Progression of skills- Springbank Academy- Design and Technology

Design

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. • Explore different materials freely, in order to develop their ideas about how to use them and what to make.	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. Children design purposeful, functional,	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. Children design purposeful, functional, appealing products for themselves and other users based on design criteria. They generate, develop, model and	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children use research and develop design criteria to inform the design of	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate,	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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.	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. Children 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. They generate, develop, model and

	appealing products for themselves and other users based on design criteria. They generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Children can: a use their knowledge of existing products and their own experience to help generate their ideas; b design	communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Children can: a) design models using simple computing software; b) plan and test ideas using templates and mock-ups; c) understand and follow simple design criteria; d) work in a range of relevant contexts, for example imaginary,	innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Children can: a identify the design features of their products that will appeal to intended customers; b use their knowledge of a	develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. f when designing, explore different initial ideas before coming up with a final design; g when planning, start to explain their choice of materials and components including function and aesthetics; h test ideas out through using prototypes; i use computer-aided design to develop and	They generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children can: a use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market; b use their knowledge of a broad range of existing products to help generate their ideas;	communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design. Children can: e use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas; f generate a range of design ideas and clearly communicate final designs; g consider the availability and costings of resources when planning out designs; work in a broad range of

	products that have a purpose and are aimed at an intended user; c explain how their products will look and work through talking and simple annotated drawings;	story-based, home, school and the wider environment.	broad range of existing products to help generate their ideas; c design innovative and appealing products that have a clear purpose and are aimed at a specific user; d explain how particular parts of their products work; e use annotated sketches and cross-sectional drawings to develop and communicate their ideas;	communicate their ideas j) develop and follow simple design criteria; work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, food industry and the wider environment.	c design products that have a clear purpose and indicate the design features of their products that will appeal to the intended user; d explain how particular parts of their products work;	relevant contexts, for example conservation, the home, school, leisure, culture, enterprise, industry and the wider environment.

Make

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Select and use activities and resources, with help when needed. Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors. Explore how things work.	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. Children can:	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. They select from and use a wide range of materials and components, including construction materials, textiles and ingredients,	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately. They 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.	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately. They select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. They select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of making. Children select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. They select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and

	Planning a with support, follow a simple plan or recipe; b begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer; c select from a range of materials, textiles and components according to their characteristics; d learn to use hand tools and kitchen equipment safely and appropriately and learn to follow hygiene procedures; e use a range of materials and components, including textiles and	according to their characteristics. Children can: Planning i with support, follow a simple plan or recipe; j begin to select from a range of hand tools and equipment, such as scissors, graters, zesters, safe knives, juicer; k select from a range of materials, textiles and components according to their characteristics; l demonstrate how to cut, shape and join fabric to make a simple product; m manipulate fabrics in simple ways to create the desired	Children can: Plan a with growing confidence, carefully select from a range of tools and equipment, explaining their choices; b select from a range of materials and components according to their functional properties and aesthetic qualities; c place the main stages of making in a systematic order; d learn to use a range of tools and equipment safely, appropriately and accurately and learn to follow	aesthetic qualities. Children can: Plan g with growing confidence, carefully select from a range of tools and equipment, explaining their choices; h select from a range of materials and components according to their functional properties and aesthetic qualities; i place the main stages of making in a systematic order; j cut, shape and score materials with some degree of accuracy; k assemble, join and combine	aesthetic qualities. Children can: Planning a independently plan by suggesting what to do next; b with growing confidence, select from a wide range of tools and equipment, explaining their choices; c select from a range of materials and components according to their functional properties and aesthetic qualities; d create step-by-step plans as a guide to making; e learn to use a range of tools and equipment safely and appropriately and learn to follow hygiene	aesthetic qualities. Children can: Planning i independently plan by suggesting what to do next; j with growing confidence, select from a wide range of tools and equipment, explaining their choices; k select from a range of materials and components according to their functional properties and aesthetic qualities; l create step-by-step plans as a guide to making; m shape and score materials with precision and accuracy; n assemble, join and combine materials and

	food ingredients; f with help, measure and mark out; g cut, shape and score materials with some accuracy; h assemble, join and combine materials, components or ingredients;	effect; n use a basic running stich; o cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups; p) begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.	hygiene procedures; e use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components; f with growing independence, measure and mark out to the nearest cm and millimetre;	material and components with some degree of accuracy; l demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product; m)join textiles with an appropriate sewing technique; begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints and digital graphics.	procedures; f independently take exact measurements and mark out, to within 1 millimetre; g use a full range of materials and components, including construction materials and kits, textiles, and mechanical components; h cut a range of materials with precision and accuracy;	components with accuracy; o demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product; p join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch; refine the finish using techniques to improve the appearance of their product, such as sanding or a more precise scissor cut after roughly cutting out a shape.

Evaluate

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills. Share their creations, explaining the process they have used.	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria Children can a explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations; b explain positives and things to improve for existing products;	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Children explore and evaluate a range of existing products. They evaluate their ideas and products against design criteria Children can a as they work, start to identify strengths and possible changes they might make to	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events and individuals in design and technology have helped shape the world. Children can a explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose; b explore what materials/ingredients	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. They understand how key events

	c explore what materials products are made from; d talk about their design ideas and what they are making;	refine their existing design; b) evaluate their products and ideas against their simple design criteria; start to understand that the iterative process sometimes involves repeating different stages of the process.	products are made from and suggest reasons for this;	and individuals in design and technology have helped shape the world. Children can c consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps them to improve their product; evaluate their product against their original design criteria; evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world.	and individuals in design and technology have helped shape the world. Children can a complete detailed competitor analysis of other products on the market;	and individuals in design and technology have helped shape the world. Children can a. critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make; evaluate their ideas and products against the original design criteria, making changes as needed.

Technical knowledge

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Use a range of small tools, including scissors, paintbrushes and cutlery. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Children build structures, exploring how they can be made stronger, stiffer and more stable. They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. Children can a build simple structures, exploring how they can be made stronger, stiffer and more stable;	Children build structures, exploring how they can be made stronger, stiffer and more stable. They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. Children can b talk about and start to understand the simple working characteristics of materials and components;	Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program,	Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products. Children can	Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products.	Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. They apply their understanding of computing to program, monitor and control their products. Children can: b understand and

			monitor and control their products. Children can a understand that materials have both functional properties and aesthetic qualities; b apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;	c understand and demonstrate how mechanical and electrical systems have an input and output process; d make and represent simple electrical circuits, such as a series and parallel, and components to create functional products; e explain how mechanical systems such as levers and linkages create movement; use mechanical systems in their products.	Children can: a apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products;	demonstrate that mechanical and electrical systems have an input, process and output; explain how mechanical systems, such as cams, create movement and use mechanical systems in their products; apply their understanding of computing to program, monitor and control a product.

Cooking and nutrition

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Use a range of small tools, including scissors, paintbrushes and cutlery. Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	Children use the basic principles of a healthy and varied diet to prepare dishes. **Children can** a explain where in the world different foods originate from; b understand that all food comes from plants or animals;	Children use the basic principles of a healthy and varied diet to prepare dishes. Children can c food has to be farmed, grown elsewhere (e.g. home) or caught; d name and sort foods into the five groups in the Eatwell Guide; e)understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why; use what they know about the Eatwell Guide to design and	Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Children can: a start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world; b understand	Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Children can: e explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when	Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Children can: a know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK,	Children understand and apply the principles of a healthy and varied diet. They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Children can: f explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles

		prepare dishes.	how to prepare and cook a variety of predominantly savoury dishes safely and hygienically; c with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven; d use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking;	planning and cooking dishes; f understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body; g prepare ingredients using appropriate cooking utensils; h measure and weigh ingredients to the nearest gram and millilitre; start to independently follow a recipe; start to understand seasonality.	Europe and the wider world; b understand about seasonality, how this may affect the food availability and plan recipes according to seasonality; c understand that food is processed into ingredients that can be eaten or used in cooking; d demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source; e demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling;	when planning and preparing dishes; g adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma; h alter methods, cooking times and/or temperatures; i measure accurately and calculate ratios of ingredients to scale up or down from a recipe; j. independently follow a recipe.