ST. MARY AND ST GILES PRIMARY SCHOOL

PROGRESSION IN DT SKILLS

Design & Technology programme of study:
National Curriculum Aims The National Curriculum for Design & Technology aims to ensure that all children: • develop the creative, technical and practical expertise needed to perform everyday • tasks confidently and to participate successfully in an increasingly technological world • build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users • critique, evaluate and test their ideas and products and the work of others • understand and apply the principles of nutrition and learn how to cook.

	YEARS 1 AND 2	YEARS 3 AND 4	YEARS 5 AND 6
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 with kits, reclaimed materials. ▪ Explore ideas by rearranging materials. ▪ Select pictures to help develop ideas. ▪ Use drawings to record ideas as they are developed. ▪ Add notes to drawings to help explanations.	▪ 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. ▪ Propose realistic suggestions as to how they can achieve their design ideas. ▪ Use CAD where appropriate.	▪ 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.
Make	▪ Discuss their work as it progresses. ▪ Select materials from a limited range that will meet the design criteria.	▪ Prepare pattern pieces as templates for their design. ▪ Cut slots. ▪ Cut internal shapes. ▪ Use tools with accuracy. ▪ Plan the stages of the making process. ▪ Use appropriate finishing techniques.	▪ Make prototypes. ▪ Develop one idea in depth. ▪ 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.

Evaluate	▪ 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.	▪ Draw/sketch products to help analyse and understand how products are made. ▪ Identify the strengths and weaknesses of their design ideas in relation to purpose/user.	▪ Consider user and purpose. ▪ Identify the strengths and weaknesses of their design ideas. ▪ Give a report using correct technical vocabulary.
Food	▪ Group familiar food products e.g. fruit and vegetables. ▪ Cut, peel, grate, chop a range of ingredients	▪ Follow instructions/recipes. ▪ Make healthy eating choices – use the *Eatwell plate.* ▪ Join and combine a range of ingredients.	▪ Prepare food products taking into account the properties of ingredients and sensory characteristics. ▪ Weigh and measure using scales. ▪ Select and prepare foods for a particular purpose. ▪ Use a range of cooking techniques.
Textiles	▪ 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. ▪ 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	▪ Explore how to make structures stronger. ▪ 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.	▪ 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 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.

Mechanisms	▪ 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.	▪ Use mechanical systems such as gears, pulleys, levers and linkages. ▪ Incorporate a circuit into a model. ▪ Use electrical systems such as switches bulbs and buzzers. ▪ Use ICT to control products. ▪ Use lolly sticks/card to make levers and linkages. ▪ Use linkages to make movement larger or more varied.	▪ Use mechanical systems such as cams, pulleys and gears. ▪ Use electrical systems such as motors. ▪ Program, monitor and control using ICT.