Design and Technology Curriculum Statement

This document outlines the main learning across the year groups. This shows the build on knowledge and how they link to each other. This document allows the teachers to see where their year group / the term fits in the grand scale knowledge and learning.

We have aimed to select the Early Learning Goals that link most closely to the Design and Technology National Curriculum.

Level Expected at the End of EYFS

Reception – Physical Development

- Progress towards a more fluent style of moving, with developing control and grace.
- Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
- Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.

Reception – Physical Development

- Use a range of small tools, including scissors, paintbrushes and cutlery.

Reception – Expressive Arts and Design

- Progress towards a more fluent style of moving, with developing control and grace.
- Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
- Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.

Reception – Expressive Arts and Design

- 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.

Key Stage 1 National Curriculum Expectations

Design

Pupils should be taught to:

- design purposeful, functional, appealing products for themselves and other users based on design criteria;
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

Make

Pupils should be taught to:

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing];
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Evaluate

Pupils should be taught to:

- explore and evaluate a range of existing products;
- evaluate their ideas and products against design criteria

Technical Knowledge

Pupils should be taught to:

- build structures, exploring how they can be made stronger, stiffer and more stable;
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Cooking and Nutrition

Pupils should be taught to:

- use the basic principles of a healthy and varied diet to prepare dishes;
- understand where food comes from.

Key Stage 2 National Curriculum Expectations

Design

Pupils should be taught to:

- 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;
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

Make

Pupils should be taught to:

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], 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.

Evaluate

Pupils should be taught to:

- 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.

Technical Knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures;
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages];
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors];
- apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

Pupils should be taught to:

- understand and apply the principles of a healthy and varied diet;
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques;
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

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Design	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Skills	•Construct with a purpose in mind, using a variety of resources •Use simple tools and techniques competently and appropriately •Build and construct with a wide range of objects, selecting appropriate resources and adapting their work when necessary •Select the tools and techniques they need to shape, assemble and join materials they are using	**Design purposeful, functional, appealing products for themselves and other users based on design criteria.** Create a design to meet simple design criteria. **Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.** Create a design to meet simple design criteria.	**Design purposeful, functional, appealing products for themselves and other users based on design criteria.** Create a design to meet simple design criteria. Generate and communicate their ideas through a range of different methods **Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.** Create a design to meet simple design criteria. Generate and communicate their ideas through a range of different methods.	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.** Develop design criteria to inform a 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. Develop design criteria to inform a design.	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design**. Use annotated sketches and exploded diagrams to test and communicate their ideas. **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.** Use annotated sketches and exploded diagrams to test and communicate their ideas.	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.** Use pattern pieces and computer-aided design packages to design a product. **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.** Use pattern pieces and computer-aided design packages to design a product.	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.** Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways. **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.** Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.
Knowledge	**Think about what it is for (purpose) and who will use it.** **Using your imagination is about having new ideas!** **How to use simple tools – scissors, brushes, pen etc** **Explore and talk about things that look/sound/feel good together** **Adjectives can be used to describe different textures** **Working out how to fix problems in our world**	**Design purposeful, functional, appealing products for themselves and other users based on design criteria.** Design criteria are the explicit goals that a project must achieve. **Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.** Design criteria are the explicit goals that a project must achieve.	**Design purposeful, functional, appealing products for themselves and other users based on design criteria.** Design criteria are the explicit goals that a project must achieve. Ideas can be communicated in a variety of ways, including written work, drawings and diagrams, modelling, speaking and using information and communication technology. **Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.** Design criteria are the explicit goals that a project must achieve. Ideas can be communicated in a variety of ways, including written work, drawings and diagrams, modelling, speaking and using information and communication technology	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.** Design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user. **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.** Design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user.	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.** Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way. **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.** Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way.	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.** A pattern piece is a drawing or shape used to guide how to make something. There are many different computer-aided design packages for designing products. **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.** A pattern piece is a drawing or shape used to guide how to make something. There are many different computer-aided design packages for designing products.	**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.** Design criteria should cover the intended use of the product, age range targeted and final appearance. Ideas can be communicated in a range of ways, including through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided 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.** Design criteria should cover the intended use of the product, age range targeted and final appearance. Ideas can be communicated in a range of ways, including through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.
Vocabulary	Imagination, design, model, make	design, criteria, product, user, function, mock-up, model, template,		appeal, criteria, research, preference, purpose, intended user, parts, needs and wants, idea, product, annotate, sketch, prototype, patterns, sketches, decide/decision, model, annotations notes, cross-sections, drawing, resources, realistic, diagram,		Leisure, culture, enterprise, industry, surveys, interviews, questionnaires, preferences, individuals, groups, design, features, needs, wants, functional, research, design, spec, appealing, value, prototype, cross-section, realistic, innovative, constraints, discuss(ion), annotate, decisions, time, resources, clarify, sketch cross-sectional, generate, model, develop, prototype, exploded, diagram, step-by-step plans, guide, cost, ideas, pattern, piece, fit-for-purpose	
Topic	**Aut 1 Me and my Community** Use transient materials to create a woodland picture **Aut 2 Dangerous Dinosaurs / catch me is you can (Gingerbread Man)** Making something for the baby dinosaur Making their own salt dough and making some bread for the Baker's Shop **Spr 1 Winter Wonderland / Are Carrots Orange?** Make a bird feeder Design and make own Supertato Make a trap for the Evil Pea **Spr 2 Big Wide World / The Perfect Pet** Design and draw a vehicle **Sum 1 Once Upon a Time / Jack and the Beanstalk** 3 Little Pigs materials for houses **Sum 2 Why do Ladybirds have Spots?** Design and paint a stone bug	**Aut2: Dinosaur Planet** Design and Make a Sock Puppet using a Design Brief **Spr1: Bright Lights, Big City** Design and Make Bread Rolls for the Great Fire of London Bakery **Sum2: Moon Zoom** Design and Make a Rocket Ship	**Aut2: Beat Band Boogie** Design and Make Percussion Instruments **Spr2: Towers, Tunnels & Turrets** Making models of towers, bridges and tunnels: Mechanisms; Structures **Sum2: Land Ahoy!** Making Clay Boats	**Aut1: Mighty Metals** Design and Making vehicles; Design and Making an Iron Man; Using Junk Materials **Spr1: Tribal Tales** Design and Make Weapons **Sum1: Scrumdiddlyumptious** Design and Bake Cookies	**Spr2: Tremors** Making Structures **Sum1: Burps, Bottoms and Bile** Textiles **Sum2: I am Warrior** Make a Roman Banquet	**Aut1: Stargazers** Moonscape Textile; Design and Make a Satellite, Rover or Shuttle for a Specific Mission; Design a Rocket **Aut2: Hola Mexico** Food of Mexico; Evaluating and Making Instruments **Spr2: Beast Creator** Design and Making models **Sum1: Allotment** Cooking and Nutrition: Making Planters; Making Structures **Sum2: Scream Machine** Design rides; Program models; Mechanical Systems; Food	**Aut2: Fallen Fields & Child's War** Construct a structurally sound miniature Anderson Shelter

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Making	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Skills	•Construct with a purpose in mind, using a variety of resources •Use simple tools and techniques competently and appropriately •Build and construct with a wide range of objects, selecting appropriate resources and adapting their work when necessary •Select the tools and techniques they need to shape, assemble and join materials they are using Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	**Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).** Select the appropriate tool for a simple practical task. **Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.** Select and use a range of materials, beginning to explain their choices.	**Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).** Select the appropriate tool for a simple practical task Select the appropriate tool for a task and explain their choice. Prepare ingredients by peeling, grating, chopping and slicing. **Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.** Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect. Create an operational, simple series circuit.	**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.** Use tools safely for cutting and joining materials and components. **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.** Plan which materials will be needed for a task and explain why.	**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.** Use tools safely for cutting and joining materials and components. **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.** Plan which materials will be needed for a task and explain why.	**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.** Name and select increasingly appropriate tools for a task and use them safely. **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.** Select and combine materials with precision.	**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.** Name and select increasingly appropriate tools for a task and use them safely. **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.** Select and combine materials with precision.
Knowledge	**Colours can be mixed together to make other colours.** **In order to make toys and real-world objects work, there are often different parts that you need to push, pull, twist or turn.** **Technological toys are toys that use modern science in order to work, e.g. smart phones, cameras, tablets and computers. These toys can work in different ways, e.g. by typing letters on keys on computer, or pressing a button to make a camera take a picture.**	**Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).** Specific tools are used for particular purposes. For example, scissors are used for cutting and glue is used for sticking. **Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.** Different materials are suitable for different purposes, depending on their specific properties. For example, glass is transparent, so it is suitable to be used for windows.	**Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).** Specific tools are used for particular purposes. For example, scissors are used for cutting and glue is used for sticking. Different tools have characteristics that make them suitable for specific purposes. For example, scissors are used for cutting paper because they have sharp, metal blades that can cut through thin materials. Some ingredients need to be prepared before they can be cooked or eaten. There are many ways to prepare ingredients: peeling skins using a vegetable peeler, such as potato skins; grating hard ingredients, such as cheese or chocolate; chopping vegetables, such as onions and peppers and slicing foods, such as bread and apples. **Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.** Properties of components and materials determine how they can and cannot be used. For example, plastic is shiny and strong but it can be difficult to paint. A series circuit is made up of an energy source, such as a battery or cell, wires and a bulb. The circuit must be complete for the electricity to flow.	**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.** Specific tools can be used for cutting, such as saws. Wood can be joined using glue, nails, staples, or a combination of these. Safety rules must be followed to prevent injury from sharp blades. These rules include using a bench hook to keep the wood still, using a junior hacksaw with a pistol grip and working under adult supervision. **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.** Plan which materials will be needed for a task and explain why.	**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.** Specific tools can be used for cutting, such as saws. Wood can be joined using glue, nails, staples, or a combination of these. Safety rules must be followed to prevent injury from sharp blades. These rules include using a bench hook to keep the wood still, using a junior hacksaw with a pistol grip and working under adult supervision. **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.** Plan which materials will be needed for a task and explain why.	**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately**. There are many rules for using tools safely and these may vary depending on the tools being used. For example, someone using a chisel should chip or cut with the cutting edge pointing away from their body. All tools should be cleaned and put away after use, and should not be used if they are loose or cracked. **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.** Materials should be cut and combined with precision. For example, pieces of fabric could be cut with sharp scissors and sewn together using a variety of stitching techniques.	**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately**. There are many rules for using tools safely and these may vary depending on the tools being used. For example, someone using a chisel should chip or cut with the cutting edge pointing away from their body. All tools should be cleaned and put away after use, and should not be used if they are loose or cracked. **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.** Materials should be cut and combined with precision. For example, pieces of fabric could be cut with sharp scissors and sewn together using a variety of stitching techniques.
Vocabulary	Bumpy, Rough, Hard, Smooth, Soft, Prickly, Shiny Colour names pencil, felt tips, paint brush, wooden spoon, spatula, rolling pin, shovel, rake, watering can, trowel Texture, Scissors, Tools, Knob, Pulley, folding, join, gluing, cutting, , safety, tearing, decorate,	Hygiene, cutting, measure, folding, join, gluing, shape, tearing, decorate, dyeing, hinges, printing, mark out, hinges, tool, strengthen, safety, assemble, finishing, curling, assemble, drilling, stitching, templates, shape, sequins, material textile, properties, levers, wheels, winding, mechanism, batteries, fault ,components, equipment,		Tools, equipment, materials, components, function, mechanical ,electrical, construction, pulley, finishing, polishing, sequins, painting, smoothing, assemble, stages of making, measure, mark out, cutting, shaping, perimeter, slots, cut-outs, mechanism, levers, winding, varnishing, sanding, components , construction, Lego, textiles, ingredients, suitable, kits,		suitability, aesthetic, procedures, accuracy, cutting, shaping, joining, finishing, accuracy, assemble, combine, components, textiles, equipment, techniques, measure, mark out, drilling, gluing, filing, sanding, appropriate, stitch, back stitch, running stitch, qualities of materials, finishing, polishing, varnishing, sequins, painting, smoothing, laminating, paper maché, component, construction, Lego, textiles, ingredients, functional,properties, aesthetic, qualities, kits, textiles, tools ,equipment, steps, seam allowance,	
Topic	**Aut 1 Me and my Community** Use transient materials to create a woodland picture **Aut 2 Dangerous Dinosaurs / catch me is you can (Gingerbread Man)** Making something for the baby dinosaur Making their own salt dough and making some bread for the Baker's Shop **Spr 1 Winter Wonderland / Are Carrots Orange?** Make a bird feeder Design and make own Supertato Make a trap for the Evil Pea **Spr 2 Big Wide World / The Perfect Pet**	**Aut2: Dinosaur Planet** Design and Make a Sock Puppet using a Design Brief **Sum2: Moon Zoom** Design and Make a Rocket Ship	**Aut2: Beat Band Boogie** Design and Make Percussion Instruments **Spr2: Towers, Tunnels & Turrets** Making models of towers, bridges and tunnels: Mechanisms; Structures **Sum2: Land Ahoy!** Making Clay Boats	**Aut1: Mighty Metals** Design and Making vehicles; Design and Making an Iron Man; Using Junk Materials **Spr1: Tribal Tales** Design and Make Weapons	**Spr2: Tremors** Making Structures **Spr2: Tremors** Making Structures	**Aut1: Stargazers** Moonscape Textile; Design and Make a Satellite, Rover or Shuttle for a Specific Mission; Design a Rocket **Aut2: Hola Mexico** Food of Mexico; Evaluating and Making Instruments **Spr1: Beast Creator** Design and Making models **Sum2: Scream Machine** Design rides; Program models; Mechanical Systems; Food	**Aut2: Fallen Fields & Child's War** Construct a structurally sound miniature Anderson Shelter

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	Design and draw a vehicle **Sum 1 Once Upon a Time / Jack and the Beanstalk** 3 Little Pigs materials for houses **Sum 2 Why do Ladybirds have Spots?** Design and paint a stone bug						

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Evaluating	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Skills	**Adapting their design as they work**	**Evaluate their ideas and products against design criteria.** Explain how closely their finished products meet their design criteria and say what they could do better in the future. **Explore and evaluate a range of existing products.** Explain why a designer or inventor is important.	**Evaluate their ideas and products against design criteria.** Explain how closely their finished products meet their design criteria and say what they could do better in the future. **Explore and evaluate a range of existing products.** Explain why a designer or inventor is important.	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.** Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account.	**Understand how key events and individuals in design and technology have helped shape the world.** Explain how and why a significant designer or inventor shaped the world. **Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.** Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements. **Investigate and analyse a range of existing products.** Create and complete a comparison table to compare two or more products. Investigate and identify the design features of a familiar product.	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.** Test and evaluate products against a detailed design specification and make adaptations as they develop the product. **Investigate and analyse a range of existing products.** Explain how the design of a product has been influenced by the culture or society in which it was designed or made.	
Knowledge	**Being aware of the purpose of designing and building – what is it for?** **Talk about what they have made and how it works** Share their creations, explaining the process they have used.	**Evaluate their ideas and products against design criteria.** Finished products can be compared with design criteria to see how closely they match. Improvements can then be planned. **Explore and evaluate a range of existing products.** Many key individuals have helped to shape the world. These include engineers, scientists, designers, inventors and many other people in important roles.	**Evaluate their ideas and products against design criteria.** Finished products can be compared with design criteria to see how closely they match. Improvements can then be planned. **Explore and evaluate a range of existing products.** Many key individuals have helped to shape the world. These include engineers, scientists, designers, inventors and many other people in important roles.	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.** Asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model.	**Understand how key events and individuals in design and technology have helped shape the world.** Significant designers and inventors can shape the world. **Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.** Evaluation can be done by considering whether the product does what it was designed to do, whether it has an attractive appearance, what changes were made during the making process and why the changes were made. Evaluation also includes suggesting improvements and explaining why they should be made. **Investigate and analyse a range of existing products.** A comparison table can be used to compare products by listing specific criteria on which each product can be judged or scored. Design features are the aspects of a product's design that the designer would like to emphasise, such as the use of a particular material or feature that makes the product easier to use or more durable.	**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.** Test and evaluate products against a detailed design specification and make adaptations as they develop the product. **Investigate and analyse a range of existing products.** Culture is the language, inventions, ideas and art of a group of people. A society is all the people in a community or group. Culture affects the design of some products. For example, knives and forks are used in the western world, whereas chopsticks are used mainly in China and Japan. The design of products needs to take into account the culture of the target audience. For example, colours might mean very different things in different cultures.	
Vocabulary	**Answering questions:** • How does it work? • What does this bit do? • Why did you use this?	Evaluate, product, like/dislike, design, criteria, improved, better,		criteria, evaluate, product, purpose, user, needs, design, construction, methods, strengths, area for development, view, preference, reasons, improve, Inventor, designer, chef, Hoover, light bulb, manufacturer, ground-breaking products, Microwave, inventor names,		Manufacture, innovative ,sustainability, construction, effective, designed ,products, function(al), investigate, suitable, successful, improvement, intended, impact, materials, methods, analyse, existing strengths, areas for development ,views, developing, design criteria, improve, evaluate, design spec, quality, manufacture, inventor, designer, chef, manufacturer, ground-breaking products, mobile phone, inventors' names, Apple, Dyson, website, Facebook, product	
Topic	**Aut 1 Me and my Community** Use transient materials to create a woodland picture **Aut 2 Dangerous Dinosaurs / catch me is you can (Gingerbread Man)** Making something for the baby dinosaur Making their own salt dough and making some bread for the Baker's Shop **Spr 1 Winter Wonderland / Are Carrots Orange?** Make a bird feeder Design and make own Supertato Make a trap for the Evil Pea **Spr 2 Big Wide World / The Perfect Pet** Design and draw a vehicle **Sum 1 Once Upon a Time / Jack and the Beanstalk** 3 Little Pigs materials for houses **Sum 2 Why do Ladybirds have Spots?** Design and paint a stone bug	**Aut2: Dinosaur Planet** Design and Make a Sock Puppet using a Design Brief **Spr1: Bright Lights, Big City** Design and Make Bread Rolls for the Great Fire of London Bakery **Sum2: Moon Zoom** Design and Make a Rocket Ship	**Aut2: Beat Band Boogie** Design and Make Percussion Instruments **Spr2: Towers, Tunnels & Turrets** Making models of towers, bridges and tunnels: Mechanisms; Structures **Sum2: Land Ahoy!** Making Clay Boats	**Aut1: Mighty Metals** Design and Making vehicles; Design and Making an Iron Man; Using Junk Materials **Spr1: Tribal Tales** Design and Make Weapons **Sum1: Scrumdiddlyumptious** Design and Bake Cookies	**Spr2: Tremors** Making Structures **Spr2: Tremors** Making Structures **Sum2: I am Warrior** Make a Roman Banquet	**Aut1: Stargazers** Moonscape Textile; Design and Make a Satellite, Rover or Shuttle for a Specific Mission; Design a Rocket **Aut2: Hola Mexico** Food of Mexico; Evaluating and Making Instruments **Spr2: Beast Creator** Design and Making models **Sum2: Scream Machine** Design rides; Program models; Mechanical Systems; Food	**Aut1: Blood Heart** Packaging; Healthy Eating

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Technical Knowledge	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Skills	**Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their play**	**Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.** Use wheels and axles to make a simple moving model. **Build structures, exploring how they can be made stronger, stiffer and more stable.** Construct simple structures, models or other products using a range of materials.	**Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.** Use a range of mechanisms (levers, sliders, wheels and axles) in models or products. Build structures, exploring how they can be made stronger, stiffer and more stable. Explore how a structure can be made stronger, stiffer and more stable.	**Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).** Explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products. **Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.** Create shell or frame structures using diagonal struts to strengthen them. **Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).** Incorporate a simple series circuit into a model.	**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.** Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them.	**Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).** Use mechanical systems in their products, such as pneumatics and hydraulics. **Apply their understanding of computing to program, monitor and control their products.** Link a physical device to a computer or tablet so that it can be controlled (such as changing motor speed or turning an LED on and off) by a program.	**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.** Select the most appropriate materials and frameworks for different structures, explaining what makes them strong.
Knowledge	**Role Play Areas:** **Technological toys are toys that use modern science in order to work, e.g. smart phones, cameras, tablets and computers. These toys can work in different ways, e.g. by typing letters on keys on computer, or pressing a button to make a camera take a picture.**	**Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.** An axle is a rod or spindle that passes through the centre of a wheel to connect two wheels. **Explore and evaluate a range of existing products.** Different materials can be used for different purposes, depending on their properties. For example, cardboard is a stronger building material than paper. Plastic is light and can float. Clay is heavy and will sink.	**Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.** A mechanism is a device that takes one type of motion or force and produces a different one. A mechanism makes a job easier to do. Mechanisms include sliders, levers, linkages, gears, pulleys and cams. Build structures, exploring how they can be made stronger, stiffer and more stable. Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares. A broader base will also make a structure more stable.	**Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).** Levers consist of a rigid bar that rotates around a fixed point, called a fulcrum. They reduce the amount of work needed to lift a heavy object. Sliders move from side to side or up and down, and are often used to make moving parts in books. Axles are shafts on which wheels can rotate to make a moving vehicle. Cams are devices that can convert circular motion into up-and-down motion. **Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.** Prototype shell structures are hollow, 3-D structures with a thin outer covering, such as a box. Frame structures are made from thin, rigid components, such as a tent frame. The rigid frame gives the structure shape and support. Diagonal struts can strengthen the structure. **Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).** An electric circuit can be used in a model, such as a lighthouse. It can be controlled using a switch.	**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.** A prototype is a mock-up of a design that will look like the finished product but may not be full size or made of the same materials. Shell and frame structures can be strengthened by gluing several layers of card together, using triangular shapes rather than squares, adding diagonal support struts and using 'Jinks' corners (small, thin pieces of card cut into a right-angled triangle and glued over each joint to straighten and strengthen them).	**Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).** Pneumatic systems use energy that is stored in compressed air to do work, such as inflating a balloon to open a model monster's mouth. These effects can be achieved using syringes and plastic tubing. Hydraulic mechanisms work in a similar way, but instead of air, the system is filled with a liquid, usually water. It is important that the system is air or watertight. **Apply their understanding of computing to program, monitor and control their products.** Equipment and devices can be controlled by pressing buttons on a control panel, such as on a washing machine or microwave.	**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.** Strength can be added to a framework by using multiple layers. For example, corrugated cardboard can be placed with corrugations running alternately vertically and horizontally. Triangular shapes can be used instead of square shapes because they are more rigid. Frameworks can be further strengthened by adding an outer cover.
Vocabulary	**Answer questions:** • How does it move? • How does this work? • Can you make it do faster?	stable, stronger, stiffer, lever, slider, wheel, axel, mechanism		levers, systems, structure, pulleys, shell, join, gears, monitor, adapt, strong, stiff reinforce, levers, linkages, pneumatic, systems, movement, force, pulleys, cams, circuit, component, series ,parallel, switches, clips, bulbs, buzzers, motors, wires, lights, complete, circuit ,program, computer, control, debug, sequence, instructions, algorithms		pneumatic, substituting, strengthen, stiffen, reinforce, 3D, framework ,cams ,linkages, mechanical, cams, pulleys, gears, movement, linkages, forces, complex, electrical, circuits, components, functional, bulbs, buzzers, motors, series, parallel, switches, crocodile clips, wires, program, computer, control debug, changes, lights complete circuit, sequence, instructions, algorithms, monitor, effect, fault	
Topic	**Continuous provision:** • Construction toys • Gear, levers, pulleys, marble run etc Big play outside – bikes, slide, climbing equipment, crates, tubes, guttering, sand and water play	**Sum2: Moon Zoom** Design and Make a Rocket Ship	**Aut2: Beat Band Boogie** Design and Make Percussion Instruments **Spr2: Towers, Tunnels & Turrets** Making models of towers, bridges and tunnels: Mechanisms; Structures	**Aut1: Mighty Metals** Design and Making vehicles; Design and Making an Iron Man; Using Junk Materials **Spr1: Tribal Tales** Design and Make Weapons	**Spr2: Tremors** Making Structures	**Aut2: Hola Mexico** Food of Mexico; Evaluating and Making Instruments **Sum2: Scream Machine** Design rides; Program models; Mechanical Systems; Food	**Aut2: Fallen Fields & Child's War** Construct a structurally sound miniature Anderson Shelter

Design and Technology Curriculum Statement

This document outlines the main learning across the year groups. This shows the build on knowledge and how they link to each other. This document allows the teachers to see where their year group / the term fits in the grand scale knowledge and learning.

Cooking Nutrition	EYFS	Y1	Y2	Y3	Y4	Y5	Y6
Skills	Use simple tools and techniques competently and appropriately	**Use the basic principles of a healthy and varied diet to prepare dishes.** Measure and weigh food items using non-standard measures, such as spoons and cups. Select healthy ingredients for a fruit or vegetable salad.	**Understand where food comes from.** Identify the origin of some common foods (milk, eggs, some meats, common fruit and vegetables). **Use the basic principles of a healthy and varied diet to prepare dishes.** Prepare ingredients by peeling, grating, chopping and slicing. Describe the types of food needed for a healthy and varied diet and apply the principles to make a simple, healthy meal.	**Understand and apply the principles of a healthy and varied diet.** Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars). **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** Prepare and cook a simple savoury dish. **Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.** Identify and name foods that are produced in different places.	**Understand and apply the principles of a healthy and varied diet.** Design a healthy snack or packed lunch and explain why it is healthy. **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** Identify and use a range of cooking techniques to prepare a simple meal.	**Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish. **Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.** Describe what seasonality means and explain some of the reasons why it is beneficial.	**Understand and apply the principles of a healthy and varied diet.** Plan a healthy weekly diet, justifying why each meal contributes towards a balanced diet. **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** Follow a recipe that requires a variety of techniques and source the necessary ingredients independently.
Knowledge	**Understand why we eat certain foods like fruit and vegetables**	**Use the basic principles of a healthy and varied diet to prepare dishes.** Using non-standard measures is a way of measuring that does not involve reading scales. For example, weight may be measured using a balance scale and lumps of plasticine. Length may be measured in the number of handspans or pencils laid end to end. Fruit and vegetables are an important part of a healthy diet. It is recommended that people eat at least five portions of fruit and vegetables every day.	**Understand where food comes from.** Food comes from two main sources: animals and plants. Cows provide beef, sheep provide lamb and mutton and pigs provide pork, ham and bacon. Examples of poultry include chickens, geese and turkeys. Examples of fish include cod, salmon and shellfish. Milk comes mainly from cows but also from goats and sheep. Most eggs come from chickens. Honey is made by bees. Fruit and vegetables come from plants. Oils are made from parts of plants. Sugar is made from plants called sugar cane and sugar beet. Plants also give us nuts, such as almonds, walnuts and hazelnuts. **Use the basic principles of a healthy and varied diet to prepare dishes.** Some ingredients need to be prepared before they can be cooked or eaten. There are many ways to prepare ingredients: peeling skins using a vegetable peeler, such as potato skins; grating hard ingredients, such as cheese or chocolate; chopping vegetables, such as onions and peppers and slicing foods, such as bread and apples. A healthy diet should include meat or fish, starchy foods (such as potatoes or rice), some dairy foods, a small amount of fat and plenty of fruit and vegetables	**Understand and apply the principles of a healthy and varied diet.** There are five main food groups that should be eaten regularly as part of a balanced diet: fruit and vegetables; carbohydrates (potatoes, bread, rice and pasta); proteins (beans, pulses, fish, eggs and meat); dairy and alternatives (milk, cheese and yoghurt) and fats (oils and spreads). Foods high in fat, salt and sugar should only be eaten occasionally as part of a healthy, balanced diet. **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** Preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning. **Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.** The types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type. For example, many crops, such as potatoes and sugar beet, are grown in the south-east of England. Wheat, barley and vegetables grow well in the east of England.	**Understand and apply the principles of a healthy and varied diet.** Healthy snacks include fresh or dried fruit and vegetables, nuts and seeds, rice cakes with low-fat cream cheese, homemade popcorn or chopped vegetables with hummus. A healthy packed lunch might include a brown or wholemeal bread sandwich containing eggs, meat, fish or cheese, a piece of fresh fruit, a low-sugar yoghurt, rice cake or popcorn and a drink, such as water or semi-skimmed milk. **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** Cooking techniques include baking, boiling, frying, grilling and roasting.	**Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** Sweet dishes are usually desserts, such as cakes, fruit pies and trifles. Savoury dishes usually have a salty or spicy flavour rather than a sweet one. **Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.** Seasonality is the time of year when the harvest or flavour of a type of food is at its best. Buying seasonal food is beneficial for many reasons: the food tastes better; it is fresher because it hasn't been transported thousands of miles; the nutritional value is higher; the carbon footprint is lower, due to reduced transport; it supports local growers and is usually cheaper.	**Understand and apply the principles of a healthy and varied diet.** Eating a balanced diet is a positive lifestyle choice that should be sustained over time. Food that is high in fat, salt or sugar can still be eaten occasionally as part of a balanced diet. **Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** Ingredients can usually be bought at supermarkets, but specialist shops may stock different items. Greengrocers sell fruit and vegetables, butchers sell meat, fishmongers sell fresh fish and delicatessens usually sell some unusual prepared foods, as well as cold meats and cheeses.
Vocabulary	healthy/unhealthy, fruit and vegetables, farming fishing, plants, animals,	portion, fruit and vegetables, proteins- beans, pulses, fish, eggs, meat, dairy/alternatives- cheese, milk, yoghurt, carbohydrates- potatoes, bread, rice, pasta hygiene,peeling, grating, cutting, healthy/unhealthy, farming fishing plants, animals,		Processed, peel, chop, slice, grate, mix, fresh, spread, knead, bake, healthy, diet, varied, organic, savoury, sweet, recipe, appearance, peeling, chopping, grating, mixing, spreading, kneading, baking, prepare, temperature, taste, texture, hygiene, safety, measure, gram, kilogram, heat/hot, oven, hob, cook, utensils, grown, reared, caught, fishing, seasonal, ingredients,		Aroma, substance, nutrients substitute, adapting, methods cooking time temperature storage handling recipe, prepare cook, savoury, peeling, chopping slicing grating mixing, blending, kneading, baking, melting, whisking, proving, rise, dissolving, juicing, seasonal, growing, reared, dietary requirements, vegetarian, vegan, kosher, gluten-free,	
Topic	**Aut 1 Me and my Community** Making porridge **Aut 2 Catch me is you can (Gingerbread Man)** Making their own salt dough and making some bread for the Baker's Shop **Spr 1 Winter Wonderland / Are Carrots Orange?** Cutting up vegetables, making fruit kebabs **Continuous provision:** Role play areas such as café, McDonalds, farm shop, supermarket, Baker's shop Play dough table – making food and cutting it up, making a healthy meal	**Spr1: Bright Lights, Big City** Design and Make Bread Rolls for the Great Fire of London Bakery		**Sum1: Scrumdiddlyumptious** Design and Bake Cookies	**Sum2: I am Warrior** Make a Roman Banquet	**Aut2: Hola Mexico** Food of Mexico; **Sum1: Allotment** Cooking and Nutrition: Making Planters; Making Structures **Sum2: Scream Machine** Design rides; Program models; Mechanical Systems; Food	**Aut1: Blood Heart** Packaging; Healthy Eating **Aut2: Fallen Fields & Child's War** Find and Make Wartime Foods