Highfield's Design and Technology Curriculum

Foundation Stage Areas of Development that support and link to the teaching of Design and Technology

	Understanding the world		Expressive Art and Design		Physical Development	Literacy	Mathematics
	Technology	The World	Exploring Media and Materials	Being Imaginative	Moving and Handling	Writing	Shape, Space and Measure
22-36 Months	Operates mechanical toys, e.g. turns the knob on a windup toy or pulls back on a friction car.	Notices detailed features of objects in their environment.	Experiments with blocks, colours and marks.	Beginning to use representation to communicate e.g. drawing a line and saying 'That's me'.	Shows control in holding and using jugs to pour, hammers, books and mark making tools. Initiates drawing simple shapes such as circles and lines.	Distinguishes between the different marks they make.	Notices simple shapes and patterns in pictures.
30 – 50 Months	Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones. Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.	Talks about why things happen and how things work.	Understands that they can use lines to enclose a space and then begin to use these shapes to represent objects. Beginning to describe the texture of things Realises tools can be used for a purpose.	Developing preferences for forms of expression. Captures experiences and responses with a range of media such as music, dance and paint and other materials or words.	Draws lines and circles using gross motor movements. Uses one-handed tools and equipment e.g. makes snips in paper with child scissors	Sometimes gives meaning to marks as they draw and paint.	Shows interest in shape and space by playing with shapes and making arrangements with objects. Beginning to talk about the shapes of everyday objects e.g. Round, and tall.
40-60 Months		Looks closely at similarities, differences, patterns and change.	Uses simple tools and techniques competently and appropriately.	Create simple representations of events, people and objects.	Uses simple tools to effect changes to materials. Handles tools, objects, construction and malleable materials safely and with increasing control. Begins to use anticlockwise movement and retrace vertical lines	Gives meaning to marks they make as they draw, write and paint.	Uses familiar objects and common shapes to create and recreate patterns and build models.
Early Learning Goals	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another	Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories	Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.		Children recognise, create and describe patterns.

Year Group	Curriculum – Children learn to…	Planned units
Early Years	- See Above – Foundation Stage Areas of Development that support and link to the teaching of Design and Technology	- The EYFS Framework is covered through child -initiated learning and the teacher's planned activities. This includes free play for example in the construction or creative area and in fortnightly cookery activities.
1	- 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 - 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 - explore and evaluate a range of existing products - build structures, exploring how they can be made stronger, stiffer and more stable - use the basic principles of a healthy and varied diet to prepare dishes	- Moving toys - Designing and making outfits for Traction Man - Planning and preparing a healthy snack
2	- 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 - 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	- Designing and making Binka Bookmarks - Moving vehicles - Plan and prepare a healthy dish

	- explore and evaluate a range of existing products - evaluate their ideas and products against design criteria - explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. - use the basic principles of a healthy and varied diet to prepare dishes - understand where food comes from	
3	- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design - 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 - 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 - understand and apply the principles of a healthy and varied diet	- Ancient Egypt and Architecture - Designing and making nutritious meals (Soup) - Designing and making an Olympic Mascot
4	- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design - 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 - 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	- Designing and making nutritious meals thinking about safety and hygiene. - Anglo- Saxon linked topic work. - Understanding and using electrical systems.

	- understand how key events and individuals in design and technology have helped shape the world - understand and apply the principles of a healthy and varied diet	
5	- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design - 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 - 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 - 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] - prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	- Moving Toys (Jumping Jacks). - £2 healthy family meal challenge - Sculpting – Linked to learning on Greeks.
6	- 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 - 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 - 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	- Programing and controlling an interactive toy. Using a 3D printer. - Baking bread - Using mechanical and electrical systems

	- 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 - understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	