Design and technology progression of skills ladder.

Area/skill	Designing a. Understanding contexts, purpose and users. b. Generating, developing and communicating ideas.	Making a. Planning. b. Practical skills and techniques.	Evaluating a. Own ideas and products. b. Excising products, Key events and individuals.	Technical Knowledge a. Making products work.	Cooking and nutrition. a. Where food comes from. b. Food preparation, nutrition and cooking.
Year 1	a. Working with a range of story context e.g. story based, playground. State what products they are designing and making and able to describe what they are used for. Say whether products are for themselves or others. b. Use existing knowledge of products to generate their own original ideas. Beginning to design and communicate ideas by drawing and talking.	a. Plans by suggesting what to do next. Selects from a range of tools, materials and components. b. Follows procedures for hygiene and safety. Uses a range of materials, components, construction kits, textiles, food ingredients and mechanical products. Measures, marks out, shapes and cuts out most materials.	a. Talk about their design ideas and what they are making. Talk about how to make their products better. b. Explore what products are, what they are made from, who they are for, how they are used, where they are from. Talks about likes and dislikes of existing products.	a. Recognise a range of technologies is used in places such as homes and schools. Select and use technology for specific purposes. They know how to operate simple equipment and show an interest in toys with flaps, buttons, and mechanisms and can operate them successfully. Understand the simple mechanisms such as levers, sliders, wheels and axels. Recognise that food products should be combined according to their sensory characteristics. Beginning to use technical vocabulary.	a. Recognise that food comes from plants or animals. Food is grown, farmed or caught elsewhere. b. Name and sort foods into 5 groups 'eat well plate'. Begin to recognise that they should eat at least 5 portions of fruit and veg a day. Prepare some simple dishes using techniques such as; cutting, peeling and grating.
Year 2	a. Working with a range of story context e.g. imaginary industry and wider environment. State what products they are designing	a. Plans by suggesting what to do next. Selects from a range of tools, materials and components. Explains their choices.	a. Talk about their design ideas and what they are making. Use a success criteria to make choices and judgements about their products. Talk and	**a.** Recognise a range of technologies is used in places such as homes and schools. Select and use technology for specific purposes. They know how	A. Recognise that food comes from plants or animals. Food is grown, farmed, imported or caught elsewhere.

Design and technology progression of skills ladder.

	and making and able to describe what they are used for. Say whether products are for themselves or others. Say how the products work and how they are suitable for intended users. Use a simple success criteria to develop their ideas. **b.** Generate ideas by drawing on personal experiences. Use existing knowledge of products to generate their own original ideas. Beginning to design and communicate ideas by drawing and talking. Model ideas by exploring components, materials, construction kits, by making templates and mock ups.	**b.** Follows procedures for hygiene and safety. Uses a range of materials, components, construction kits, textiles, food ingredients and mechanical products. Measures, marks out, shapes and cuts out most materials. Assembles, joins and combines materials and components.	write about how to make their products better. **b.** Explore what products are, what they are made from, who they are for, how they are used, where they are from. Talks about likes and dislikes of existing products. And able to give reasons.	to operate simple equipment and show an interest in toys with flaps, buttons, and mechanisms and can operate them successfully. Understand the simple mechanisms such as levers, sliders, wheels and axels. Recognise that food products should be combined according to their sensory characteristics. Beginning to use technical vocabulary. Understands how free standing structures can be made stronger, stiffer and more stable. Recognise how 3D shapes can be assembled from two identical fabric shapes.	**B.** Name and sort foods into 5 groups 'eat well plate'. Begin to recognise that they should eat at least 5 portions of fruit and veg a day. Know how to prepare some simple dishes safely and hygienically without using a heat source using techniques such as; cutting, peeling and grating.
Year 3	a. Working confidently within a range of contexts, such as home, school, leisure and industry. Describe the purpose of the products. Indicate the design features of their product. Gather information about the wants or needs of individuals or groups. Develop their own success criteria.	**a.** Select tools and equipment suitable to the tasks. Explain their choices, giving evidence. Selects materials and components suitable to the task. Order the main stages of making logically. **b.** Follow procedures for safety and hygiene. Use a wide range of materials and components e.g. textiles, mechanical,	a. Identify strengths and weaknesses of their ideas and products. Consider the views of others including intended users to influence their product. Refer to their design criteria whilst they design and make. Use their design criteria to evaluate what they have made.	Uses learning from science and mathematics to design and make products that work. Understand that materials have functional and aesthetic qualities. Recognise that materials can be combined and mixed to combine more useful characteristics. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products. Make	A. Recognise that food comes from plants or animals. Food is grown, farmed, imported or caught elsewhere, regionally and internationally. B. Know how to cook and prepare both sweet and savoury dishes safely and hygienically without using a heat source using

Design and technology progression of skills ladder.

	b. Share and clarify ideas through discussion. Model using prototypes. Use annotated diagrams and some computer aided design packages to develop and communicate ideas.	construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with some accuracy. Able to apply several finishing techniques.	b. Investigate and analyse how well their product has been designed and made; why materials have been chosen, what methods of construction were used, how well the products worked. Recognise successful inventors, designers, chefs and engineers who have been influential in the design and technology industries.	strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a range of fresh, pre-cooked and processed foods.	techniques such as; cutting, peeling and grating, mixing, spreading, kneading and baking. Recognise that a healthy diet is made up of a variety of balanced foods and drinks. Knows that to be active and healthy food is needed for energy for the body.
Year 4	A. Working confidently within a range of contexts, such as home, school, leisure, Culture and industry. Describe the purpose of the products. Indicate the design features of their product. Gather information about the wants or needs of individuals or groups. Develop their own success criteria and use this to inform their ideas. B. Share and clarify ideas through discussion. Model using prototypes and pattern pieces. Use annotated sketches, diagrams and some computer aided design packages to develop and	A. Select tools and equipment suitable to the tasks. Explain their choices, giving evidence. Selects materials and components suitable to the task. Order the main stages of making logically. B. Follow procedures for safety and hygiene. Use a wide range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and	A. Identify strengths and weaknesses of their ideas and products. Consider the views of others including intended users to influence their product. Refer to their design criteria whilst they design and make. Use their design criteria to evaluate to improve a completed task. B. Investigate and analyse how well their product has been designed and made; why materials have been chosen, what methods of construction were used, how well the products worked, have they achieved their	A. Uses learning from science and mathematics to design and make products that work. Understand that materials have functional and aesthetic qualities and apply this to their design and making process. Recognise that materials can be combined and mixed to combine more useful characteristics. Know that mechanical and electrical systems have input, process and output. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create	A. Recognise that food comes from plants or animals. Food is grown, farmed, imported or caught elsewhere, regionally (and on a local scale) and internationally. B. Know how to cook and prepare both sweet and savoury dishes safely and hygienically without using a heat source using techniques such as; cutting, peeling and grating, mixing, spreading, kneading and baking. Recognise that a healthy diet is made up of a variety of balanced foods and

Design and technology progression of skills ladder.

	communicate ideas. Create realistic ideas with a focus on the needs of the user. Making design decisions with availability of resources in mind.	components with some accuracy. Using a range of materials and components. Able to apply several finishing techniques.	purpose. Recognise successful inventors, designers, chefs and engineers who have been influential in the design and technology industries.	functional products. Use computer and electrical programming to control their product. Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a range of fresh, pre-cooked and processed foods.	drinks. Knows that to be active and healthy food is needed for energy for the body.
Year 5	A. Working confidently within a range of contexts, such as home, school, leisure, Culture, enterprise, wider environment and industry. Describe the purpose of the products. Indicate the design features of their product. Gather information about the wants or needs of individuals or groups. Develop their own success criteria and use this to inform their ideas. Carry out research and interviews of intended users to find out their wants, needs and preferences. Develop a design specification to guide their thinking. B. Share and clarify ideas through discussion. Model using prototypes and pattern pieces. Use annotated sketches, cross sectional drawings, diagrams and some computer aided	A. Select tools and equipment suitable to the tasks. Explain their choices, giving evidence. Selects materials and components suitable to the task. Formulate a step by step plan for the designing and making process. Produce a list of tools, materials and components suitable for completing. B. Procedures for safety and hygiene. Use a wide range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with some accuracy. Using a range of	A. Identify strengths and weaknesses of their ideas and products. Consider the views of others including intended users to improve their product. Refer to their design criteria whilst they design and make. Use their design criteria to evaluate to improve a completed task. Critically evaluate the quality of the design, manufacture and fit for purpose of the product. Evaluate their ideas and products against their original design specification. B. Investigate and analyse how well their product has been designed and	A.Uses learning from science and mathematics other subjects and sources to design and make products that work. Understand that materials have functional and aesthetic qualities and apply this to their design and making process. Recognise that materials can be combined and mixed to combine more useful characteristics. Know that mechanical and electrical systems have input, process and output. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products. Use more complex computer and electrical programming to control their product. Make	A.Recognise that food comes from plants or animals. Food is grown, farmed, imported or caught elsewhere, regionally (and on a local scale) and internationally. Begin to understand that seasons and weather effect food availability. Begin to understand how food is processed into ingredients that can be used in cooking or eaten. B. Know how to cook and prepare both sweet and savoury dishes safely and hygienically without using a heat source using techniques such as;

Design and technology progression of skills ladder.

	design packages to develop and communicate ideas. Create realistic ideas with a focus on the needs of the user. Making design decisions with availability of resources in mind. Generate innovative ideas based on their prior research. Make design decisions based on cost, time and resource constraints.	materials and components. Able to accurately apply several finishing techniques including those from art and design sessions. Use techniques that involve resourcefulness when trying to solve a problem during the process of making.	made; why materials have been chosen, what methods of construction were used, how well the products worked, have they achieved their purpose. Investigate who designed the products, where were they made, when products were designed and made; whether products can be reused or recycled. Consider cost and sustainability. Recognise successful inventors, designers, chefs and engineers who have been influential in the design and technology industries.	strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D can be made from a range textile products and a combination of fabric shapes with reinforcements. Recognise a range of fresh, pre-cooked and processed foods. Know that mechanical systems eg. Cams, pulleys or gears create movement. Adapt recipes by adding or substituting one or more ingredients.	cutting, peeling and grating, mixing, spreading, kneading and baking. Recognise that a healthy diet is made up of a variety of balanced foods and drinks. Knows that to be active and healthy food is needed for energy for the body. Know that recipes can be adapted to change the taste, texture, aroma and appearance. Know that different foods contain substances that are needed for health e.g. water, vitamins, fibre and nutrients.
Year 6.	A.Working confidently within a range of contexts, such as home, school, leisure, Culture, enterprise, wider environment and industry. Describe the purpose of the products. Indicate the design features of their product. Gather information about the wants or needs of individuals or groups. Develop their own success criteria and use this to inform their ideas. Carry out research using various web resources and	A. Select tools and equipment suitable to the tasks. Explain their choices, giving evidence. Selects materials and components suitable to the task. Formulate a step by step plan for the designing and making process. Produce a list of tools, materials and components suitable for completing. Begin to plan	A. Identify strengths and weaknesses of their ideas and products. Consider the views of others including intended users to improve their product. Refer to their design criteria whilst they design and make. Use their design criteria to evaluate to improve a completed task. Critically evaluate the	A.Uses learning from science and mathematics other subjects and sources to design and make products that work. Understand that materials have functional and aesthetic qualities and apply this to their design and making process. Recognise that materials can be combined and mixed to combine more useful characteristics. Know that mechanical and electrical systems have input, process	A.Recognise that food comes from plants or animals. Food is grown, farmed, imported or caught elsewhere, regionally (and on a local scale) and internationally. Begin to understand that seasons and weather effect food availability. Begin to understand how food is processed into

Design and technology progression of skills ladder.

	interviews of intended users to find out their wants, needs and preferences. Develop a detailed design specification to guide their planning and thinking. B.Share and clarify ideas through discussion. Model using prototypes and pattern pieces. Use annotated sketches, cross sectional drawings, diagrams and some computer aided design packages to develop and communicate ideas. Create realistic ideas with a focus on the needs of the user. Making design decisions with availability of resources in mind. Generate innovative ideas based on their prior research. Begin to combine ideas from various sources. Make design decisions based on cost, time and resource constraints.	costings using a spread sheet. B. Procedures for safety and hygiene. Use a wide range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. Measures, marks out, cuts and shapes materials and components with some accuracy. Using a range of materials and components. Able to accurately apply several finishing techniques including those from art and design sessions. Use techniques that involve resourcefulness, resilience and innovation when trying to solve a problem during the process of making. Explain next steps in their learning drawing on their prior experience.	quality of the design, manufacture and fit for purpose of the product. Evaluate their ideas and products against their original design specification. B. Investigate and analyse how well their product has been designed and made; why materials have been chosen, what methods of construction were used, how well the products worked, have they achieved their purpose. Investigate who designed the products, where were they made, when products were designed and made; whether products can be reused or recycled. Consider cost and sustainability. Recognise successful inventors, designers, chefs and engineers who have been influential in the design and technology industries.	and output. Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products. Use more complex computer and electrical programming to control their product. Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D can be made from a range textile products and a combination of fabric shapes with reinforcements. Recognise a range of fresh, pre-cooked and processed foods. Know that mechanical systems eg. Cams, pulleys or gears create movement. Adapt recipes by adding or substituting one or more ingredients.	ingredients that can be used in cooking or eaten. B.Know how to cook and prepare both sweet and savoury dishes safely and hygienically without using a heat source using techniques such as; cutting, peeling and grating, mixing, spreading, kneading and baking. Recognise that a healthy diet is made up of a variety of balanced foods and drinks. Knows that to be active and healthy food is needed for energy for the body. Know that recipes can be adapted to change the taste, texture, aroma and appearance. Know that different foods contain substances that are needed for health e.g. water, vitamins, fibre and nutrients.