

Design and Technology

Overview



Nursery		Reception		Year One	
EYFS Objectives: 22-36mths <ul style="list-style-type: none"> Experiments with blocks, colours and marks. 30-50mths <ul style="list-style-type: none"> Explores colour and how colours can be changed. Understands that they can use lines to enclose a space, and then begin to use these shapes to represent objects. Beginning to be interested in and describe the texture of things. Uses various construction materials. Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. Joins construction pieces together to build and balance. Realises tools can be used for a purpose. 40-60mths <ul style="list-style-type: none"> Explores what happens when they mix colours. Understands that different media can be combined to create new effects. Manipulates materials to achieve a planned effect. Constructs with a purpose in mind, using a variety of resources. Experiments to create different textures. Uses simple tools and techniques competently and appropriately. Selects appropriate resources and adapts work where necessary. Selects tools and techniques needed to shape, assemble and join materials they are using. 		EYFS Objectives (40-60+mths) <ul style="list-style-type: none"> Handles tools, objects, construction and malleable materials safely and with increasing control Uses simple tools and techniques competently and appropriately Selects appropriate resources and adapts work where necessary Creates simple representations of events, people and objects Selects tools and techniques needed to shape, assemble and join materials they are using Manipulates materials to achieve a planned effect Constructs with a purpose in mind, using a variety of resources Early Learning Goals <ul style="list-style-type: none"> Handles equipment and tools effectively Safely uses tools Use a variety of materials and techniques Use what they have learnt about media and materials in original ways thinking about uses and purposes Experiments with designs Experiments with form Early Learning Goals Exceeding <ul style="list-style-type: none"> Develop their own ideas through selecting and using materials and working on processes that interest them. Through their explorations, they find out and make decisions about how media and materials can be combined and changed. Talk about the ideas and processes which have led them to make designs, images or products 		National curriculum objectives: <ul style="list-style-type: none"> DT M1 Select from and use a range of tools and equipment to perform practical tasks DT M2 Select from and use a wide range of materials and components including construction materials, textiles and ingredients according to their characteristics DT D1 Design purposeful, functional, appealing products for themselves and other users based upon the design criteria DT D2 generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology DT E1 Explore and evaluate a range of existing products DT E2 Evaluate their ideas and products against design criteria DT TK 2 Explore and use mechanisms DT TK1 Build structures exploring how they can be made stronger, stiffer and more stable DT CN2 Find out where food comes from DT CN 1 Use the basic principles of a healthy and varied diet to prepare dishes 	
Key Knowledge/skills: Use vocabulary (see below) to describe the texture of different things Create simple models to represent real life objects To hold a pencil/drawing material in a tripod grip To use scissors to cut		Key Knowledge/skills: Choose tools such as rolling pin, cutters, cotton buds, forks, tweezers and use appropriately to roll and cut malleable materials Choose appropriate materials to make an object Join materials using tape, glue or string Build recognisable models using a range of materials To use a knife to spread To hold and use a fork correctly To hold and use scissors safely and correctly to cut an outline of a simple shape		Key Knowledge/skills: Select and explain why they have chosen a tool or material for a particular task. Drawing a simple picture with an intended design with basic labelling Talk about own and others work, identifying strengths and weaknesses Build simple structures, including using wheels, axels, levers and sliders To be able to prepare food hygienically Identify the main food groups including fruit and vegetables, knowing where food comes from	
Key Vocabulary: Pattern, colour (N Art and Design), shape, soft, hard, shiny, fuzzy, smooth, prickly, material, clay, wet, dry, stick, bumpy, flat, glue, scissors, string, tape	Topic/½ term: Aut 1- Marvellous Me Aut 2- Tricks and Sticks Spr 1-tbc Spr 2-tbc Sum 1-tbc Sum 2-tbc	Key Vocabulary: Healthy Unhealthy melting, mixing, hot, cold, cutting, rolling pin, cutters, thread, squeeze, press, join, squishy, squashy, tweezers, knife, fork, spread, thick, thin, card, foil, glitter, beads, sequins, dig, model	Topic/½ term: Aut 1- Fabulous Friends Aut 2- Sweet Dreams Spr 1- Once Upon a Time Spr 2- On the Farm Sum 1- Be Happy, Be Healthy Sum 2- Beside the Seaside	Key Vocabulary: Equipment, textiles, design, levers, sliders, wheels, axels, observing, moving, improvements, review, project, evaluate, structure, stable, stiffer, stronger, construction, baking, ingredients, labels, food hygiene	Topic/½ term: Aut 1- Dinosaur World Aut 2- Take Off Spr 1- Lively London Spr 2- Astonishing Animals Sum 1- Enchanted Woods Sum 2- To the Rescue
Year Two		Year Three		Year Four	
National curriculum objectives: <ul style="list-style-type: none"> DT M1 Select from and use a range of tools and equipment to perform practical tasks DT M2 Select from and use a wide range of materials and components including construction materials, textiles and ingredients according to their characteristics DT D1 Design purposeful, functional, appealing products for themselves and other users based upon the design criteria 		National curriculum objectives: <ul style="list-style-type: none"> DT D1 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. DT M2 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. 		National curriculum objectives: <ul style="list-style-type: none"> DT D1 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. DT M2 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. 	

<ul style="list-style-type: none"> DT D2 generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology DT E1 Explore and evaluate a range of existing products DT E2 Evaluate their ideas and products against design criteria DT CN 1 Use the basic principles of a healthy and varied diet to prepare dishes DT CN2 Find out where food comes from DT TK1 Build structures exploring how they can be made stronger, stiffer and more stable 		DT E2 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. DT E 1 Investigate and analyse a range of existing products DT M1 Select from and use a wider range of tools and equipment to perform practical tasks (e.g. cutting, shaping, joining and finishing), accurately DT K1 Apply their understanding of how to strengthen, stiffening and reinforce more complex structures DT D2 Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design DT TK 1 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures DT TK2 Understand and use mechanical systems in their produces (e.g. gears, pulleys, cams, levers and linkages)		DT M1 Select from and use a wider range of tools and equipment to perform practical tasks (e.g. cutting, shaping, joining and finishing), accurately DT CN2 Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques DT D2 Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design DT TK1 Apply their understanding of how to strengthen, stiffening and reinforce more complex structures DT E2 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. DT CN1 Understand and apply the principle of healthy and varied diet DT TK2 Understand and use mechanical systems in their products (e.g. gears, pulleys, cams, levers and linkages) DT E3 Understand how key events and individuals in design and technology have helped shape the world DT TK3 Understand and use electrical systems in their products (e.g. series circuits incorporating switches, bulbs, buzzers and motors)	
Key Knowledge/skills: Choose appropriate materials and suggest ways of manipulating them to achieve a desired effect (science link) Produce detailed labelled drawings or models of products based on design criteria and evaluate finished product Recognise the need for a variety of foods in their diet Explain where the food they eat comes from (referring to countries, counties, animals and plants) Improve structures to make them stronger, stiffer and more stable		Key Knowledge/skills: Share ideas through words, labelled sketches and models, recognising that designs have to meet a range of needs including being fit for purpose. Investigating the design features (including identifying components or ingredients) of familiar existing products Make realistic plans identifying processes, equipment and materials needed Create a shell or frame structure using diagonal struts to strengthen Create and use simple gears, pulleys, cams, levers and linkages		Key Knowledge/skills: Analyse the potential of a range of tools and use with accuracy Measure and weigh ingredients appropriately to prepare and cook a range of savoury dishes Cut internal shapes Explain how the design of a product has changed over time Build models incorporating circuits with buzzers, bulbs and a motor	
Key Vocabulary: components, manipulate, product, health and safety, shaping, joining , finishing, design criteria , draft, appealing, disposing, packaged, non- packaged , abroad, heated, cooled, utensils, support , collapses	Topic/½ term: Aut 1- Dorset Detectives Aut 2- Marvellous Mixtures Spr 1- Tunnels and Towers	Key Vocabulary: Scraping, sharpening, grinding, mark making, raffia, construct, woven, weave, levers, gravity, dowelling, magnetic, market research, image, collage, tactile, impression, metallic, corrugated, hessian, special effects, gears, pulleys, cams, levers, linkages, hydropower, renewable energy source	Topic/½ term: Aut 1 – Stones and Bones Aut 2- Forces, Magnets and Metals Spr 1- Ancient Greece Spr 2- Predatory Animals and Plants Sum 1- Natural Disasters Sum 2- The World of Rivers	Key Vocabulary: Artefact, source, user, fit for purpose, characteristic, carve- subtractive sculpting, embellish, enhance, air-dried, savoury, design features, visual representation, digital image, stitching, inventor, motor, propeller, buzzers, bulbs	Topic/½ term: Aut 1- Workers and Warriors Aut 2- Amazing America Spr 1- Mighty Mountain Spr 2- Perfect Potions Sum 1- Our Brilliant Bodies Sum 2- The Deep Blue Sea