stable to withstand enemy attack. * To know that a paper net is a ﬂat 2D shape that can become a 3D shape once assembled. * To know that a design speciﬁcation is a list of success criteria for a product. | * To know that a pavilion is a a decorative building or structure for leisure activities. * To know that cladding can be applied to structures for different effects. * To know that aesthetics are how a product looks. * To know that a product’s function means its purpose. * To understand that the target audience means the person or group of people a product is designed for. * To know that architects consider light, shadow and patterns when designing. |

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|  | | **Year 5** | **Year 6** |
| [**Bridges**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-5/structure-bridges/) | [**Playgrounds**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-6/structure-playgrounds/) |
| **Skills** | **Design** | * Designing a stable structure that is able to support weight. * Creating a frame structure with a focus on triangulation. | * Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs. |
| **Make** | * Making a range of different shaped beam bridges. * Using triangles to create truss bridges that span a given distance and support 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. | * 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. |
| **Evaluate** | * 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. | * 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. |
| **Knowledge** | **Technical** | * To understand some different ways to reinforce structures. * To understand how triangles can be used to reinforce bridges. * To know that properties are words that describe the form and function of materials. * To understand why material selection is important based on properties. * To understand the material (functional and aesthetic) properties of wood. | * To know that structures can be strengthened by manipulating materials and shapes. |
| **Additional** | * To understand the difference between arch, beam, truss and suspension bridges. * To understand how to carry and use a saw safely. | * To understand what a 'footprint plan' is. * To understand that in the real world, design , can impact users in positive and negative ways. * To know that a prototype is a cheap model to test a design idea. |

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|  | | **Year 1** | |
| [**Making a moving storybook**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-1/mechanisms-making-a-moving-story-book/) | [**Wheels and axles**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-1/mechanisms-wheels-and-axles/) |
| **Skills** | **Design** | * 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, that when combined, will allow the wheels to move. * Creating clearly labelled drawings that illustrate movement. |
| **Make** | * Following a design to create moving models that use levers and sliders. | * Adapting mechanisms, when:   + they do not work as they should.   + to ﬁt their vehicle design.   + to improve how they work after testing their vehicle. |
| **Evaluate** | * 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 wheel and axle mechanisms, identifying what stops the wheels from turning, and recognising that a wheel needs an axle in order to move. |
| **Knowledge** | **Technical** | * To know that a mechanism is the parts of an object that move together. * To know that a slider mechanism moves an object from side to side. * To know that a slider mechanism has a slider, slots , guides and an object. * To know that bridges and guides are bits of card that purposefully restrict the movement of the slider. | * To know that wheels need to be round to rotate and move. * To understand that for a wheel to move it must be attached to a rotating axle. * To know that an axle moves within an axle holder which is ﬁxed to the vehicle or toy. * To know that the frame of a vehicle (chassis) needs to be balanced. |
| **Additional** | * To know that in Design and technology we call a plan a ‘design’. | * To know some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles. |

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|  | | **Year 2** | |
| [**Fairground wheel**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/new-mechanisms-fairground-wheel/) | [**Making a moving monster**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/mechanisms-making-a-moving-monster/) |
| **Skills** | **Design** | * Conducting simple surveys or discussions to gather opinions on what others need or like in a design. * Knowing that a survey is used to ﬁnd out what people like. * Using a simple design brief that outlines the intended use, target user, and key features of the product, to create simple design criteria. * Knowing that a design brief helps to decide what to make. * Knowing that design criteria are the steps for making a product successful. * Creating ideas with design criteria in mind. * Referring to speciﬁc parts of existing products when generating ideas. * Knowing that the design criteria help when thinking of ideas. * Using labels to explain parts of a design, label materials, etc. * Using labels to explain parts of a design, label materials, etc. * Knowing that drawings can help explain how something works. * Knowing that a label explains part of a drawing. | * Creating a class design criteria for a moving monster. * Designing a moving monster for a speciﬁc audience in accordance with a design criteria. |
| **Make** | * Choosing materials, ingredients or components from a wider range of materials, ingredients or components. * Explaining their choices based on the properties of materials and components. * Knowing some properties of materials like hard, soft, ﬂexible, waterproof, strong etc. * Following and recalling simple safety instructions. * Knowing that some tools are sharp like scissors and knives. * Choosing known geometric shapes when making. * Beginning to shape objects to improve how they work. * Knowing the names of some geometric shapes: triangle, pyramid, square, cube, circle, sphere. * Considering balance in their ﬁnishing, like evenly spaced decoration. | * 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. |
| **Evaluate** | * Discussing a range of existing products and saying what they like and dislike about them. * Evaluating existing products against design criteria. * Evaluating their ideas and creations against simple design criteria. * Knowing that design criteria help to decide if their product is a success. * Suggesting improvements to their peers’ designs and products. * Knowing that improve means to make something better. * Knowing that their suggestions can improve someone else’s work. | * Evaluating own designs against design criteria. * Using peer feedback to modify a ﬁnal design. |
| **Knowledge** | **Technical** | * To know everyday objects have mechanisms. * To know many things that move have parts inside to help them work. * To know mechanisms usually limit unwanted movement. * To know everyday objects utilise wheels and axles. * To know wheels must be able to turn to work effectively. * To know axles allow wheels to turn without falling off. | * To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. * To know that there is always an input and output in a mechanism. * To know that an input is the energy that is used to start something working. * To know that an output is the movement that happens as a result of the input. * To know that a lever is something that turns on a pivot. * To know that a linkage mechanism is made up of a series of levers. |
| **Additional** | * To know the features of a fairground wheel include the wheel, frame, pods, a base an axle and an axle holder. | * To know some real-life objects that contain mechanisms. |

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|  | | **Year 3** | **Year 4** |
| [**Pneumatic toys**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-3/mechanical-systems-pneumatic-toys/) | [**Making a slingshot car**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-4/mechanical-systems-making-a-slingshot-car/) |
| **Skills** | **Design** | * 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. | * 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. |
| **Make** | * 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 and weaving. | * Measuring, marking, cutting and assembling with increasing accuracy. * Making a model based on a chosen design. |
| **Evaluate** | * 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. | * Evaluating the speed of a ﬁnal product based on: the effect of shape on speed and the accuracy of workmanship on performance. |
| **Knowle dge** | **Technical** | * To understand how pneumatic systems work. * To understand that pneumatic systems can be used as part of a mechanism. * To know that pneumatic systems operate by drawing in, releasing and compressing air. | * To understand that all moving things have kinetic energy. * To understand that kinetic energy is the energy that something (object/person) has by being in motion. * To know that air resistance is the level of drag on an object as it is forced through the air. * To understand that the shape of a moving object will affect how it moves due to air resistance. |
| **Additional** | * To understand how sketches, drawings and diagrams can be used to communicate design ideas. * To know that exploded-diagrams are used to show how different parts of a product ﬁt together. * To know that thumbnail sketches are small drawings to get ideas down on paper quickly. | * To understand that products change and evolve over time. * To know that aesthetics means how an object or product looks in design and technology. * To know that a template is a stencil you can use to help you draw the same shape accurately. * To know that a birds-eye view means a view from a high angle (as if a bird in ﬂight). * To know that graphics are images which are designed to explain or advertise something. * To know that it is important to assess and evaluate design ideas and models against a list of design criteria. |

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|  | | **Year 4** |
| **\*New\*** [**Mechanical cars**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-4/mechanical-systems/option-1-new-mechanical-cars/) |
| **Skills** | **Design** | * Taking part in structured brainstorming sessions. * Developing drawing and sketching skills with a focus on clarity and simplicity. * Beginning to recognise the beneﬁt of a range of diagram types or prototypes to communicate ideas. (eg. sketches, cross-sectional diagram, thumbnail sketches and exploded diagrams) * Creating prototypes using materials with similar properties to their ﬁnal design. * Creating simple design criteria that outline basic functionality and appeal to individual users or target audiences. * Developing designs by adding detail and justiﬁcations about materials, tools, methods. |
| **Make** | * Following detailed safety instructions. * Using a ruler as a measuring tool with increasing accuracy by creating spaced marks using millimetres and measuring lengths of objects. * Handle different sizes and types of scissors with conﬁdence. * With close supervision using a hot glue gun to join wooden materials (e.g. lolly sticks). * Selecting equipment required for a series of tasks based on the plan. Explain why each piece is suitable for each stage. * Selecting materials, components or ingredients from a wider choice but within a limited design space (e.g. seasonal ingredients from May and June in the UK). |
| **Evaluate** | * Explaining why they think certain aspects of a peer's design are effective or why they suggested speciﬁc improvements. * Reﬂecting on feedback to decide if and how it could be used to improve future iterations. * Investigating and analysing a range of existing products by looking at their functionality and appeal. * Analysing why speciﬁc products, designers or inventors are successful. * Evaluating their designs by comparing them against design criteria and considering feedback from peers to suggest improvements. * Evaluating how effective their chosen materials and tools were in fulﬁlling the design brief. |
| **Knowledge** | **Technical** | * To understand that a mechanical system can allow us to move something more easily. * To know that mechanical systems have more than one mechanism that moves to make them work. * To know that mechanical systems are often hidden in products to make them look more appealing. |
| **Additional** | * To know that extra information on drawings or diagrams can help the user understand a design or idea. * To know that an exploded diagram shows how the parts of a product ﬁt together. * To know that a prototype is a detailed model that helps a user understand how a product will work. * To know that a target audience is a group of people that might like the idea. * To know that different tools and equipment have different dangers. * To know that a ruler can be used to measure length. * To know that a hot glue gun can be used to join materials. * To know that better suggestions of improvements mean better feedback. * To know that they can choose to use feedback or not. * To know that some products are more successful than other because of their function. * To know that choices of materials and equipment can affect the ﬁnal product. * To know that feedback is ideas and suggestions from other people that can help improve their work. |

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|  | | **Year 5** |
| **\*New\*** [**Gears and pulleys**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-5/mechanical-systems/mechanical-systems-gears-and-pulleys/) |
| **Skills** | **Design** | * Noticing wider-reaching problems or needs in the community. * Identifying a wide range of needs and potential barriers through market research. * Writing more complex problem statements that consider multiple factors and constraints. * Creating more complex design criteria that require considering detailed user needs, environmental impact, materials and cost. * Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas' practicality and originality. * Beginning to use more complex annotated sketches, such as cross-sectional and exploded diagrams and pattern pieces in design. * Using a series of prototypes to reﬁne and improve their designs. |
| **Make** | * Consistently apply safety instructions. * Select appropriate scissors to handle delicate cutting tasks and challenging materials. * Cutting patterns and drawings accurately. * In supervised groups, using hot glue guns safely. * Recognising that hot glue is useful for joining materials that need a strong bond that sets quickly. * Choosing PVA glue over hot glue for its safety when joining materials in less intensive projects. |
| **Evaluate** | * Reﬂecting on the usability, aesthetics, innovation and sustainability of products and discussing how design choices impact these aspects. * Assessing their designs against a more complex set of design criteria that includes functionality, aesthetics, user experience, sustainability and cost. * Considering alternative materials, tools or techniques that could enhance the product. * Providing feedback that is helpful, speciﬁc, and encouraging. * Incorporating feedback from peers or users improve their product further, explaining the changes they made and the impact they had. |
| **Knowledge** | **Technical** | * That mechanical systems that use gears in everyday objects (eg bicycle, clock). * That gears and pulleys allow us to transfer movement and force from one part of a mechanical system to another. * That gears allow us to increase the output of a mechanism. |
| **Additional** | * That market research is a way of collecting information about problems or needs. * That constraints are things that might stop our ideas being successful. * That original and innovative ideas are different from what has been made before. * That annotations are detailed labels and comments on diagrams. * That risks are things that might happen. * That hot glue creates a strong bond quickly. * That is often better to choose safer equipment. * That sustainability means thinking about the materials that were used to make a product and how the product was made. * That their ﬁnal product can still be improved by different materials or techniques. * That evaluating their designs in detail will help them understand its successful and less successful parts. * That feedback should be positive, helpful and speciﬁc. * That explaining how they used feedback to improve their design can help them create better products in the future. |

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|  | | **Year 5** | **Year 6** |
| [**Pop up book**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-5/mechanical-systems-making-a-pop-up-book/) | [**Automata toys**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-6/new-mechanical-systems-automata-toys/) |
| **Skills** | **Design** | * 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. | * Noticing wider-reaching problems or needs in the community. * Coming up with a broader range of ideas and deeper innovation, requiring pupils to think critically about their ideas’ practicality and originality. * Beginning to use more complex annotated sketches, such as cross-sectional and exploded diagrams and pattern pieces in design. |
| **Make** | * 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. | * Producing lists of equipment, materials and tools that they need for a task. * Selecting materials, components or ingredients based on research or user needs. * Explaining their choices, referring to their research. * Considering which equipment will work well together. * Choosing from the known range of equipment available to them with little guidance. * Assessing risks associated with different tools and equipment. * Understanding and explaining the importance of each safety rule. * Consistently apply safety instructions. * Cutting jelutong or other harder wood with a coping saw or a tenon saw in small groups. * Cutting in a back-and-forth sawing motion where appropriate. * In supervised groups, using hot glue guns safely. * Recognising that hot glue is useful for joining materials that need a strong bond that sets quickly. |
| **Evaluate** | * Evaluating the work of others and receiving feedback on own work. * Suggesting points for improvement. | * Assessing their designs against a more complex set of design criteria that includes functionality, aesthetics, user experience, sustainability and cost. * Providing feedback that is helpful, speciﬁc and encouraging. * Incorporating feedback from peers or users to improve their product further, explaining the changes they made and the impact they had. |
| **Knowledge** | **Technical** | * To know that mechanisms control movement. * To understand that mechanisms can be used to change one kind of motion into another. * To understand how to use sliders, pivots and folds to create paper-based mechanisms. | * To know that the mechanism in an automata uses a system of cams, axles and followers. * To know that different shaped cams produce different outputs. * To know which mechanisms are working together to make a mechanical system. * To know that there are different directions of movement. * To know that mechanisms can change one type of movement to another. |
| **Additional** | * To know that a design brief is a description of what I am going to design and make. * To know that designers often want to hide mechanisms to make a product more aesthetically pleasing. | * To know that an automata is a hand powered mechanical toy. * To know that a cross-sectional diagram shows the inner workings of a product. |

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|  | | **Year 3** | **Year 4** |
| [**Electric poster**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-3/electrical-systems-electric-poster/) | [**Torches**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-4/electrical-systems-torches/) |
| **Skills** | **Design** | * Carry out research based on a given topic (e.g. The Romans) to develop a range of initial ideas. * Generate a ﬁnal design for the electric poster with consideration to the client’s needs and design criteria. * Design an electric poster that ﬁts the requirements of a given brief. * Plan the positioning of the bulb (circuit component) and its purpose. | * Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas. |
| **Make** | * Create a ﬁnal design for the electric poster. * Mount the poster onto corrugated card to improve its strength and allow it to withstand the weight of the circuit on the rear. * Measure and mark materials out using a template or ruler. * Fit an electrical component (bulb). * Learn ways to give the ﬁnal product a higher quality ﬁnish (e.g. framing to conceal a roughly cut edge). | * 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. |
| **Evaluate** | * Learning to give and accept constructive criticism on own work and the work of others. * Testing the success of initial ideas against the design criteria and justifying opinions. * Revisiting the requirements of the client to review developing design ideas and check that they fulﬁl their needs. | * Evaluating electrical products. * Testing and evaluating the success of a ﬁnal product. |
| **Knowledge** | **Technical** | * To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit. * To understand common features of an electric product (switch, battery or plug, dials, buttons etc.). * To list examples of common electric products (kettle, remote control etc.). * To understand that an electric product uses an electrical system to work (function). * To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits. | * To understand that electrical conductors are materials which electricity can pass through. * To understand that electrical insulators are materials which electricity cannot pass through. * To know that a battery contains stored electricity that can be used to power products. * To know that an electrical circuit must be complete for electricity to ﬂow. * To know that a switch can be used to complete and break an electrical circuit. |
| **Additional** | * To understand the importance and purpose of information design. * To understand how material choices (such as mounting paper to corrugated card) can improve a product to serve its purpose (remain rigid without bending when the electrical circuit is attached). | * To know the features of a torch: case, contacts, batteries, switch, reﬂector, lamp, lens. * To know facts from the history and invention of the electric light bulb(s) - by Sir Joseph Swan and Thomas Edison. |

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|  | | **Year 5** | **Year 6** |
| [**Doodlers**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-5/electrical-systems-doodlers/) | [**Steady hand game**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-6/electrical-systems-steady-hand-game/) |
| **Skills** | **Design** | * Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product. * Developing design criteria based on ﬁndings from investigating existing products. * Developing design criteria that clariﬁes the target user. | * 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** | * Altering a product’s form and function by tinkering with its conﬁguration. * Making a functional series circuit, incorporating a motor. * Constructing a product with consideration for the design criteria. * Breaking down the construction process into steps so that others can make the product. | * 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. |
| **Evaluate** | * Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses. * Determining which parts of a product affect its function and which parts affect its form. * Analysing whether changes in conﬁguration positively or negatively affect an existing product. * Peer evaluating a set of instructions to build a product. | * 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. |
| **Knowledge** | **Technical** | * To know that series circuits only have one direction for the electricity to ﬂow. * To know when there is a break in a series circuit, all components turn off. * To know that an electric motor converts electrical energy into rotational movement, causing the motor’s axle to spin. * To know a motorised product is one which uses a motor to function. | * To know that batteries contain acid, which can be dangerous if they leak. * To know the names of the components in a basic series circuit, including a buzzer. |
| **Additional** | * To know that product analysis is critiquing the strengths and weaknesses of a product. * To know that ‘conﬁguration’ means how the parts of a product are arranged. | * To know that ‘form’ means the shape and appearance of an object. * To know the difference between 'form' and 'function'. * To understand that 'ﬁt for purpose' means that a product works how it should and is easy to use. * To know that form over purpose means that a product looks good but does not work very well. * To know the importance of ‘form follows function’ when designing: the product must be designed primarily with the function in mind. * To understand the diagram perspectives 'top view', 'side view' and 'back'. |

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|  | | **EYFS (Reception)** | **Year 1** | **Year 2** |
| [**Soup**](https://www.kapowprimary.com/subjects/design-technology/dt-reception/reception-units/food-soup/) | [**Smoothies**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-1/cooking-and-nutrition-smoothies/) | [**Balanced diet**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/cooking-and-nutrition-balanced-diet/) |
| **Skills** | **Design** | * Designing a soup recipe as a class. * Designing soup packaging. | * Designing smoothie carton packaging by-hand. | * Designing three wrap ideas based on a food combination which work well together. |
| **Make** | * Chopping plasticine safely. * Chopping vegetables with support. | * Chopping fruit and vegetables safely to make a smoothie. * Juicing fruits safely to make a smoothie. | * Chopping foods safely to make a wrap. * Constructing a wrap that meets a design brief. * Grating foods to make a wrap. * Snipping smaller foods instead of cutting. |
| **Evaluate** | * Tasting the soup and giving opinions. * Describing some of the following when tasting food: look, feel, smell and taste. * Choosing their favourite packaging design and explaining why. | * Tasting and evaluating different food combinations. * Describing appearance, smell and taste. * Suggesting information to be included on packaging. * Comparing their own smoothie with someone else’s. | * 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 food by giving a score. |
| **Knowledge** | | * To know that soup is ingredients (usually vegetables and liquid) blended together. * To know that vegetables are grown. * To recognise and name some common vegetables. * To know that different vegetables taste different. * To know that eating vegetables is good for us. * To discuss why different packages might be used for different foods. | * To know that a blender is a machine which mixes ingredients together into a smooth liquid. * To know that a fruit has seeds. * To know that fruits grow on trees or vines. * To know that vegetables can grow either above or below ground. * To know that vegetables is any edible part of a plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber). | * To know that ‘diet’ means the food and drink that a person or animal usually eats. * To understand what makes a balanced diet. * To know that the ﬁve main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. * To understand that I should eat a range of different foods from each food group, and roughly how much of each food group. * To know that ‘ingredients’ means the items in a mixture or recipe. |

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|  | | **Year 3** | **Year 4** |
| [**Eating seasonally**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-3/cooking-and-nutrition-eating-seasonally/) | [**Adapting a recipe**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-4/new-cooking-and-nutrition-adapting-a-recipe/) |
| **Skills** | **Design** | * Designing a recipe for a savoury tart. | * Designing a biscuit within a given budget, drawing upon previous taste testing judgements. * Designing packaging for a biscuit that targets a speciﬁc group. |
| **Make** | * Following the instructions within a recipe. * Tasting seasonal ingredients. * Selecting seasonal ingredients. * Peeling ingredients safely. * Cutting safely with a vegetable knife. | * Following a baking recipe, including the preparation of ingredients. * Cooking safely, following basic hygiene rules. * Adapting a recipe to meet the requirements of a target audience. * Using a cuboid net to create packaging. |
| **Evaluate** | * 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. | * 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 food products. * Suggesting modiﬁcations to a recipe (e.g. This biscuit has too many raisins, and it is falling apart, so next time I will use less raisins). |
| **Knowledge** | | * To know that not all fruits and vegetables can be grown in the UK. * To know that climate affects food growth. * To know that vegetables and fruit grow in certain seasons. * To know that cooking instructions are known as a ‘recipe’. * To know that imported food is food which has been brought into the country. * To know that exported food is food which has been sent to another country.. * To know that eating seasonal foods can have a positive impact on the environment. * To know that similar coloured fruits and vegetables often have similar nutritional beneﬁts. * To know that the appearance of food is as important as taste. | * To know that the amount of an ingredient in a recipe is known as the ‘quantity.’ * To know that safety and hygiene are important when cooking. * To know the following cooking techniques: sieving, measuring, stirring, cutting out and shaping. * To understand the importance of budgeting while planning ingredients for biscuits. * To know that products often have a target audience. |

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|  | | **Year 5** | **Year 6** |
| [**Developing a recipe**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-5/new-cooking-and-nutrition-developing-a-recipe/) | [**Come dine with me**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-6/new-cooking-and-nutrition-come-dine-with-me/) |
| **Skills** | **Design** | * 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. * Researching existing recipes to inform ingredient choices. | * Writing a recipe, explaining the key steps, method and ingredients. * Including facts and drawings from research undertaken. |
| **Make** | * 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. | * 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. |
| **Evaluate** | * Identifying the nutritional differences between different products and recipes. * Identifying and describing healthy beneﬁts of food groups. | * 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 when scoring others’ dishes, and when evaluating their own throughout the planning, preparation and cooking process. * Evaluating health and safety in production to minimise cross contamination. |
| **Knowledge** | | * To understand where meat comes from - learning that beef is from cattle and how beef is reared and processed. * To know that recipes can be adapted to suit nutritional needs and dietary requirements. * To know that I can use a nutritional calculator to see how healthy a food option is. * To understand that ‘cross-contamination’ means bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects. * To know that coloured chopping boards can prevent cross-contamination. * To know that nutritional information is found on food packaging. * To know that food packaging serves many purposes. | * To know that ‘ﬂavour’ is how a food or drink tastes. * To know that many countries have ‘national dishes’ which are recipes associated with that country. * To know that ‘processed food’ means food that has been put through multiple changes in a factory. * To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. * To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork). |

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|  | | **EYFS: Reception** | **Year 1** | **Year 2** |
| [**Bookmarks**](https://www.kapowprimary.com/subjects/design-technology/dt-reception/reception-units/textiles-bookmarks/) | [**Puppets**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-1/textiles-puppets/) | [**Pouches**](https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/textiles-pouches/) |
| **Skills** | **Design** | * Discussing what a good design needs. * Designing a simple pattern with paper. * Designing a bookmark. * Choosing from available materials. | * Using a template to create a design for a puppet. | * Designing a pouch. |
| **Make** | * Developing ﬁne motor/cutting skills with scissors. * Exploring ﬁne motor/threading and weaving (under, over technique) with a variety of materials. * Using a prepared needle and wool to practise threading. | * Cutting fabric neatly with scissors. * Using joining methods to decorate a puppet. * Sequencing steps for construction. | * Selecting and cutting fabrics for sewing. * Decorating a pouch using fabric glue or running stitch. * Threading a needle. * Sewing running stitch, with evenly spaced, neat, even stitches to join fabric. * Neatly pinning and cutting fabric using a template. |
| **Evaluate** | * Reﬂecting on a ﬁnished product and comparing to their design. | * Reﬂecting on a ﬁnished product, explaining likes and dislikes. | * 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. |
| **Knowledge** | | * To know that a design is a way of planning our idea before we start. * To know that threading is putting one material through an object. | * To know that ‘joining technique’ means connecting two pieces of material together. * To know that there are various temporary methods of joining fabric by using staples. glue or pins. * To understand that different techniques for joining materials can be used for different purposes. * To understand that a template (or fabric pattern) is used to cut out the same shape multiple times. * To know that drawing a design idea is useful to see how an idea will look. | * To know that sewing is a method of joining fabric. * To know that different stitches can be used when sewing. * To understand the importance of tying a knot after sewing the ﬁnal stitch. * To know that a thimble can be used to protect my ﬁngers when sewing. |

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|  | | **Year 3** | **Year 4** |
| **Cross-stitch and appliqué**  [**Cushions**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-3/textiles-cushions/)or [**Egyptian collars**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-3/textiles-cushions-or-egyptian-collars/textiles-egyptian-collars/) | [**Fastenings**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-4/textiles-fastenings/) |
| **Skills** | **Design** | * Designing and making a template from an existing cushion and applying individual design criteria. | * Writing design criteria for a product, articulating decisions made. * Designing a personalised book sleeve. |
| **Make** | * Following design criteria to create a cushion or Egyptian collar. * Selecting and cutting fabrics with ease using fabric scissors. * Threading needles with greater independence. * Tying knots with greater independence. * Sewing cross stitch to join fabric. * Decorating fabric using appliqué. * Completing design ideas with stufﬁng and sewing the edges (Cushions) ***or***   embellishing the collars based on design ideas (Egyptian collars). | * 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 by sewing small, straight stitches. * Incorporating a fastening to a design. |
| **Evaluate** | * Evaluating an end product and thinking of other ways in which to create similar items. | * 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. * Articulating the advantages and disadvantages of different fastening types. |
| **Knowledge** | | * To know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric to larger pieces. * To know that when two edges of fabric have been joined together it is called a seam. * To know that it is important to leave space on the fabric for the seam. * To understand that some products are turned inside out after sewing so the stitching is hidden. | * To know that a fastening is something which holds two pieces of material together for example a zipper, toggle, button, press stud and velcro. * To know that different fastening types are useful for different purposes. * To know that creating a mock up (prototype) of their design is useful for checking ideas and proportions. |

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|  | | **Year 5** | **Year 6** |
| [**Stuffed toys**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-5/textiles-stuffed-toys/) | [**Waistcoats**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-6/textiles-waistcoats/) |
| **Skills** | **Design** | * Designing a stuffed toy, considering the main component shapes required and creating an appropriate template. * Considering the proportions of individual components. | * Designing a waistcoat in accordance to a speciﬁcation linked to set of design criteria. * Annotating designs, to explain their decisions. |
| **Make** | * 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. * Threading needles independently. * Using appliqué to attach pieces of fabric decoration. * Sewing blanket stitch to join fabric. * Applying blanket stitch so the spaces between the stitches are even and regular. | * Using a template when cutting fabric to ensure they achieve the correct shape. * Using pins effectively to secure a template to fabric without creases or bulges. * Marking and cutting fabric accurately, in accordance with their design. * Sewing a strong running stitch, making small, neat stitches and following the edge. * Tying strong knots. * Decorating a waistcoat, attaching features (such as appliqué) using thread. * Finishing the waistcoat with a secure fastening (such as buttons). * Learning different decorative stitches. * Sewing accurately with evenly spaced, neat stitches. |
| **Evaluate** | * Testing and evaluating an end product and giving point for further improvements. | * Reﬂecting on their work continually throughout the design, make and evaluate process. |
| **Knowledge** | | * To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric. * To understand that it is easier to ﬁnish simpler designs to a high standard. * To know that soft toys are often made by creating appendages separately and then attaching them to the main body. * To know that small, neat stitches which are pulled taut are important to ensure that the soft toy is strong and holds the stufﬁng securely. | * To understand that it is important to design clothing with the client/ target customer in mind. * To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric. * To understand the importance of consistently sized stitches. |

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|  | | **Year 3** | **Year 4** |
| [**Wearable technology**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-3/digital-world-wearable-technology/) | [**Mindful moments timer**](https://www.kapowprimary.com/subjects/design-technology/lower-key-stage-2/year-4/digital-world-mindful-moments-timer/) |
| **Skills** | **Design** | * Problem solving by suggesting which features on a Micro:bit might be useful and justifying my ideas. * Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge. * Developing design ideas through annotated sketches to create a product concept. * Developing design criteria to respond to a design brief. | * 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 by using computer-aided design (CAD), to produce a logo. * Following a list of design requirements. |
| **Make** | * Following a list of design requirements. * Writing a program to control (button press) and/or monitor (sense light) that will initiate a ﬂashing LED algorithm. | * Developing a prototype case for my mindful moment timer. * Creating 3D structures using modelling materials. * Programming a micro:bit in the Microsoft micro:bit editor, to time a set number of seconds/minutes upon button press. |
| **Evaluate** | * Analysing and evaluating wearable technology. * Using feedback from peers to improve design. | * 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. * Testing my program for bugs (errors in the code). * Finding and ﬁxing the bugs (debug) in my code. * Using an exhibition to gather feedback. * Gathering feedback from the user to make suggested improvements to a product. |
| **Knowledge** | **Technical** | * To understand that, in programming, a ‘loop’ is code that repeats something again and again until stopped. * To know that a Micro:bit is a pocket-sized, codeable computer. * To know that a simulator is able to replicate the functions of an existing piece of technology. | * To understand what variables are in programming. * To know some of the features of a Micro:bit. * To know that an algorithm is a set of instructions to be followed by the computer. * To know that it is important to check my code for errors (bugs). * To know that a simulator can be used as a way of checking your code works before installing it onto an electronic device. |
| **Additional** | * To know what the ‘Digital Revolution’ is and features of some of the products that have evolved as a result. * To understand what is meant by ‘point of sale display.’ * To know that CAD stands for ‘Computer-aided design’. * To know what a focus group is by taking part in one. | * To understand the terms 'ergonomic' and 'aesthetic'. * To know that a prototype is a 3D model made out of cheap materials, that allows us to test design ideas and make better decisions about size, shape and materials. * To know that an exhibition is a way for companies to showcase products, meet potential new customers and gather feedback from users. |

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|  | | **Year 5** | **Year 6** |
| [**Monitoring devices**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-5/digital-world-monitoring-devices/) | [**Navigating the world**](https://www.kapowprimary.com/subjects/design-technology/upper-key-stage-2/year-6/digital-world-navigating-the-world/) |
| **Skills** | **Design** | * 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 combining one or more 3D objects, using CAD. | * 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 combining one or more 3D objects, using CAD. |
| **Make** | * Understanding the functional and aesthetic properties of plastics. * Programming to monitor the ambient temperature and coding an (audible or visual) alert when the temperature rises above or falls below a speciﬁed range. | * 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. * Programming an N,E, S, W cardinal compass. |
| **Evaluate** | * 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. * Explaining key functions in my program (audible alert, visuals). * Explaining how my product would be useful for an animal carer including programmed features. | * 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 explaining why. * Describing how the product concept ﬁts the client’s request and how it will beneﬁt the customers. * 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 pitch. |
| **Knowledge** | **Technical** | * To know that a ‘device’ means equipment created for a certain purpose or job and that monitoring devices observe and record. * To know that a sensor is a tool or device that is designed to monitor, detect and respond to changes for a purpose. * To understand that conditional statements (and, or, if booleans) in programming are a set of rules which are followed if certain conditions are met. | * To know that accelerometers can detect movement. * To understand that sensors can be useful in products as they mean the product can function without human input. |
| **Additional** | * To understand key developments in thermometer history. * To know events or facts that took place over the last 100 years in the history of plastic, and how this is changing our outlook on the future. * To know the 6Rs of sustainability. * To understand what a virtual model is and the pros and cons of traditional vs CAD modelling. | * To know that designers write design briefs and develop design criteria to enable them to fulﬁl a client’s request. * To know that ‘multifunctional’ means an object or product has more than one function. * To know that magnetometers are devices that measure the Earth’s magnetic ﬁeld to determine which direction you are facing. |

***Version history***

This slide shows recent updates to the document.

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| **Date** | **Update** |
| 19.08.22 | Alternative theme for Y3: Textiles added |
| 01.09.22 | Detail added to some skills statements. |
| 17.11.22 | Added EYFS units. |
| 27.10.23 | Updated to reﬂect refreshed Cooking and nutrition units. |
| 30.04.24 | Updated to reﬂect refreshed ‘Constructing a windmill unit.’ (p.5). |
| 21.08.24 | Updated to reﬂect refreshed content published on the website. |
| 02.09.24 | Updated links to reﬂect new unit published. |
| 14.10.24 | Updated to reﬂect refreshed content published on the website. |