Design and Technology End of Year Milestones

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	Draw on own experience to generate ideas and design criteria. Design appealing products for a particular user based on simple design criteria. Communicate and model their ideas through talk and model using paper or card.	Draw on own and other people's experiences to generate initial ideas and design criteria. Design appealing products for a particular user and purpose. Develop and communicate ideas through discussion, drawings, labels and mock-ups.	Generate realistic ideas and design criteria collaboratively for a successful product through discussion, focusing on the needs of the user Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas.	Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product. Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas Develop a clear idea of what has to be done, planning how to use available resources and processes, and suggesting alternative methods if first attempt fails.	Generate innovative ideas through research and brainstorming focusing on purpose of product. Identify the needs, wants, preferences and values of particular individuals and groups when drawing up a design specification. Carry out research using surveys, interviews, questionnaires and web-based resources to identify criteria for their own designs. Model ideas using prototypes. Investigate how much products cost, sustainability and impact beyond their use.	Generate innovative ideas drawing on research and focusing on purpose of product. Explore, develop and communicate aspects of their design proposals by modelling ideas and producing detailed drawings. Identify the needs, wants, preferences and values of particular individuals and groups when developing a design specification. Carry out research using surveys, interviews, questionnaires and web-based resources to identify criteria for their own designs. Make design decisions, taking account of constraints such as time, resources and cost.
Make	Plan by suggesting ideas and explain what they are going to do. Begin to select and use tools eg scissors and a hole punch safely explaining their choices Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. Use simple finishing techniques suitable for the product they are creating.	Plan by suggesting what to do next. Select tools and materials and components, use vocabulary to name and describe them. Measure, cut and score with some accuracy. Use hands tools sensibly and with some accuracy. Assemble, join and combine materials in order to make a product. Choose and use appropriate finishing techniques	Plan the order and the main stages of making. Select and use appropriate tools and techniques to measure, mark out, cut, score and assemble components safely and with some accuracy. To think about their ideas as they make progress and be willing to change things if this helps them to improve their work. Use finishing techniques suitable for the product they are creating	Plan the order and main stages of making. Select and use appropriate tools and techniques to measure, mark out, cut, score, shape and assemble safely and with some accuracy in temporary or permanent ways. Explain their choice of materials according to functional properties and aesthetic qualities.	Plan the order and the main stages of making. Select and use appropriate materials, tools and techniques to measure, mark out, cut, score, shape and assemble safely and with some accuracy in temporary or permanent ways. Explain their choice of materials according to functional properties and aesthetic qualities.	Formulate step by step plans as a guide to making. Use techniques that involve a number of steps. Select and use appropriate materials, tools and techniques to measure, mark out, cut, score, shape and assemble safely and with some accuracy in temporary or permanent ways. Explain their choice of materials according to functional properties and aesthetic qualities.

Evaluate	Evaluate ideas and finished product against design criteria, including intended user and purpose.	Talk about their design ideas and what they are making. Make simple judgements about their products against their design criteria. Evaluate their products as they are developed, identifying strengths and possible changes they might make.	Disassemble and evaluate familiar products. Test and evaluate their completed products against the design criteria and the intended user and purpose.	Test and evaluate their own products against design criteria and the intended user and purpose. Refer to their design criteria. Know whether products can be recycled or reused.	Identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended users, to improve their work. Critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design	Evaluate their products against their design specification, identifying strengths and areas for development, and carrying out appropriate tests. Consider the views of others, including intended users, to improve their work. Critically evaluate the quality of their design, manufacture and fitness for purpose of their products as they design and make.
Technical Knowledge and Understanding	How freestanding structures can be made stronger, stiffer and more stable About the movement of simple mechanisms such as levers, sliders, wheels and axles Know and use technical vocabulary relevant to the project.	About the simple working characteristics of materials and components How freestanding structures can be made stronger, stiffer and more stable About the movement of simple mechanisms such as levers, sliders, wheels and axles Know and use technical vocabulary relevant to the project.	How freestanding structures can be made stronger, stiffer and more stable Know that materials have both functional properties and aesthetic qualities Use the correct technical vocabulary for the projects they are undertaking.	Begin to look at inventors and their work. Know that materials have both functional properties and aesthetic qualities. Know that mechanical and electrical systems have an input, process and output. Use the correct technical vocabulary for the projects they are undertaking.	Using learning from Science and Mathematics to help design and make products that work. How mechanical systems such as cams or pulleys create movement. Begin to use CAD within projects. Use the correct technical vocabulary for the projects they are undertaking.	Use Science and Mathematical knowledge to help plan and make products. How more complex electrical circuits and components can be used to create functional products. How to reinforce and strengthen a 3D framework That a 3D textiles product can be made from a combination of fabric shapes. Begin to use CAD within projects. Use the correct technical vocabulary for the projects they are undertaking.
Cooking and Nutrition	To begin to understand that all food comes from plants and animals. To know how to name and sort foods into five food groups in the Eatwell Plate. To know basic food handling, hygienic practices and personal hygiene. To select and use appropriate food and vegetables, processes and tools.	To begin to identify where food groups come from (animals and plants). To know that food has to be farmed, grown elsewhere (eg home) or caught. To know that everyone should eat at least five portions of fruit and vegetables every day. To know how to prepare simple dishes safely and hygienically, without using a heat source.	To demonstrate hygienic food preparation and storage. To know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in the Eatwell Plate. To know how to use techniques such as cutting, peeling and grating.	To demonstrate hygienic food preparation and storage. To know that to be active and healthy, food and drink are needed to provide energy for the body. Know that a recipe can be adapted by adding or substituting ingredients. To know how to use techniques such as cutting, peeling and grating.	To apply the rules for basic food hygiene and other safe practices eg hazards relating to use of ovens. To have a basic understanding of how food is grown, reared or caught in the UK. To know how to prepare and cook a range of predominantly savoury dishes safely and hygienically. To use a range of techniques when cooking.	To understand that different food and drink contain different substances- nutrients, water and fibre – that are needed for health. To know that seasons may affect the food available. To know that food is processed into ingredients that can be eaten or used in cooking. To use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.

		To know how to use techniques such as cutting, tearing and chopping.			Know that a recipe can be adapted by adding or substituting ingredients.	Know that a recipe can be adapted by adding or substituting ingredients.

	Nursery (Development Matters)	Reception (ELG)
Design (ELG – Expressive Arts and Design; Creating with Materials)	Select and use activities and resources with help when needed. Make imaginative and complex 'small worlds' with blocks and construction kits. Explore different materials freely, in order to develop their ideas about how to use them and what to make.	Safely use and explore a variety of materials, tools and techniques experimenting with different designs. Communicate and model their ideas through talk and use a range of materials to communicate ideas.
Make (ELG – Expressive Arts and Design; Creating with Materials ELG - Physical Development – fine motor skills using tools)	Develop own ideas and then decide which materials to use to express them. Create closed shapes with continuous lines, and begin to use these shapes to represent objects. Use large muscle movements to paint and make marks. Choose the right resources to carry out their own plan. Use one handed tools and equipment.	Begin to explore and use tools eg scissors and paint brushes. Assemble, join and combine materials and components together (including construction kits), using a variety of temporary methods e.g. glue, tape. Show accuracy and care when drawing.
Evaluate (ELG – Communication and Language – Listening, Attention and Understanding, Speaking)	Make imaginative and complex 'small worlds' with blocks and construction kits – talk about what they have made. Explore how things work.	Share their creations, explaining the processes they have used. Respond to what they hear with relevant questions. Hold conversation when engaged in back and forth exchanges with their teachers and peers. Give opinions on their product they have made.

Knowledge and Understanding of the World			
Technical Knowledge and Understanding	Know materials can be joined together in different ways to make something. Know ingredients can be put together to create foods. (Throughout Nursery and Reception, although the ELGs remain the same, the level of support, growth of independence and confidence with skills will be progressive as the children move through EYFS.)	Know materials can be joined together in different ways to make something. Know ingredients can be put together to create foods. (Throughout Nursery and Reception, although the ELGs remain the same, the level of support, growth of independence and confidence with skills will be progressive as the children move through EYFS.)	
Cooking and Nutrition	To use basic tools such as cutlery.	To begin to understand that all food comes from plants and animals. Understand the importance of healthy food choices. To know basic hygiene practices when handling food. (washing hands)	