

Design and Technology Progression map showing how knowledge objectives are met within the HBJs Long Term Plan, and the progression of skills work across the years.

	National Curriculum Objective	Y3	Y4	Y5	Y6
Design	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups		Using pre-existing wire-buzzer games to inform their design criteria.	Children will research global impacts and work in teams to inform their ideas of ways to positively impact the planet. (ROAR Project with 7billion Ideas)	Design criteria for entrepreneurial Dragon's Den topic. To design innovative, functional, appealing products that are fit for purpose aimed at individuals or groups.
	Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.		Children will produce sketches to communicate their designs of their wire buzzer games. Materials will be labelled.	To generate ideas, in teams, that would have a positive impact on the planet. Chn to create sketch designs and make junk models of their designs. (ROAR Project with 7billion Ideas)	
Make	Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately	Children will use wood working tools to cut and join their worry boxes.	Children will use wood working and metal working tools to cut, shape and join materials for their wire buzzer game.	Children will use a range of wood working tools to cut, join and finish the frame for a space buggy. Children will need to be aware of designing their buggy to attach wheels/fit axels.	
	Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities	Children will use softer wood to allow them to develop basic cutting skills using saws and bench-hooks.	Linking to Science, children use understanding of insulators and conductors to choose metals/materials for wire buzzer games; focussing on functional properties.	Children will use harder wood types in order to develop their cutting skills and progress a greater understanding of materials.	Children will be selecting from a wide range of materials to make WWII black-out curtains, testing their functional properties to meet the criteria.
Evaluate	Investigate and analyse a range of existing products		Children to use pre-existing buzzer games to develop an understanding of existing products and how they work.		Carry out market research to investigate existing products and use this to develop ideas.

	Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work		Evaluate product as they make it and to ensure product works as intended and would be appealing to a wider audience.		Develop evaluation of designed products to allow for further development of a product to be remade.
	Understand how key events and individuals in design and technology have helped shape the world			Link to Space topic and Lunar Landings - why is it important that we have Lunar Buggies and how this supports our understanding of space.	Links to technological advances from World War II, understanding how designs have changed and shaped the world.
Technical Knowledge	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures	Basic sewing skills covered. Design and make wood-based frames (e.g. picture frames/worry boxes.)	Develop a sturdy base for their wire-buzzer game in order to ensure stability when used.	To further develop sewing skills and different techniques - making reusable bags.	
	Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]			Linking to Science topic of Forces, chn apply skills to create a mechanical device to lift a toy using a range of different materials.	
	Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]		Design and make wire buzzer games, incorporating electrical systems to make the buzzers work.		

	Apply their understanding of computing to program, monitor and control their products.			Design and make Space Buggies using Crumble Programming Software.	
Food and Nutrition	Understand and apply the principles of a healthy and varied diet	Linking to Science topic, design and make a healthy meal using cutting techniques (e.g. fruit salads).			
	Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	Prepare food using different techniques (e.g. washing, cutting, presentations) and understanding of personal and food hygiene within this.	Linking to Science topic - heating and cooling of different foods to see how this affects its properties.	Linking to Science topic - States of Matter and reversible/irreversible changes. E.g. heating of chocolate (potentially looking at effects of different temperatures) and coagulation of eggs/chemical reactions of baking bread.	
	Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	Understand which foods are available during the different seasons.			