Hartington C of E Primary School

Progression in Design and Technology

	Phase 1	Phase 2	Phase 3
Evaluating	• Know what a product is • Say what a product is for • Describe a product (who is it for, what is made from, how is it made, how it works) • Talk about their own work (features, design, opinion) • Describe how their product works • *Know the features of familiar products* • *Give reasons for some features (colour choice, material used, joining technique)* • *Talk about my own and others' work (features, design, opinion)* • *Explain why they chose certain materials, techniques and tools* • *Describe how their product works*	• Start to research and evaluate existing products • Understand that products are designed for a purpose (e.g. a problem, an audience, an event) • Talk about own and others' work (features, design, opinion) • Explain why I chose certain materials, techniques and tools • Say what I would do to improve my product • Research and evaluate existing products to inform planning • Understand that products are designed for a purpose (e.g. a problem, an audience, an event) • Identify what is working well and what can be improved (this is during the make as well as at the end)	• Research and evaluate existing products giving reasons for the decisions of the designers (materials, design, tools, techniques) • Use the ideas from current designers to help with plans • Reflect on designs and develop them bearing in mind the way they will be used (during the process) • *Research and evaluate existing products giving reasons for the decisions of the designers (materials, design, tools, techniques)* • *Use the ideas from current designers to help with own plans* • *I reflect on own designs and develop them bearing in mind the way they will be used (during the process)*

Knowledge of Designers	• Know what a designer does • Know the names and the products of some British designers • Say what they like and dislike about the product and the designer	• Know some designers from history • Talk about some of the tools, techniques and design used by the designer	• Know how key events and individuals have influenced the world (in terms of products) • Compare and contrast the work of different designers (e.g. historical and modern) • Give reasons for the decisions made by the designer
Design	• Think of ideas and with help can put them into practice • Know what a design is and its purpose • Use pictures and words to describe what they want to do (materials and tools) • *Think of ideas and with help can put them into practice* • *Know what a design is and its purpose* • *Use pictures and words to describe what to do (materials, techniques, features-mechanics etc. and tools)*	• Think of ideas and plan what to do next, based on what I know about materials and components • Select the appropriate tools, techniques and materials • Plan using specific materials and explain my choice • Use pictures and words to describe what I want to do (materials, techniques, features-mechanics etc. and tools) • *Think of ideas and plan what to do next, based on what is known about materials and components* • *Select the appropriate tools, techniques and materials explaining my choices* • *Communicate my ideas using labelled sketches giving reasons for choices* • *Start to produce step by step plans*	• Use my knowledge of design designers and further research to help influence my own design • Create models or prototypes to show aspects of my design • Produce step by step plans • Use computer aided design • Come up with solutions to problems as they happen. • *Use knowledge of design designers and further research to help influence own design* • *Create models or prototypes to show aspects of my design* • *Produce step by step plans* • *Use computer aided design* • *Take part in technical discussions about my ideas* • *Come up with solutions to problems as they happen.*

Making	• Know what materials can be used for my structure • Know what a join is and can use one • Measure and mark out materials with care and increasing accuracy • Cut materials safely (scissors, junior hacksaw)B • Be careful to make work look as neat as possible • Find out how to make materials for structure stronger (folding, rolling and joining, columns and triangles)	• Use appropriate materials and an appropriate join • Measure and mark out materials with care and increasing accuracy (cm) • Use scoring and folding to shape materials accurately • Make cuts accurately (scissors and saws) • Make holes accurately (drill, punch) • Join materials to make products using both permanent and temporary fastenings • Methods of working are increasingly precise aiming for a high quality finish • Art skills to apply texture and design to my products	• Select from a variety of materials best suited to my design • Measure using mm and then use scoring, and folding to shape materials accurately. • Make cuts accurately and reject pieces that are not accurate and improve my technique. • Joins are strong and stable, giving extra strength to products. • Some joins are flexible to allow for dismantling or folding. • Methods of working are precise so that products have a high quality finish. • Use computer programming when creating a product

Mechanics and Electrics	• Explore how moving objects work. • Look at wheels, axels, turning mechanisms, hinges and simple levers. • Make a product that moves using a turning mechanism (e.g. wheels, winding) or a lever or a hinge (to make a movement)	• Know the application of mechanisms to create movement. • Combine a number of components well in my product. • Use simple circuits to either illuminate or create motion. • Make a product that uses both electrical and mechanical components. • Products have a good finish so that a user will find it both useful and attractive.	• Choose components that can be controlled by switches or by ICT equipment. • Product is improved after testing. • Use science skills (resistance, batteries in series or parallel, variable resistance to dim lights or control speed) to alter the way electrical products behave. • Use precise electrical connections. • Explored mechanical movement using hydraulics and pneumatics. • Use other DT skills to create housings for my mechanical components. • Product are well finished in a way that would appeal to users

Textiles	• Know that textiles have different properties: touch, insulation, texture and waterproof. I select the appropriate textile so that it does the job I want it to. • Describe textiles by the way they feel. • Alter a textile to make it stronger. • Make a product from textiles. • Measure, mark out and cut fabric. • Join fabrics using glue and running stitch. • Make sure my work is neat and tidy.	• Select the appropriate textile(s) for my product. • Use sharp scissors accurately to cut textiles. • Know that the texture and other properties of materials affect choice. • Textile work incorporates the views of intended users' and for the purpose. • Use art textiles skills such as stitching to help create a product that is sturdy and fit for purpose. • Combine materials to add strength or visual appeal • Textile products include structural changes, such as plaiting or weaving to create new products such as rope, belts, bracelets etc.	• Products have an awareness of commercial appeal. • Experiment with a range of materials until I find the right mix of affordability, appeal and appropriateness for the job. • Combine art skills to add colour and texture to my work. • Mark out using patterns and templates • Join textiles using art skills of stitching, embroidering and plaiting to make durable and desirable products.

Cooking	• With help, use knives safely • Use a mixing bowl • Be aware of hygiene for cooking • Know some things are made and some things are natural • Know some things are dangerous to eat raw • Know heat changes food • Use a variety of utensils safely • Know what the food groups are • Know where some foods come from • Be aware there are different ways to cook • Prepare a healthy snack and breakfast	• Select ingredients for my product with reasons • Work in a safe, hygienic way • Begin to measure out ingredients • Understand what is healthy and unhealthy • Boil and bake to cook • Understand why we need a healthy diet • Use knowledge of the food groups to plan a lunch • Know where food comes from • Prepare a healthy lunch	• Explain why I have chosen ingredients in a dish • Know why we need certain food types • Grill, boil, fry and bake to cook • Know about local produce • Understand seasonality and this affects food • Know where different crops can be found around the world • understand the concept of carbon footprints • Know different cultures have different diets • Design and prepare a healthy dinner