Design and Technology Curriculum Sequence – Year 3

Honesty	Love	Forgiveness	Respect	Cultural Capital Opportunities		
Learning to communicate with confidence Asking for help when necessary Giving criticism kindly	Offering to help Giving praise to self and others	Being able to accept kind criticism Learn to be patient when sharing	Appreciating the efforts of others Looking after equipment, materials, the classroom environment and each other's work	Investigating products in the school environment, the locality and at home Learning about the impact of nutrition on health Learn about significant designers who have shaped the locality, the UK and the world- **Albert L Jones** (corrugated cardboard), **Margaret Knight** (paper bag machine), **John Montague**, Earl of Sandwich Learning where food comes from Learning to use unfamiliar equipment and materials		

A Love Of Language	Aspirations	Bringing Learning To Life	Emotional Well-Being	Resilience	Valuing Our Diversity	Respect and Responsibility
Reading: -reading technical and other key vocabulary -reading instructions -reading age appropriate information about designers and products -reading peers' writing **Listening:** -listening to instructions -listening to video clips -listening to partners and team members **Speaking:** -communicating with partners and team members -asking questions -using technical and other key vocabulary -describing and explaining ideas, decisions and opinions **Writing:** -labelling drawings -writing technical and other key vocabulary -writing instructions -writing product evaluations	Identify the ways a product will meet the design criteria Identify the positive effect the product will have on the intended user Self-evaluate their use of equipment and skills and set their own targets for improvement Aspire to become a designer, inventor, mechanical engineer, architect, chef	Evaluating a variety of existing products Visits to the locality to investigate products Practical use of a range of techniques and materials Making products that function and are appealing	Learning to be supportive and cooperative Being proud of what they have accomplished	Being willing to take risks Persevering with new techniques and equipment Know that practise brings improvement	Learning about foods from around the world Finding out about and valuing people's preferences	Listening to safety instructions and using equipment with care Looking after equipment, materials, the classroom / local environment and each other's work Giving praise (to self as well as others) Giving criticism kindly Accept kind criticism Asking for help when necessary Offer to help Learn to be patient when sharing

What will they learn?		In what order?			End points
Key Concepts	Key Skills	Autumn 1	Spring 1	Summer 1	
Prepare ingredients hygienically using appropriate utensils.

Cut materials accurately and safely by selecting appropriate tools.

Join textiles with appropriate stitching

Create series and parallel circuits.

Design with purpose by identifying opportunities to design.

Refine work and techniques as work | **Designing**
• Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user.
• Use annotated sketches and prototypes to develop, model and communicate ideas.
• Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product.
• Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas.
• Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose.
• Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.

Making
• Order the main stages of making.
• Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.
• Select from and use finishing techniques suitable for the product they are creating. • Order the main stages of making.
• Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy.
• Explain their choice of materials according to functional properties and aesthetic qualities. | **COOKING AND NUTRITION:** Healthy and Varied Diet
Technical knowledge and understanding
• Know and use relevant technical and sensory vocabulary appropriately: name of products, names of equipment, utensils, techniques and ingredients, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet, planning, design criteria, purpose, user, annotated sketch, sensory evaluations
Technical knowledge and understanding
• Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.
Technical knowledge and understanding
• Know how to use appropriate equipment and utensils to prepare and combine food.
Evaluating
• Carry out sensory | **STRUCTURES: Shell Structures**
Technical knowledge and understanding
• Know and use technical vocabulary relevant to the project: shell structure, three dimensional (3-D), net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype
Evaluating
• Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used.
Designing
• Develop ideas through the analysis of existing shell structures and use computer-aided design to model and communicate ideas.
Evaluating
• Investigate the work | **MECHANISMS:** Levers and Linkages
Technical knowledge and understanding
• Know and use technical vocabulary relevant to the project: mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating, user, purpose, function, prototype, design criteria, innovative, appealing, design brief
Evaluating
• Investigate and analyse products with lever and linkage mechanisms.
Technical knowledge and understanding
• Understand and use lever and linkage mechanisms.
Technical knowledge and understanding
• Distinguish between fixed | **Autumn:**
• Carries out sensory evalutions of a variety of ingredients and products, recording evaluations using tables and simple graphs and cross-sectional diagrams.
• Investigate the work of designers linked to the project.
• Generates and clarifies ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose.
• Knows about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.
• Uses annotated sketches and web-based recipes to develop and communicate ideas.
• Knows how to use appropriate equipment and utensils to prepare and combine food.
• Plans the main stages of a recipe, listing ingredients, utensils and equipment.
• Selects and uses appropriate utensils and equipment to prepare and combine ingredients.
• Selects from a range of ingredients to make appropriate food products based on sensory characteristics.
• Knows and uses relevant technical and sensory vocabulary appropriately
• Evaluates the ongoing work and the final product with reference to the design criteria and the views of others.

Spring:
• Develops ideas through the analysis of existing shell structures.
• Investigate the work of designers linked to the project.
• Uses computer-aided design to model ideas.
• Investigates and evaluates a range of shell structures including materials, components and techniques that have been used.
• Develops and uses knowledge of nets to make 3D shapes.
• Develops and uses knowledge of how to construct strong, stiff shell structures.
• Generates realistic ideas and design criteria, focusing on the needs of the user and the functional and aesthetic purposes of the product.
• Plans the order of the main stages of making.
• Selects and uses appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy.
• Explains their choice of materials according to functional properties and aesthetic qualities. |

progresses, continually evaluating the product design. Identify some of the great designers in all of the areas of study to generate ideas for designs.	• Use finishing techniques suitable for the product they are creating. • Plan the main stages of a recipe, listing ingredients, utensils and equipment. • Select and use appropriate utensils and equipment to prepare and combine ingredients. • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. **Evaluating** • Investigate and analyse books and, where available, other products with lever and linkage mechanisms. • Evaluate their own products and ideas against criteria and user needs, as they design and make. • Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used. • Test and evaluate their own products against design criteria and the intended user and purpose. • Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. • Evaluate the ongoing work and the final product with reference to the design criteria and the views of others. **Technical knowledge and understanding** • Know and use technical vocabulary relevant to the projects. • Understand and use lever and linkage mechanisms. • Distinguish between fixed and loose pivots. • Develop and use knowledge of how to construct strong, stiff shell	evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. **Evaluating** • Investigate the historical development of the sandwich, including John Montagu, 4th Earl of Sandwich. **Designing** • Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. **Designing** • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. **Making** • Plan the main stages of a recipe, listing ingredients, utensils and equipment. **Making** • Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. **Making** • Select and use appropriate utensils and	of designers such as Albert L Jones (corrugated card), Margaret Knight (paper bag machine) William Walsh (The Green Box environmentally friendly food containers). **Technical knowledge and understanding** • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. **Technical knowledge and understanding** • Develop and use knowledge of how to construct strong, stiff shell structures. **Designing** • Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product. **Making** • Plan the order of the main stages of making. **Making** • Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy. **Making** • Explain their choice of materials according	and loose pivots. **Designing** • Develop ideas through the analysis of existing products with levers and linkage mechanisms and use computer-aided design to model and communicate their ideas. **Designing** • Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product. **Making** • Order the main stages of making. **Making** • Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. **Making** • Select from and use finishing techniques suitable for the product they are creating. **Evaluating** • Evaluate their	• Uses computer-generated finishing techniques suitable for the product they are creating. • Knows and uses relevant technical vocabulary. • Tests and evaluates their own products against design criteria and the intended user and purpose. **Summer:** • Evaluates products with lever and linkage mechanisms. • Understands and uses lever and linkage mechanisms. • Distinguishes between fixed and loose pivots. • Knows and uses technical vocabulary relevant to the project. • Generates realistic ideas and their own design criteria through discussion, focusing on the needs of the user. • Uses annotated sketches and prototypes to develop, model and communicate ideas. • Orders the main stages of making. • Selects from and uses appropriate tools with some accuracy to cut, shape and join paper and card. • Selects from and uses finishing techniques suitable for the product they are creating. • Evaluates their own products and ideas against criteria and user needs, as they design and make.

structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use relevant technical and sensory vocabulary appropriately.• Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.	equipment to prepare and combine ingredients. <u>Evaluating</u> • Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.	to functional properties and aesthetic qualities. <u>Making</u> • Use computer-generated finishing techniques suitable for the product they are creating. <u>Evaluating</u> • Test and evaluate their own products against design criteria and the intended user and purpose.	own products and ideas against criteria and user needs, as they design and make.