KEPS DT Overview

	Autumn	Spring	Summer
Beech	**Pop up mechanisms**	**Wheels and Axle mechanisms**	**Cooking and Nutrition**
Hazel	**Stable Structures**	**Textiles Sew a simple product**	**Cooking and Nutrition**
Willow	**Textiles Sew a simple ornament**	**Cooking and Nutrition The pizza cafe**	**Mechanical systems wheels and axles**
Elm	**Pulley problem solving**	**Mechanical systems linked to Ancient Civilisations (Levers)**	**Enterprise Seasonal Food and Nutrition**
Ash	**Mechanical systems Pinballs**	**Mechanisms Textiles linked to electrical systems**	**Mechanical structures Marionette puppets**
Oak	**Technical -Periscopes linked to Science**	**Computing to control a robot (Micro:bit)**	**Enterprise challenge -**

Design Technology Progression of Knowledge and Skills

	Autumn	Spring	Summer
Reception	ELG **Expressive Arts and Design Creating with Materials** • 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. **Physical development - Fine motor skills** • Use a range of small tools, including scissors, paintbrushes and cutlery. • • Begin to show accuracy and care when drawing **Undertanding the Natural world** • Explore the natural world around them, • Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences. • Understand some important processes and changes in the natural world around them, including and changing states of matter (food technology)		

	Building Relationships • Work and play cooperatively and take turns with others.		
Year 1	**ELG** <u>Y1 Explore mechanisms levers/sliders pop up mechanisms</u> *(industry) Pop up cards* • explore and evaluate a range of existing products • generate, develop, model and communicate their ideas through talking and drawings • select from and use a range of tools and equipment to perform practical tasks- cutting, shaping	**ELG** <u>Y1 Explore and use mechanisms Wheels and Axles</u> *(The wider world)* • explore and evaluate a range of existing products • generate, develop, model and communicate their ideas through talking and drawings • evaluate their ideas and products against design criteria	**ELG** <u>Y1 Cooking and Nutrition</u> *(The garden)* • explore and evaluate a range of existing products- tasting • Understand where the food has come from • Use the basic principles of a varied healthy diet • select from and use ingredients, according to their characteristics
Y2	**Design, make, evaluate and technological knowledge** <u>Structures-Buildings-</u>(Link to London: Houses of Parliament, Big Ben London Bridges) *(Wider environment)* • design purposeful, functional, appealing products for other users based on design criteria • Select from and use a range of tools and equipment to perform practical tasks cutting, shaping, joining and finishing • build structures, exploring how they can be made stronger, stiffer and more stable including correct use of **PVA glue** • evaluate their ideas and products against design criteria	**Design, make, evaluate and technological knowledge** <u>Textiles-Sewing Make a simple product- eg a bag/ for a character *(The school)*</u> • explore and evaluate a range of existing products • generate, develop, model and communicate their ideas through talking, drawing and templates, mock-ups and, where appropriate, information and communication technology • Select from and use a range of tools and equipment to perform practical tasks for joining and finishing • select from and use textiles	**Design, make, evaluate and technological knowledge** <u>Cooking and Nutrition *(The garden)*</u> • explore and evaluate a range of existing products- tasting • Understand where the food has come from • Use the basic principles of a varied healthy diet • select from and use ingredients, according to their characteristics

Y3	**Design, make and evaluate and technological knowledge** Textiles Christmas ornament for a specific individual *(Home)* • investigate and analyse a range of existing products • Generate ideas through pattern pieces • select from and use a wider range of tools and equipment to perform practical tasks - joining and finishing accurately	**Design, make, evaluate and technological knowledge** Food and Nutrition-Link to Romans Pizza for a Itailian café *(Culture)* • use research to inform the design of innovative, functional, appealing products that are fit for purpose • select from and use ingredients, according to their functional properties and aesthetic qualities • Understand and apply the principles of a healthy and varied diet	**Design, make, evaluate and technological knowledge** Mechanisms- Design and build a Roman chariot *(Industry)* • use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose, to carry a certain weight • develop, model and communicate their ideas through discussion, annotated sketches, • understand and use mechanical systems wheels and axles • understand how key events and individuals in design and technology have helped shape the world (Roman roads)
Y4	**Design, make and evaluate and technological knowledge** Mechanisms *(Wider Environment)* • explore and use pulleys in their products focused practical task • understand how key events and individuals in design and technology have helped shape the world (Earthquake damage for Nepalese farmers) • consider the views of others to improve their work • select from and use a wider range of materials and components, including construction materials, according to their functional properties • develop design criteria to inform the design of innovative, functional, appealing products	**Design, make, evaluate and technological knowledge** Mechanisms linked to Ancient Civilisations (Shaduf lever/Water clock) for class exhibition *(Culture/School)* • generate, develop, model and communicate their ideas through discussion and prototypes, • select from and use a wider range of tools and equipment to perform practical tasks example, cutting, shaping, joining **using PVA glue** and finishing], accurately • understand how Ancient Egyptian technology have helped shape the world • understand and use mechanical levers in products	**Design, make, evaluate and technological knowledge** Seasonal Food and Nutrition to sell at June Fair *(Enterprise)* • understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed • use research to inform the design of innovative, functional, appealing products that are fit for purpose • select from and use ingredients, according to their functional properties and aesthetic qualities • Understand and apply the principles of a healthy and varied diet

	that are fit for purpose, aimed at particular individuals or groups		
Y5	**Design, make and evaluate and technological knowledge** Mechanisms Pinball machines *(Leisure)* • generate, develop, model and communicate their ideas through discussion and exploded diagrams, • select from and use a wider range of tools and equipment to perform practical tasks accurately • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand and use mechanical systems in their products	**Design, make, evaluate and technological knowledge** Mechanisms Textiles linked to electrical systems (Fabric Key Rings) *(Industry)* • understand and use electrical systems in their products • investigate and analyse a range of existing products • generate, develop, model and communicate their ideas through pattern pieces • select from and use a wider range of tools and equipment to perform practical tasks cutting without a template and using a variety of stitches and needle size	**Design, make, evaluate and technological knowledge** Marionette Puppets (mechanical) *(cultural)* • generate, develop, model and communicate their ideas through annotated sketches, or exploded diagrams • apply their understanding of how to strengthen, stiffen and reinforce more complex structures (glue and wire) • understand and use mechanical systems in their products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
Y6	**Design, make and evaluate and technological knowledge** Technical -Periscopes linked to Science • generate, ideas through cross-sectional diagrams, • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • evaluate their ideas and products against their own design criteria	**Design, make, evaluate and technological knowledge** Computing to control a robot (Micro:bit) *(Leisure)* • generate, develop, model and communicate their ideas through computer-aided design • apply their understanding of computing to program, monitor and control their products • select from and use a wider range of materials and components, • evaluate their ideas and products against their own design criteria	**Design, make, evaluate and technological knowledge** ***Enterprise*** challenge -June Fair game to raise money for the school • generate, develop, model and communicate their ideas through discussion, annotated sketches, • select from and use a wider range of materials according to their functional properties and aesthetic qualities • investigate and analyse a range of existing products • Apply all technical knowledge to develop a product fit for purpose