Design and Technology Progression

	EY	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Designing	**Begin to identify the need for a simple design criteria.** **Design products based on design criteria.** Begin to experiment with colour, design, texture, form and function. Use talk to generate, develop and communicate ideas. **Begin to show ambition and originality in their designs.**	Design purposeful, functional and appealing products based on design criteria. **Begin to show ambition and originality in their designs.** Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **Begin to consider the ethical impact of the decisions designers and makers make.**	Design purposeful, functional and appealing products for themselves and other users based on design criteria. **Show ambition and originality in their designs.** Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Know about the responsibilities of designers and makers to work ethically, use finite materials carefully and safely, and use this to inform their own work. **Consider the ethical impact of their own decisions as a designer and maker.**	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. **Respond ambitiously to a range of briefs, showing originality and begin to take creative risks.** Generate, develop, model and communicate their ideas through discussion and annotated sketches. **Know the responsibility of designers and makers to work ethically and begin to consider this in their own work.**	Use research and develop design criteria to inform the design of: Innovative Functional Appealing products that are fit for purpose and aimed at particular individuals or groups. **Respond ambitiously to a range of briefs, showing originality and take creative risks.** Generate, develop, model and communicate their ideas through discussion, annotated sketches and cross-sectional and exploded diagrams. **Know the responsibility of designers and makers to work ethically and consider this in their own work.**	Use research and develop design criteria to inform the design of: Innovative Functional Appealing products that are fit for purpose and aimed at particular individuals or groups. **Respond ambitiously to an increasingly complex range of briefs, showing significant levels of originality and take creative risks to produce innovative ideas and prototypes.** Generate, develop, model and communicate their ideas through discussion, annotated sketches and prototypes. **Understand about the responsibilities of designers and makers to work ethically, use finite materials carefully**	Use research and develop design criteria to inform the design of: Innovative Functional Appealing products that are fit for purpose and aimed at particular individuals or groups. **Respond ambitiously to an increasingly complex range of briefs, showing significant levels of originality and take creative risks to produce innovative ideas and prototypes.** Generate, develop, model and communicate their ideas through discussion, annotated sketches, pattern pieces *(link to 'Make Do and Mend' project),* computer aided design *(link to 'Mountain Buggies' project and use 'Tinkercad' – see*

							and safely, and use this to inform their own work.	*computing curriculum).* **Understand about the responsibilities of designers and makers to work ethically, use finite materials carefully and safely, and use this to inform and evaluate their own work.**
Making	Safely use and explore a range of tools, techniques and equipment to perform practical tasks. Safely use and explore a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Share their creations explaining the process they have used. Create collaboratively sharing ideas, resources and skills **Use talk to identify risks of the making process.**	Select from and use a range of tools and equipment to perform practical tasks. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. **Begin to identify the potential risks of the making process.**	Select from and use a range of tools and equipment to perform practical tasks. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. **Identify possible risks of the making process and begin to suggest possible ways to manage those risks.**	Select from and use a wider range of tools and equipment to perform practical tasks accurately. 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. **Identify possible risks of the making process and begin to make decisions about the best way to manage those risks.**	Select from and use a wider range of tools and equipment to perform practical tasks accurately. 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. **Identify possible risks of the making process and plan ahead to manage those risks.**	Select from and use a wider range of tools and equipment to perform practical tasks accurately. 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. **Identify possible risks of the making process and manage those risks by both planning ahead and adapting their plan as the process develops.**	Select from and use a wider range of tools and equipment to perform practical tasks accurately. 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. **Effectively and flexibly manage risks in order to safely and hygienically manufacture products.**

Evaluating	Return to and build on previous learning, refining ideas and developing the ability to represent them. **Use talk to evaluate their ideas and products against simple design criteria.**	Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria	Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria	Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world.	Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world.	Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world.	Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world.
Mastering Skills and techniques	**Cooking and Nutrition**						
	Talk about the basic principles of a healthy and varied diet. Begin to understand where food comes from Begin to measure or weigh using measuring cups or electronic scales. Assemble or cook ingredients Use a knife with care and precision	Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from Measure or weigh using measuring cups or electronic scales. Assemble or cook ingredients. Use a knife with increasing care and precision	Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from. Cut, peel or grate ingredients safely and hygienically Assemble or cook ingredients. Know where and how a variety of ingredients are grown, caught, processed and reared.	Understand and apply the principles of a healthy and varied diet Prepare ingredients hygienically using appropriate utensils. Measure ingredients to the nearest gram accurately. Follow a recipe to cook a variety of predominantly savoury dishes. Assemble or cook ingredients (controlling	Understand and apply the principles of a healthy and varied diet Prepare ingredients hygienically using appropriate utensils Measure ingredients to the nearest gram accurately. Follow a recipe to cook a variety of predominantly savoury dishes Assemble or cook ingredients (controlling	Understand the importance of correct storage and handling of ingredients Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. Demonstrate a range of baking and cooking techniques. Create and refine recipes, including ingredients and methods	Understand the importance of correct storage and handling of ingredients Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. Demonstrate a range of baking and cooking techniques. Create and refine recipes, including ingredients and methods

				the temperature of the oven, if cooking). Know where and how a variety of ingredients are processed.	the temperature of the hob, if cooking). Understand seasonality. Know where and how a variety of ingredients are grown.	Know where and how a variety of ingredients are grown and reared, caught and processed. Understand seasonality.	Know where and how a variety of ingredients are grown. Understand seasonality.
	Mechanics						
	Explore how things work e.g. cogs, wind-up toys, pulleys.	Explore and use mechanisms: wheels and axles], in their products.	Explore and use mechanisms: levers, sliders, in their products.		Understand and use mechanical systems in their products using pneumatics and **hydraulics.** Make innovative use of electronics and computing with mechanics.	Understand and use mechanical systems. Convert rotary motion to linear using cams.	Make innovative use of electronics and computing with mechanics.
	Construction						
	Explore different construction materials freely in order to develop ideas about how to use them and what to make. Explore and use different techniques for joining materials e.g. glue, tape, paper clips, fasteners, staples, hammers and nail. Use scissors with care and precision.	Build structures, exploring how they can be made stronger, stiffer and more stable. Use scissors with increasing care and precision.		Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.		Apply their understanding of how to strengthen, stiffen and reinforce increasingly complex structures.	

	Electronics						
					Understand and use electrical systems in their products.		Understand and use increasingly complex electrical systems in their products.
	Textiles						
	To use threading to create an appealing effect.		Shape textiles using templates. Join textiles using running stitch. Colour and decorate textiles using a number of techniques (such as dying, adding sequins or printing).	Understand the need for a seam allowance. Join textiles with appropriate stitching. Select the most appropriate techniques to decorate textiles			Create objects that employ a seam allowance. Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles.
	Computing						
					Apply their understanding of computing to program, monitor and control their products.		Apply their increasing understanding of computing to program, monitor and control their products.

Projects	**Construction –** new seat for baby bear, baskets for Red riding hood, castle with defences. **Cooking –** Pumpkin soup, gingerbread men, fruit salad	**Construction** – Toys / Homes **Mechanics** -Building a vehicle **Cooking** - Fruity flapjack	**Cooking** - Healthy Lunch **Textiles** - Quilt **Electronics** - Lighthouse	**Textiles** – Stuffed Toy **Construction** - Shelters **Cooking** - Bread	**Mechanics** - Egyptians - Cranes **Cooking** - Seasonal soup **Electronics** - Fairground	**Construction** - Bridges **Mechanics** - Victorian Toy (CAMS) **Cooking** - Seasonal pizza	**Textiles**- Make do and mend **Electronics** – Mountain Buggy **Cooking** – Cake Enterprise Project