St Cuthbert's CE Primary School
DT Milestones and Endpoints

	Milestones 1	Milestones 2	End Points
Design	• Use pictures and words to convey what they want to design/make. • Propose more than one idea for their product. • Use kits/reclaimed materials to develop more than one idea. • Model ideas / make mock-ups with kits, reclaimed materials. • Select appropriate technique explaining: First… Next… Last…. • Explore ideas by rearranging materials/ingredients. • Select pictures to help develop ideas. • Use drawings to record ideas as they are developed. • Add notes to drawings to help explanations. • Use ICT to communicate their ideas. • Describe their models and drawings of ideas and intentions.	• Develop more than one design or adaptation of an initial design. • Plan a sequence of actions to make a product. • Record the plan by drawing using annotated sketches. • Begin to use cross-sectional and exploded diagrams. • Use prototypes to develop and share ideas. • Think ahead about the order of their work and decide upon tools and materials/ingredients. • Propose realistic suggestions as to how they can achieve their design ideas. • Consider aesthetic qualities of materials/ingredients chosen. • Use CAD where appropriate.	• List tools needed before starting the activity. • Plan the sequence of work e.g. using a storyboard. • Record ideas using annotated diagrams. • Use models, kits and drawings to help formulate design ideas. • Combine modelling and drawing to refine ideas. • Devise step by step plans which can be read / followed by someone else. • Use exploded diagrams and cross-sectional diagrams to communicate ideas. • Sketch and model alternative ideas. • Decide which design idea to develop. • Use and understand the importance of CAD.
Make	• Discuss their work as it progresses. • Select materials/ingredients from a limited range that will meet the design criteria. • Select and name the tools needed to work the materials/ingredients. • Explain what they are making. • Explain which materials/ingredients they are using and why. • Name the tools they are using. • Describe what they need to do next.	• Prepare pattern pieces as templates for their design. • Cut slots. • Cut internal shapes. • Select from a range of tools for cutting shaping joining and finishing. • Use tools with accuracy. • Select from techniques for different parts of the process. • Select from materials according to their functional properties. • Plan the stages of the making process. • Use appropriate finishing techniques.	• Make prototypes. • Develop one idea in depth. • Use researched information to inform decisions. • Produce detailed lists of ingredients / components / materials and tools. • Use a computer to model ideas. • Select from and use a wide range of tools. • Cut accurately and safely to a marked line. • Select from and use a wide range of materials. • Use appropriate finishing techniques for the project. • Refine their product – review and rework/improve.

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Evaluate	• Explore existing products and investigate how they have been made. • Decide how existing products do/do not achieve their purpose. • Talk about their design as they develop and identify good and bad points. • Note changes made during the making process as annotation to plans/drawings. • Say what they like and do not like about items they have made and attempt to say why. • Discuss how closely their finished product meets their design criteria and how well it meets the needs of the user.	• Investigate similar products to the one to be made to give starting points for a design. • Draw/sketch products to help analyse and understand how products are made. • Research needs of user. • Identify the strengths and weaknesses of their design ideas in relation to purpose/user. • Decide which design idea to develop. • Consider and explain how the finished product could be improved. • Discuss how well the finished product meets the design criteria of the user. • Investigate key events and individuals in Design and Technology.	• Research and evaluate existing products (including book and web based research). • Consider user and purpose. • Identify the strengths and weaknesses of their design ideas. • Give a report using correct technical vocabulary. • Consider and explain how the finished product could be improved related to design criteria. • Discuss how well the finished product meets the design criteria of the user. Test on the user! • Understand how key people have influenced design.
Food	• Develop a food vocabulary using taste, smell, texture and feel. • Group familiar food products e.g. fruit and vegetables. • Explain where food comes from. • Cut, peel, grate, chop a range of ingredients • Work safely and hygienically. • Understand the need for a variety of foods in a diet. • Measure and weigh food items, non-statutory measures e.g. spoons, cups.	• Develop sensory vocabulary/knowledge using, smell, taste, texture and feel. • Analyse the taste, texture, smell and appearance of a range of foods (predominantly savoury). • Follow instructions/recipes. • Make healthy eating choices – use the *Eatwell plate.* • Join and combine a range of ingredients. • Prepare and cook using a range of cooking techniques. • Explore seasonality of vegetables and fruit. • Find out which fruit and vegetables are grown in countries/continents studied in Geography. • Develop understanding of how meat/fish are reared/caught.	• Prepare mostly savoury dishes using their own selection of ingredients, taking into account their nutritional properties and sensory characteristics. • Weigh and measure using scales. • Select and prepare foods for a particular purpose. • Work safely and hygienically. • Develop understanding of a healthy diet (using the eatwell plate) and apply in their ingredient choices. • Use a range of cooking techniques. • Join and combine a widening range of ingredients. • Know where and how ingredients are grown and processed. • Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh Fearnley-Whittingstall and sustainable fishing etc.

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Textiles	• Start to use the appropriate vocabulary to refer to fabrics and tools. • Cut out shapes which have been created by drawing round a template onto the fabric. • Join fabrics by using e.g. running stitch, glue, staples, over sewing, tape. • Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons. • Colour fabrics using a range of techniques e.g. fabric paints, printing, painting.	• Develop vocabulary for tools materials and their properties. • Understand seam allowance. • Join fabrics using running stitch, over sewing, blanket stitch. • Prototype a product using J cloths. • Use prototype to make pattern. • Explore strengthening and stiffening of fabrics. • Explore fastenings (inventors?) and recreate some. • Sew on buttons and make loops. • Use appropriate decoration techniques.	• Use the correct vocabulary appropriate to the project. • Create 3D products using patterns pieces and seam allowance. • Understand pattern layout. • Decorate textiles appropriately (often before joining components). • Pin and tack fabric pieces together. • Join fabrics using over sewing, back stitch, blanket stitch or machine stitching (closer supervision). • Combine fabrics to create more useful properties. • Make quality products.
Structures	• Refer to materials tools and techniques using appropriate vocabulary. • Explore how to make structures stronger. • Investigate different techniques for stiffening a variety of materials. • Test different methods of enabling structures to remain stable. • Join appropriately for different materials and situations e.g. glue, tape. • Mark out materials to be cut using a template. • Use a glue gun with close supervision.	• Develop vocabulary related to the project. • Create shell or frame structures. • Strengthen frames with diagonal struts. • Make structures more stable by giving them a wide base. • Measure and mark square section, strip and dowel accurately to 1cm.	• Use the correct terminology for tools materials and processes. • Use bradawl to mark hole positions. • Use hand drill to drill tight and loose fit holes. • Cut strip wood, dowel, square section wood accurately to 1mm. • Join materials using appropriate methods. • Build frameworks to support mechanisms. • Stiffen and reinforce complex structures.

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Mechanisms	• Use technical vocabulary when describing mechanisms, tools and materials they use. • Join appropriately for different materials and situations e.g. glue, tape. • Try out different axle fixings and their strengths and weaknesses. • Make vehicles with construction kits which contain free running wheels. • Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels. • Roll paper to create tubes. • Cut dowel using hacksaw and bench hook. • Attach wheels to a chassis using an axle. • Mark out materials to be cut using a template. • Fold, tear and cut paper and card. • Cut along lines, straight and curved. • Use a hole punch. • Insert paper fasteners for card. • Experiment with levers and sliders to find different ways of making things move in a 2D plane.	• Develop vocabulary related to the project. • Use mechanical systems such as gears, pulleys, levers and linkages. • Incorporate a circuit into a model/product. • Use electrical systems such as switches bulbs and buzzers. • Use ICT to program and control products. • Use lolly sticks/card to make levers and linkages. • Use linkages to make movement larger or more varied.	• Develop a technical vocabulary appropriate to the project. • Use mechanical systems such as cams, pulleys and gears. • Use electrical systems such as motors. • Program, monitor and control products using ICT.