ST. MARK'S CE SCHOOL

		Autumn	Spring	Summer
		The foundations of our design technology curriculum are developed in year R to ensure that the children are well prepared for year 1. In year R, design technology skills are explicitly taught to the children; they are also given opportunities to apply these through their play.		
EYFS		**Year R Art and Design Foundations** ● Have exposure to and use various construction materials through play. **Design** ● Children think about what they want to make, how they may do it and the materials and resources that they may need to shape, assemble and join the materials they are using. **Make** ● Children begin to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. ● Joins construction pieces together to build and balance. ● Uses simple tools and techniques competently and appropriately. **Evaluate** Children adapt their work where necessary to improve their construction		
		Early Learning Goal: Creating with Materials Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used. Make use of props and materials when role playing characters in narratives and stories.		
		Half Termly Milestones for Design Technology		

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Explore materials freely e.g. junk modelling	Start to develop and explain their own ideas and with help can decide which materials they can use to express them.	Children can join materials together e.g. adhesive tape, different types of glue	Children can plan what thet are making for a purpose and overcome problems during the process 'Something for somebody for some purpose'.	Choosing, combining and decorating materials -manipulates materials to achieve a planned effect: 'Something for somebody for some purpose'.	Choosing, combining and decorating materials -manipulates materials to achieve a planned effect: 'Something for somebody for some purpose'.

Year 1

Curriculum Content (Core Knowledge and Vocabulary outlined on the Knowledge Organiser).

Year 1	Autumn Year 1	Spring Year 1	Summer Year 1
			1.2 Summer 1: Materials – Pop-up fairy tale story **Design** -Begin to understand the development of existing pop up books: What they are for, how they work, what materials and mechanisms are used? -Design their own pop-up book using a design criteria through talk and drawings. **Make** --Begin to demonstrate a range of gluing, cutting and shaping techniques (such as tearing, cutting, folding, joining and finishing). -Make use of mechanisms in their products (levers, sliders and pivots). **Evaluate** -Discuss how well the product works. Explain likes and dislikes Future Learning: 2.2, 3.1, 4.2, 5.1

1.1 Food Technology: Afternoon tea on the moon (sandwiches)

-Start to understand where food comes from.

-Explore and evaluate a range of existing dishes using the basic principles of a healthy and varied diet to
-design dishes that meet the design criteria. Develop their ideas through talk and drawings.
- prepare simple dishes safely and hygienically, without using a heat source.
-Know how to use techniques such as cutting, peeling and grating.
- Evaluate their dishes against the design criteria

Future Learning: 2.1, 3.2, 4.3, 5.2, 7.1, 7.2

Year 2		
Curriculum Content (Core Knowledge and Vocabulary outlined on the Knowledge Organiser).		
Autumn Year 2	Spring Year 2	Summer Year 2

Year 2	**2.1 Autumn 1: Food Technology: Harvest Festival (Soup)**		
	DESIGN -understand that all food comes from food or animals, knowing that it has to be farmed, grown elsewhere or caught. -Revisit and review the key principles of healthy eating from Year 1 (1.1) and be able to sort food into groups. -use the basic principles of a healthy and varied diet to design dishes , considering a target audience where appropriate **Make** -Measure or weigh using measuring cups or electronic scales. Learn about the purpose of a recipe and begin to follow a simple recipe. -Demonstrate how to prepare simple dishes safely and hygienically, using techniques learnt in year 1 such as cutting, peeling and grating (1.1). -Use of a heat source to finish preparation **Evaluate** -Start to evaluate their products as they are developed, identifying strengths and possible changes they might make. Future Learning: 3.2, 4.3, 5.2, 7.1, 7.2		
	2.2 Autumn 2: Materials: (Mechanisms) build a fire engine: **Design** -Explore and evaluate a range of moving products. -develop design ideas through discussion, observation, drawing and modelling. -Identify a target group for the product and design criteria **Make** -select tools and equipment to build structures: (review year 1 skills such as tearing, cutting, folding, joining and finishing 1.2)). -build structures, exploring how they can be made stronger, stiffer and more stable -Explore and use mechanisms in their products (levers,		**2.3 Summer 2: Textiles: Pirate hat** **Design** -Explore and evaluate a range of products. -develop design ideas through discussion, observation, drawing and modelling (2.2). -Identify a target group for the product (2.2) and design criteria -Create templates and a mock up prototype to support with making. **Make** -cut, shape and assemble fabric for joining - Use a RUNNING STITCH to join fabrics -Start to choose and use appropriate finishing techniques based on own ideas.

	wheels and winding mechanisms). **Evaluate** -Evaluate against the design criteria -Identify strengths and possible changes they might make Future Learning: 3.1, 4.2, 5.1, 7.5, 7.6		**Evaluate** -Evaluate against the design criteria -Identify strengths and possible changes they might make (2.2) Future Learning: 3.3, 4.1, 6.2, 7.1, 7.2

Year 3

Curriculum Content (Core Knowledge and Vocabulary outlined on the Knowledge Organiser).

| Year 3 | **3.1 Autumn 1: Materials: Build your own Stonehenge**

Design
-Use research to understand the design, the materials used and the construction technique
-Design -considering which materials can be used to strengthen, stiffen (2.2) and reinforce their structure. -Make templates and mock-ups of their ideas in card and paper. Measure, mark out, cut, score and assemble components with more accuracy.

Make
-Select from a wider range of tools and techniques (KS1- tearing, cutting, folding, joining and finishing 1.2, 2.2).and explain the choices they have made based on their
functional properties.

Evaluate
-Think about ideas as they make progress and make adaptations to strengthen, stiffen or reinforce.
-Evaluate their structure against their original design

criteria Future Learning: 4.2, 5.1, 7.5, 7.6 | **3.3 Spring 1: Textiles: Animal Puppets**

Design
-To investigate and evaluate a range of existing hand puppets. -To come up with own ideas through discussion and annotated sketches in the context of designing a hand puppet.
-to explore and design a functional design for their hand puppet. -Review the use of prototypes in year 2 for the pirate hats (2.3). Develop pattern pieces/prototypes for the puppets.

Make
-To select from and use a range of tools and equipment to create an animal puppet.
-cut, shape and assemble fabric for joining with increasing accuracy (showing an understanding of seam allowance). -REVISE the use of a RUNNING STITCH from year 2 (2.3) - Use a RUNNING STITCH to join fabrics
-Start to choose and use appropriate finishing techniques (2.3) based on own ideas, such as adding on buttons, beads or sequins

Evaluate
-Start to evaluate their product against original design criteria and through testing - how well did it meet its purpose?

Future Learning: 4.1, 6.2, 7.1, 7.2 | **Summer 1:** |

3.2 Autumn 2 Food Technology: Making Bread

-Start to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK.
-Start to understand that a healthy diet is made up of variety and balance of different food and drink.

Design
-Identify a purpose and establish design criteria for a successful bread dish, by exploring familiar products.
Make
Measure or weigh (2.1) using measuring cups or electronic scales. Follow a recipe.
- Prepare the dish safely and hygienically (2.1) using a range of techniques such as mixing, spreading, kneading and baking using a heat source.
Evaluate
-Evaluate the product against the design criteria - how well did it meet its purpose? Focus on taste and appearance.

Future Learning: 4.3, 5.2, 7.3, 7.4

Year 4
Curriculum Content (Core Knowledge and Vocabulary outlined on the Knowledge Organiser).

Year 4	**4.1 Autumn 1: Textiles – Pencil Cases**	Spring 1:	**4.3 Summer 1: Food Technology – European Cuisine**
	Design -With growing confidence generate ideas for an item, considering its purpose and audience- seek out the views of target audience through market research. -design the pencil cases using labelled drawings from different views showing specific features. -Review the use of patterns and prototypes (2.3, 3.2) to ensure accuracy when making. **Make** -cut, shape and assemble fabric for joining with increasing accuracy (showing an understanding of seam allowance). -REVISE the use of a RUNNING STITCH from year 2 and 3 2.3, 3.2) - learn the BACKSTITCH (JOINING for straight lines) -learn the whipstitch (for joining two pieces - Children to start to choose appropriate stitches and explain their choice of technique. -Start to choose and use appropriate finishing techniques based on own ideas, such as adding on buttons, beads or sequins (3.2) or using the CROSS STITCH to add decorative detail **Evaluate** -Evaluate their products against the design criteria and by seeking feedback from their target audience. Future Learning: 6.2, 7.1, 7.2		**Design** -Start to know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK (3.2), and Europe. - understand the seasonality of foods, considering which foods are available in the different seasons. **Make** -Measure or weigh using measuring cups or electronic scales - Prepare European dishes (following recipes) safely and hygienically using a range of techniques such as cutting, peeling, grating (key stage 1), mixing, spreading, kneading and baking (year 3.2) chopping, slicing, and using a heat source. **Evaluate** -Evaluate and begin to seek evaluation from others, focusing on taste, aroma, texture and appearance. Future Learning: 5.2
		4.2 Spring 2: Materials: Battery Powered Buggies -Understanding of the invention of automobiles and their development over time due to key events and inventors (e.g. Karl Benz). **Design** -Use research to generate ideas, considering the purposes for which they are designing - design the buggies using labelled drawings from different views showing specific features. -explain their choice of materials and components according to function (3.1) and aesthetic. **Make**	

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		-Construct a 2D frame structure using woodwork and joinery -Understand and use mechanical systems in their products (gears, cams) -Understand and use electrical systems in their products (circuits, motors, bulbs). **Evaluate** -Evaluate their products against the design criteria and by carrying out appropriate tests (race). Future Learning: 5.1, 7.5, 7.6	

Year 5

Curriculum Content (Core Knowledge and Vocabulary outlined on the Knowledge Organiser).

Year 5	5.1 Autumn 2: Mechanisms – Fairground Rides		5. 2 Food: Greek Cuisine
	--Understanding of the invention of fairground rides and their development over time due to key events and inventors (e.g. Frederick Savage). REVIEW OF YEAR 4 ELECTRICITY KNOWLEDGE (Sci 4.4) **Design** -Use research to develop design criteria to create a product fit for purpose (Carousel or Ferris Wheel). -Generate and communicate ideas through discussion, annotated and cross-sectional sketches (4.2) and exploded view diagrams. **Make** -Construct a 3D frame structure using woodwork and joinery. PROGRESSION IN JOIN FROM YEAR 4 -Understand and use mechanical systems in their products (axle pulley) -Understand and use electrical systems in their products (circuits, motors (4.2), switches). - Apply their understanding of computing to program their models using FLOWOL **Evaluate** -Evaluate products against the design criteria		**Design** -Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe (3.2, 4.3) and the wider world. - Review seasonality and the foods available in the different seasons (4.3). Begin to understand that seasons may affect the food available and understand how we are able to get food that is not in season. - Research and plan Greek cuisine dishes, taking into account the key principles of a healthy, balanced diet (3.2). **Make** -prepare and cook a variety of GREEK, predominantly savoury, dishes safely and hygienically. With growing confidence select appropriate materials, tools and techniques such as: cutting, peeling, grating (1.1, 2.1), mixing, spreading, kneading and baking (3.2) chopping, slicing, and using a heat source (4.3).

	Future Learning: 7.5, 7.6			**Evaluate** - Evaluate dishes (star diagram) Future Learning: 7.3, 7.4

Year 6

Curriculum Content (Core Knowledge and Vocabulary outlined on the Knowledge Organiser).

Year 6	6.1 Autumn 2: 3D computer Aided Design (Cross curricular application – Computing)		6.2 Autumn 2: Textiles: Bags inspired by key fashion designers
	Knowledge and Skills: -CAD (computer aided design) is the use of a computer itself to be able to design a product. Designers can create a series of designs to better communicate their ideas. -Learn how to view, move, rotate, size up, group and align within Tinkercad. **Design & Make** Use these tools to develop initial designs using 3D software in the design process. **Evaluate** -Develop and review designs against the design brief. -Render the design adding tone and colour to make it look more realistic.		-Evaluate the designs and work of key fashion designers that have helped to shape the fashion industry over time (Link to Lesson 4 of the art unit). **Design** -Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. -Draw up a specification for their design and plan the order of their work. **Make** -Show an understanding of the qualities of materials to choose appropriate tools to cut and shape. Cut with precision and refine finish when necessary. - Create products using pattern pieces and seam allowances. -Join fabrics by applying a range of stitches - Review and revisit BACK STITCH, RUNNING STITCH, CROSS STITCH, and WHIPSTITCH (3.3, 4.1) and learn how to OVERSTITCH. -Accurately apply a range of finishing techniques for decoration. **Evaluate** -Evaluate their work both during and at the end of the assignment. Record their evaluations using drawings with labels. -Evaluate against their original criteria and suggest ways that their product could be improved.

		Future Learning: 7.1, 7.2