INSKIP ST. PETER'S C.E. PRIMARY SCHOOL
Learning, Loving and Living with Jesus

Keep your roots deep in Jesus Christ the Lord, build your lives on him
and always be thankful. *Colossians 2:7*

Compassion Friendship Respect Forgiveness Trust Thankfulness

Design and Technology Progression Map

EYFS	Early Learning Goal: **Fine motor skills** Children at the expected level of development will: - • Use a range of small tools, including scissors, paint brushes and cutlery; Early Learning Goal: **Creating with Materials** Children at the expected level of development will: - • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - Share their creations, explaining the process they have used;

	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. ▪ Select appropriate technique explaining: First… Next… Last….	▪ 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.	▪ 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.

	▪ 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. Describe their models and drawings of ideas and intentions.	▪ Think ahead about the order of their work and decide upon tools and materials. ▪ Propose realistic suggestions as to how they can achieve their design ideas. ▪ Consider aesthetic qualities of materials chosen. Use CAD where appropriate	▪ 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.
Make	▪ Discuss their work as it progresses. ▪ Select materials from a limited range that will meet the design criteria. ▪ Select and name the tools needed to work the materials. ▪ Explain what they are making. ▪ Explain which materials 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.
Evaluate	▪ Explore existing products and investigate how they have been made.	▪ Investigate similar products to the one to be made to give starting points for a design.	▪ Research and evaluate existing products (including book and web based research).

	▪ 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.	▪ 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	▪ 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. ▪ Explore seasonality of vegetables and fruit.	▪ 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. ▪ Work safely and hygienically. ▪ Show awareness of a healthy diet (using the eatwell plate). ▪ Use a range of cooking techniques. ▪ Know where and how ingredients are grown and processed. ▪ Consider influence of chefs e.g. Jamie Oliver and school meals, Hugh

		▪ Find out which fruit and vegetables are grown in countries/continents studied in Geography. Develop understanding of how meat/fish are reared/caught.	Fearnley-Whittingstall and sustainable fishing etc.
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. ▪ 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	▪ Explore how to make structures stronger. ▪ Investigate different techniques for stiffening a variety of materials. ▪ Test different methods of enabling structures to remain stable.	▪ 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.

	▪ 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.		▪ 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.		▪ 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 using ICT.

	Experiment with levers and sliders to find different ways of making things move in a 2D plane.		
Mechanical and Electrical Systems and ICT		▪ Develop vocabulary related to the project. ▪ 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.	