

St Marys Design Technology Curriculum

Reception

The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. The most relevant early years outcomes for Design Technology are taken from the following areas of learning:

- Physical Development
- Understanding the world
- Expressive Arts and Design

	Autumn	Spring	Summer
	A Dinosaur world Endpoint: Make a mini Dinosaur world using junk modelling and paints	Gingerbread Men Endpoint: Design and make a gingerbread biscuit	Pirate Ships Endpoint: Make a pirate ship

Infants (Year 1 and 2) Cycle 1

	Autumn	Spring	Summer
CYCLE 1	<p>Vehicles – Axles and wheels</p> <p>Design: design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <ul style="list-style-type: none"> • generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups. <p>Make:</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • select from and use a wide range of materials and components, including construction materials, according to their characteristics <p>Evaluate:</p> <ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria <p>Technical knowledge:</p> <ul style="list-style-type: none"> • build structures, exploring how they can be made stronger, stiffer and more stable • explore and use mechanisms [wheels and axles], in their products. <p>Endpoint: Make a vehicle</p>	<p>Bunting</p> <p>Design:</p> <ul style="list-style-type: none"> • design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make:</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining by sewing and finishing] • select from and use a wide range of materials, textiles and accessories. <p>Evaluate:</p> <ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria <p>Technical knowledge:</p> <ul style="list-style-type: none"> • sew using a simple running stitch and using a smaller stitch to secure components accurately <p>Endpoint: Design and make a fabric bunting flag</p>	<p>Healthy Eating - Dips and Dippers</p> <p>Design:</p> <ul style="list-style-type: none"> • design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking. <p>Make:</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to perform practical tasks [for example, cutting, chopping] • select from and use appropriate healthy ingredients, according to their characteristics <p>Evaluate:</p> <ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria <p>Technical knowledge:</p> <ul style="list-style-type: none"> • Using the correct tools and appliances safely • Follow safe procedures for food safety and hygiene including personal hygiene <p>Endpoint: Make a healthy dip and dippers</p>

Infants (Year 1 and 2) Cycle 2

	Autumn	Spring	Summer
CYCLE 2	<p>Moving Pictures – Levers, wheels and sliders</p> <p>Design:</p> <ul style="list-style-type: none"> • design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups. <p>Make:</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • select from and use a wide range of materials and components, including construction materials, according to their characteristics <p>Evaluate:</p> <ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria. <p>Technical knowledge:</p> <ul style="list-style-type: none"> • explore and use mechanisms [wheels sliders and levers], in their products. <p>Endpoint: Make a moving picture</p>	<p>Fabric Faces</p> <p>Design:</p> <ul style="list-style-type: none"> • design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make:</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to assemble, join and combine materials and components using a variety of methods Eg: glue or masking tape • select from and use a wide range of materials, textiles and accessories. <p>Evaluate:</p> <ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria <p>Technical knowledge:</p> <ul style="list-style-type: none"> • sew using a simple running stitch and using a smaller stitch to secure components accurately. <p>Endpoint: Make a fabric face using joining techniques including running stitch</p>	<p>Healthy Eating - Sensational Salads</p> <p>Design:</p> <ul style="list-style-type: none"> • design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking. • Use the basic principles of a healthy and varied diet to prepare dishes <p>Make:</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to perform practical tasks [for example, cutting, chopping and zesting] • select from and use appropriate healthy ingredients, according to their characteristics <p>Evaluate:</p> <ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria <p>Technical knowledge:</p> <ul style="list-style-type: none"> • Using the correct tools and appliances safely • Follow safe procedures for food-safety and hygiene including personal hygiene <p>Endpoint: Make a healthy salad</p>

Lower Juniors (Years 3 and 4) Cycle 1

	Autumn	Spring	Summer
CYCLE 1	<p>How do levers, pulleys and gears work?</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to design a working shaduf. • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, <p>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks including cutting, shaping, joining and finishing accurately. • select from and use a wider range of construction materials according to their functional properties. <p>Evaluate</p> <ul style="list-style-type: none"> • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. • understand how key events and individuals in design and technology have helped shape the world. <p>Technical knowledge</p> <ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce more complex structures. • understand and use gears, pulleys, cams, levers and linkages. <p>Endpoint: Make an Ancient Egyptian Shaduf</p>	<p>Torches</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of functional, appealing torch aimed at a particular individual or group. • generate, develop, model and communicate their ideas through discussion, annotated sketches and diagrams. <p>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks accurately. • select from and use a wider range of materials and components according to their functional properties and aesthetic qualities. <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of torches. • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. • understand how key events and individuals in design and technology have helped shape the world. <p>Technical knowledge</p> <ul style="list-style-type: none"> • understand and use a simple electrical circuit. <p>Endpoint: Make a torch</p>	<p>Kites</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of innovative, functional, appealing kite aimed at a particular individual or group. • generate, develop, model and communicate their ideas through discussion, annotated sketches and diagrams, <p>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately. • select from and use a wider range of materials and components according to their characteristics. <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products. • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. • understand how key events and individuals in design and technology have helped shape the world. <p>Technical knowledge</p> <ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce structures. <p>Endpoint: Make a kite</p>

Lower Juniors (Years 3 and 4) Cycle 2

	Autumn	Spring	Summer
CYCLE 2	<p>Boats</p> <p>Design</p> <ul style="list-style-type: none"> • 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. • generate, develop, model and communicate their ideas through discussion, annotated sketches, and diagrams, <p>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks including cutting, shaping, joining and finishing accurately. • select from and use a range of materials and components according to their characteristics. <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products. • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. <p>Technical knowledge</p> <ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce more complex structures. <p>Endpoint: Make a boat</p>	<p>Perfect Pizzas</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of an appealing pizza aimed at a particular individual or group. • generate, develop, model and communicate their ideas through discussion, annotated sketches and diagrams. <p>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks. • select from a range of healthy ingredients, according to their characteristics. <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products. • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. <p>Technical knowledge</p> <ul style="list-style-type: none"> • understand and apply the principles of a healthy and varied diet. • Understand and use tools and equipment safely. <p>Endpoint: Make a Pizza</p>	<p>Pencil cases</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of a pencil case • generate, develop, model and communicate their ideas through discussion, annotated sketches, diagrams, prototypes and pattern pieces. <p>Make</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to perform practical tasks including cutting, shaping, joining and finishing accurately. • select from and use a wider range of materials and components for making and decorating a pencil case. <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products. • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. <p>Technical knowledge</p> <ul style="list-style-type: none"> • apply their understanding of join textiles securely. <p>Endpoint: Make a pencil case</p>

Upper Juniors (Years 5 and 6) Cycle 1

	Autumn	Spring	Summer
CYCLE 1	<p>Buzzers and games</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of an innovative, functional, appealing buzzer game that is fit for purpose, aimed at a particular group • generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks accurately • select from and use a range of materials and components according to their functional properties and aesthetic qualities <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work <p>Technical knowledge</p> <ul style="list-style-type: none"> • how the working characteristics of materials affect the ways they are used • understand how electrical circuits, including those with simple switches, can be used to achieve results that work <p>Endpoint: Make a wire loop game</p>	<p>Designing 3D Mayan Temples (TinkerCad)</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of a 3D Mayan Temple. • generate, develop, model and communicate their ideas through discussion, annotated sketches and diagrams. <p>Make</p> <ul style="list-style-type: none"> • select from and use a range of tools and techniques with increasing accuracy. <p>Evaluate</p> <ul style="list-style-type: none"> • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. • understand how key events and individuals in design and technology have helped shape the world. <p>Technical knowledge</p> <ul style="list-style-type: none"> • apply their understanding of computing to program, monitor and control their products. <p>Endpoint: a 3D design of a Mayan Temple using the web-based modelling tool Tinker Cad</p>	<p>Automata animal toys (cams)</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of Automata Animals. • generate, develop, model and communicate their ideas through discussion, annotated sketches and diagrams. <p>Make</p> <ul style="list-style-type: none"> • select from and use a wide range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. • select from and use a wide range of materials and components to make a simple cam mechanism according to their functional properties. <p>Evaluate</p> <ul style="list-style-type: none"> • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. <p>Technical knowledge</p> <ul style="list-style-type: none"> • understand and use a cam mechanism to make a model of an animal move. <p>Endpoint: Make a moving toy animal using a cam mechanism.</p>

Upper Juniors (Years 5 and 6) Cycle 2

	Autumn	Spring	Summer
CYCLE 2	<p>Marbulous Structures -investigating free standing structures.</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of an innovative appealing marble run. <p>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. • select from and use a wider range of materials and components according to their functional properties and aesthetic qualities to make a marble run. <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing marble runs. • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. <p>Technical knowledge</p> <ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce structures. <p>Endpoint: Make a free-standing marble run</p>	<p>Working with fabric</p> <p>Design</p> <ul style="list-style-type: none"> • 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. • generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes and pattern pieces. <p>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. • select from and use a wider range of materials and components according to their functional properties and aesthetic qualities. <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products. • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. • understand how key events and individuals in design and technology have helped shape the world. <p>Endpoint: Make a fabric mask or bag</p>	<p>Super Seasonal Food</p> <p>Design</p> <ul style="list-style-type: none"> • develop design criteria to inform the design of seasonal and appealing recipes aimed at particular individuals or groups. • generate, develop, model and communicate their ideas through discussion, and annotated sketches. <p>Make</p> <ul style="list-style-type: none"> • select from and use a wide range of ingredients according to their functional properties and aesthetic qualities. • select from and use a wide range of tools and equipment to perform practical tasks safely and accurately. • prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. <p>Evaluate</p> <ul style="list-style-type: none"> • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. <p>Technical knowledge</p> <ul style="list-style-type: none"> • understand and apply the principles of a healthy and varied diet. • understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. <p>Endpoint – design and cook using own seasonal recipe.</p>