Accrington Benjamin Hargreaves Church of England Primary School



Our vision is the centre of everything we do. It underpins our teaching and learning, interactions, and environment.

Document Title

Design and Technology Curriculum Progression

2026-2027

Vertical Strands

1) Mechanisms

2) Textiles

3) Structures

4) Electrical systems

5) Digital World

6) Cooking and Nutrition

	Unit Title	Mechanisms – Making a matching slider game	Textiles – Puppets	Structures – Stable Structures	Cooking and Nutrition – Balanced Diet
Cl.2	**Substantive Knowledge**	• To know that many things that move have parts inside to help them work. • To know that mechanisms usually limit unwanted movement. • To know that a slider mechanism moves an object in a straight line (e.g. left/right, up/down). • To know that sliding mechanisms are designed to keep movement in one direction (e.g. using guides/rails, etc.).	• 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 a structure is something that has been made and put together. • To know stable structures do not topple. • To know shapes and structures with wide, flat bases or legs are the most stable. • To know adding weight to the base of a structure can make it more stable	• To know that 'diet' means the food and drink that a person or animal usually eats. • To know what makes a balanced diet. • To know that the five main food groups are: carbohydrates, fruits and vegetables, protein, dairy and oils and spreads. • To know 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. • To know how to cut, grate, snip and spread to prepare foods. • To know how to review and give a score to evaluate.
	Procedural Knowledge	Design • To know the user is the person	Design • Using a template to create a design for a puppet. Make	Design To know: • The user is the person who will use the product.	Design • Designing three wrap ideas. • Identifying the five food groups.

		who will use the product. • To know different users may want different things from a design. • To know designers usually design and make something to solve a problem. • To know who they are designing for makes a difference to what they design. • To know the purpose is what something is for. • To know a mock-up is a model of how something works. Make To know: • Choosing different materials or components will have an effect on what their product does or looks like. • Different equipment does different things. • Names of common pieces of equipment. • Some tools are sharp like scissors and knives. • Following instructions helps with safety. • Cutting in a straight line can be helpful when making. **Evaluate** • To know: • Some products will be better than others. • Their ideas or products can be made better.	• Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing steps for construction. Evaluate • Reflecting on a finished product, explaining likes and dislikes.	• Different users may want different things from a design. • Who they are designing for makes a difference to what they design. • The purpose is what something is for. • Existing products can help when deciding what to design. • Drawings are a way to explain ideas. Make To know: • A plan is deciding what to do first and next. • Different equipment does different things. • Names of common pieces of equipment. • Some tools are sharp like scissors and knives. • Spacing cuts or marks evenly can be useful. • Different glue can be used to join different things. Evaluate To know: • Some products will be better than others. • Their ideas or products can be made better. • Their ideas can make someone else's work better. • Other people's ideas can help make their work better.	• Learning about a balanced diet. Make • Chopping foods safely to make a wrap. • Grating foods to make a wrap. • Snipping smaller foods instead of cutting. • Spreading soft foods to make a wrap. Evaluate • Tasting and evaluating different food combinations. • Describing appearance, smell and taste.

	LOs	• To identify slider mechanisms and describe how they move. • TO make and improve slider mechanisms. • To make a mock-up of a matching game with sliders. • To use a range of tools with increasing accuracy. • To add designs and test a product.	• To join fabrics together using different methods. • To use a template to create a design. • To join two fabrics together accurately. • To embellish a design using joining methods.	• To explore stability by balancing. • To explore wide or narrow bases by building towers. • To test a structure's stability with weight added in different places. • To design a stable structure that meets the needs of a user. • To use a variety of cutting and joining techniques to make a stable product.	• To recognise foods and their food groups. • To identify the balance of food groups in a meal. • To identify an appropriate piece of equipment to prepare a given food. • To select balanced combinations of ingredients. • To design based on criteria. • To evaluate a dish based on design criteria.
	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser
	Assessment	Assessment	Assessment	Assessment	Assessment
CI.3	**Unit Title**	**Textiles – Cushions**	**Mechanical Systems – Pneumatic Toys Option 1**	**Structures – Castles**	**Cooking and Nutrition – Eating Seasonally**
	Substantive Knowledge	• To know appliqué is a way of mending or decorating a textile by applying smaller pieces of fabric. • To know when two edges of fabric have been joined together, it is called a seam. • To know it is important to leave space on the fabric for the seam. • To know some products are turned inside out after sewing so the stitching is hidden.	• To know how mechanisms work. • To know a mechanical system can allow us to move something more easily. • To know mechanical systems can have more than one mechanism that moves to make them work. • To know mechanical systems are often hidden in products to make them look more appealing. • To know pneumatic systems can be found in everyday objects. • To know pushing air can be used	• To know that wide and flat based objects are more stable. • To know the importance of strength and stiffness in structures. • 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 know that a castle needed to be strong and stable to withstand enemy attack.	• To know that seasonal means foods that grow in a given season in a given country. • To know some seasonal foods that grow in the UK and what season they grow in. • To know that eating seasonal foods can have a positive impact on the environment. • To know how to describe the flavour and texture of foods. • To know how to cut and peel safely. • To know that the appearance of food is as important as taste. • To know that similar coloured

			to move a mechanism. • To know pivots can be used to create more movement in a mechanical system. • To know a combination of mechanisms can improve a product.		fruits and vegetables often have similar nutritional benefits.
	Procedural Knowledge	Design • Designing and making a template from an existing cushion and applying individual design criteria. Make • Following design criteria to create a cushion. • 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. Evaluating • Evaluating an end product and thinking of other ways to create similar items.	Design • Creating simple design criteria that outline basic functionality and appeal to individual users or target audiences. • Taking part in structured idea-generation sessions. • Coming up with more ideas and considering the feasibility of their ideas in the classroom. • Developing drawing and sketching skills with a focus on clarity and simplicity. • Developing designs by adding details and justifications about materials, tools and methods. • Beginning to recognise the benefit of a range of diagram types of prototypes to communicate ideas. • Adding extra information on drawings or diagrams to help the user understand a design or idea. • Using thumbnail sketches that are	Design • Designing a castle with key features to appeal to a specific person/purpose. • Drawing and labelling a castle design using 2D shapes. • Designing and/or decorating a castle tower on CAD software. Make • Constructing a range of 3D geometric shapes using nets. • Creating special features for individual designs. • Making facades from a range of recycled 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.	Design • Describing how climate affects where foods grow. • Identifying seasonal ingredients from the UK. • Tasting seasonal ingredients. • Describing the texture and flavour of ingredients. Make • Peeling foods by hand or with a peeler. • Cutting ingredients safely. • Choosing ingredients based on a design brief. • Following the instructions within a recipe. Evaluate • Describing the benefits of seasonal fruits and vegetables and their impact on the environment.

			less detailed, quick sketches. • Identifying cross-sectional diagrams that show the inside of a product and exploded diagrams that show how the parts of a product fit together. Make • Selecting equipment required for a series of tasks based on the plan. Explain why each piece is suitable for each stage. • Suggesting simple safety rules based on their understanding of tool dangers. • Participating in discussions about classroom safety procedures. • Cutting out more complex shapes accurately. • Choosing shapes to suit the function of a product. • Painting or colouring precisely to improve the finish. • Making facades from a range of materials. • Creating different textural effects with a variety of materials. Evaluate • 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. • Explaining why they think certain aspects of a peer's design are effective or why they suggested specific improvements.		
	LOs	• To learn how to cross stitch and applique • To design a product and its template • To decorate fabric using applique and cross stitch • To assemble and complete a cushion.	• To explore how pneumatic systems create movement within mechanisms. • To use different types of diagrams to summarise information. • To design a toy that uses a pneumatic system. • To create a pneumatic system for a moving toy. • To test and finalise ideas against design criteria.	• To recognise how multiple shapes are combined to form a strong and stable structure. • To design a castle. • To construct 3D nets. • To construct and evaluate my final product.	• To explain why food comes from different places around the world. • To explain the benefits of seasonal food. • To develop cutting and peeling skills. • To evaluate seasonal ingredients. • To design a mock-up using a criteria. • To evaluate a dish.
	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser
	Assessment	Assessment	Assessment	Assessment	Assessment
Cl.4	**Unit Title**	**Mechanical Systems – Cars**	**Textiles – Stuffed Toys**	**Structures – Bridges**	**Cooking and Nutrition – Adapting a recipe**
	Substantive Knowledge	• To know key design improvements in the history of the automobile. • To know how to measure and compare the distance travelled by different mechanical cars. • To know how to choose and use appropriate tools	• 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	• To know some different ways to reinforce structures. • To know triangles can be used to reinforce bridges. • To know material selection is important based on properties. • To know the material (functional and aesthetic)	• To know the amount of an ingredient in a recipe is known as the 'quantity'. • To know safety and hygiene are important when cooking. • To know the following cooking techniques: sieving, measuring, mixing/stirring,

		and materials to make mechanical cars. • To know how to draw exploded diagrams and annotated sketches of my different mechanical cars. • To know how to use a problem statement to identify the design criteria. • To know how to assess the product against the design criteria. • To know how to conduct market research into existing products. • To know how to provide specific feedback and adjust my design to incorporate customer feedback.	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.	properties of wood. • To know the difference between arch, beam, truss and suspension bridges. • To know how to carry and use a saw safely. • To know properties are words that describe the form and function of materials.	cutting out and shaping. • To know the importance of budgeting while planning ingredients for a recipe. • To know products often have a target audience.
	Procedural Knowledge	Design • Taking part in structured idea generation 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. (e.g. sketches, cross-sectional diagrams, thumbnail sketches and exploded diagrams). • Creating prototypes using materials with similar properties to their final design.	Design • Designing a stuffed toy considering the main component shapes required and creating an appropriate template. • Considering the proportions of individual components. 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.	Design • Designing a stable structure that is able to support weight. • Creating a frame structure with a focus on triangulation. 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.	Design • Designing a biscuit within a given budget. • Conducting market research. Make • Following a baking recipe. • Understanding safety and hygiene rules. • Adapting a recipe. Evaluate • Evaluating an adapted recipe. • Evaluating and comparing a range of products. • Suggesting modifications.

		• Creating simple design criteria that outline basic functionality and appeal to individual users or target audiences. • Developing designs by adding details and justifications about materials, tools and 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 and explaining why each piece is suitable for each stage. 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	• 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. Evaluate • Testing and evaluating an end product and giving points for further improvements.	• Using the correct techniques to saw safely. • Identifying where a structure needs reinforcement and using card corners for support. • Explaining why selecting appropriate materials is an important part of the design process. • Understanding basic wood functional properties. 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.	

		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.			
	LOs	• To build a simple prototype car chassis. • To build a prototype of a sustainable slingshot car chassis. • To build a prototype of a sustainable slingshot car chassis. • To design a mechanised toy car. • To make a mechanical toy car from a kit.	• To design a stuffed toy. • To sew a blanket stitch. • To create and add decorations to fabric. • TO use blanket stitch to assemble the components of a stuffed toy.	• To explore how to reinforce a beam (structure) to improve its strength. • To build a spaghetti truss bridge. • To measure, mark out and cut materials ready to build a truss bridge. • To complete, reinforce and evaluate my truss bridge.	• To evaluate existing biscuit products. • To prepare and cook a dish. • To select ingredients and follow a budget. • To take inspiration from existing products. • To make and test a prototype. • To evaluate a final product.
	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser
	Assessment	Assessment	Assessment	Assessment	Assessment
Cl.5	**Unit Title**	**Electrical Systems – Steady Hand Game**	**Mechanical Systems – Automata Toys**	**Textiles - Bags**	**Cooking and Nutrition – Developing a recipe**
	Substantive Knowledge	• To know that 'form' means the shape and appearance of an object. • To know the difference between 'form' and 'function'.	• To know which mechanisms are working together to make a mechanical system. • To know that there are different	• To know how to use a template (or clothing pattern) helps to accurately mark out a design on fabric. • To know that complete products are	• To know that meat comes from animals. • To know that recipes can be adapted to suit nutritional needs and dietary requirements.

		• 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'.	directions of movement. • To know that mechanisms can change one type of movement to another.	sometimes made in parts that are sewn together. • To know that consistently sized stitches improve the aesthetic of a product.	• To know that I can use a nutritional calculator to see how healthy a food option is. • To know that adapting means changing ingredients. • To know that the steps in a recipe fit together and what happens if they are changed. • To know 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.
	Procedural Knowledge	Design • 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 • Constructing a stable base for a game.	Design • 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 • Producing lists of equipment, materials and	Design To know: • Different materials have different costs. • Original and innovative ideas are different from what has been made before. • Drawings and diagrams can be communicated in 3D. • Improving on prototypes can help to improve the final design. Make To know: • Materials and equipment lists help to plan better. • Aesthetics are the way something looks. • Research can help decide	Design To know: • That problems can be large and small. • That environmental impact is how making the product might affect the environment. • That different materials have different costs • That original and innovative ideas are different from what has been made before. Make To know: • That materials and equipment lists help to plan better. • That research can help decide

		• 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 • Testing their 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.	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 • Assessing their designs against a more complex set of design criteria that includes functionality, aesthetics, user	which materials are best for both aesthetics and functional properties. • Risks are things that might go wrong. • Different measuring tools can be useful depending on what is being measured. • The shape of an object can affect both its aesthetics and function. • Aesthetics is how something looks. • Nets can be folded to create 3D shapes. • Texture can provide functional properties as well as aesthetic. Evaluate To know: • Sustainability means thinking about the materials that were used to make a product and how the product was made. • Looking at other designers' work can help inform designs. • Their final product can still be improved by using different materials or techniques. • Evaluating their designs in detail will help them understand its successful and less successful parts. • Explaining how they used feedback to improve their design can help them create	on form and function. • That some equipment can work well with other equipment. • That precision in cutting affects how well parts fit, function and look. • That the form of a product influences how it looks, feels and performs. Evaluate To know: • That looking at other designers work can help inform designs. • 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.

			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.	better products in the future.	
	LOs	• To research and analyse a range of children's toys. • To design a steady hand game. • To construct a stable base. • To assemble electronics and complete their electronic game.	• To create a design criteria to meet a user's needs. • To use an exploded diagram to assemble a frame. • To explore a mechanism to inform a design decision. • To evaluate a completed design.	• To explore how pattern pieces are used to design and make fabric items. • To use pattern piece templates to shape, cut and stitch fabric. • To design a bag and create the prototype pattern pieces. • To create a prototype bag from a design sketch. • To add features to a bag.	• To understand how ingredients are reared and processed. • To make adaptations to design a recipe. • To evaluate nutritional content. • To practise food preparation skills. • To design a product label • To follow and make an adapted recipe.
	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser	Knowledge Organiser
	Assessment	Assessment	Assessment	Assessment	Assessment