

WEST TOWN LANE ACADEMY

DT Curriculum



Intent	At West Town Lane Academy, Design and Technology develops children's skills and knowledge in design, structures, mechanisms, electrical control and food. It encourages children's creativity and inspires them to think about important contemporary issues such as recycling and sustainable food production. Furthermore, children through school are taught cooking and nutrition in the curriculum and we provide opportunities which enable children to make healthy eating choices. We believe teaching pupils to cook is an essential part of promoting a whole school approach to health and wellbeing, helping us achieve high standards as a Healthy School. We have a dedicated, well-resourced kitchen area that the children enjoy using as part of their cooking experiences, where they are taught safety aspects of cooking and to develop independence, cooking simple nutritious foods. DT is an inspiring, rigorous and practical subject, requiring creativity, resourcefulness, and imagination. Pupils design and make products that solve real and relevant problems within a variety of contexts. It draws upon subject knowledge and skills within Mathematics, English, Science, History, Computing and Art. Children learn to take risks, be reflective, innovative, enterprising and resilient. Through the evaluation of past and present technology they can reflect upon the impact of Design Technology on everyday life and the wider world. After studying DT at West Town Lane Academy pupils have a breadth of knowledge, skills and experiences. They finish Year 6 having a good understanding of the value and purpose of DT and how it relates to their everyday life. They leave feeling confident, curious and courageous. <i>'Design is not just what it looks like and feels like. Design is how it works.'</i> Steve Jobs.
Implementation	Design and Technology is a fundamental part of school life at West Town Lane Academy and as a school we are dedicated to the teaching and delivery of a high-quality DT curriculum. This is implemented through: • The Design Technology National Curriculum and EYFS is planned for and covered in full within the EYFS, KS1 and KS2 school curriculum. Whilst the EYFS and National Curriculum forms the foundation of our curriculum, we make sure that children learn additional skills, knowledge and understanding and enhance our curriculum. We follow a 'Design, Make, Evaluate' approach to the teaching and learning of DT. • Thoroughly thought out whole school yearly overview of the DT curriculum which allows for progression across year groups in all areas of DT (textiles, mechanisms, structure and food.) • Well- planned and resourced projects providing the children at West Town Lane Academy with a hands-on and enriching experience. • An extensive range of skills are taught ensuring that children are aware of the health and safety elements related to the tasks undertaken. • Teachers at West Town Lane Academy are given ownership and flexibility to plan for Design and Technology from this document, often teaching DT as a block of lessons to allow the time needed for the children to be critical, inventive and reflective on their work. • Children will undertake design tasks and use skills from across the curriculum to fully explore the design process, evaluating work ensuring that it is of the highest possible quality. Children are expected to self-evaluate their work. • Each Design Technology project from Year 1 to Year 6 addresses the principles of designing and evaluating as well as incorporating the appropriate technical knowledge and understanding in relevant contexts. • Children at West Town Lane Academy are being introduced to specific engineers through Primary Engineers and are given the opportunity to interview them at their teacher's discretion.

	• Independent learning: In design technology children may well be asked to solve problems and develop their learning independently. This allows the children to have ownership over their curriculum and lead their own learning in Design Technology. • Collaborative learning: In Design Technology children may well be asked to work as part of a team learning to support and help one another towards a challenging, yet rewarding goal. Early Years Foundation Stage During the EYFS pupils explore and use a variety of media and materials through a combination of child initiated and adult directed activities. They have the opportunities to work independently and collaboratively and learn to: • Use different media and materials to express their own ideas. • Use what they have learnt about media and materials in original ways, thinking about form, function and purpose. • Make plans and construct with a purpose in mind using a variety of resources. • Develop skills to use simple tools and techniques appropriately, effectively and safely. • Select appropriate resources for a product and adapt their work where necessary. • Cook and prepare food adhering to good health and hygiene routines
Impact	Children at West Town Lane Academy show clear enjoyment and confidence in Design and Technology lessons that they can also apply to other areas of the curriculum. Through carefully planned and implemented learning activities the children develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. They gain a firm foundation of knowledge and skills to see them equipped to take on further learning in Secondary School. Pupil's skills and knowledge are assessed by the class teacher, throughout lessons and at the end of a DT project. Examples of work may be found in portfolios and on display around the school. This informs the Design and Technology coordinator of any further areas for curriculum development, pupil support and/or training requirements for staff.

DT curriculum progression Year 1

	Term 1	Term 4	Term 5
Enquiry title	What am I?	Who are the ground-breaking figures from Bristol's diverse history?	Where are our capital cities?
Themes of study	Cooking - Designing and making a wrap (Consider appropriate ingredients)	Design and make a musical instrument from recyclable materials (Consider appropriate materials)	Design and make weather vanes (Rotating mechanism) (Consider appropriate materials)
Skills & knowledge	Design -design purposeful, functional, appealing products for themselves and others -generate, develop, model and communicate ideas through talking & drawing. Make -select from and use a range of tools and equipment to perform practical tasks. <i>Include scissors, glue, sticky tape</i> -select from and use a wide range of materials and components. <i>Include recycled material, straws, rotating mechanisms.</i> Evaluate -explore and evaluate a range of existing products -evaluate ideas and products Technical knowledge -build structures, exploring how they can be made stronger, stiffer and more stable -explore and use mechanisms in their products. Include rotating mechanism for weather vane. Cooking - use the basic principles of a healthy and varied diet to prepare dishes - understand where food comes from.		
Vocabulary	planning, investigating design, evaluate, make, user, purpose, ideas, product, design criteria, function fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients		
Cross-curricular opportunities	Maths: Cutting ingredients into shapes, estimating amounts English: Using key vocabulary in oral work and writing an evaluation	English: Using key vocabulary in oral work and writing an evaluation History/Music: St Paul's carnival	Science/Geography: Weather & climate Geography: Cardinal directions Maths: Identifying shapes in weather vanes, measuring materials English: Using key vocabulary in oral work and writing an evaluation

DT curriculum progression Year 2

	Term 2	Term 3	Term 6
Enquiry title	How has travel changed over time?	How are all forests the same?	What can we do to look after ourselves and our planet?
Themes of study	Design and make: a 'moon buggy' (Mechanisms – wheels and axles)	Design and make: Toys - Moving animal designs (Mechanisms-levers and sliders)	Design and make: healthy food for tuck shop (smoothies)
Skills & knowledge	Design -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 information and communication technology Make -select from and use a range of tools and equipment to perform practical tasks. <i>Include scissors, glue guns, sticky tape</i> -select from and use a wide range of materials and components. <i>Include wheels, axles, dowelling, cams levers and sliders</i> Evaluate -explore and evaluate a range of existing products -evaluate their ideas and products against design criteria Technical knowledge -build structures, exploring how they can be made stronger, stiffer and more stable -explore and use mechanisms. Include levers, cams & sliders for toys, wheels and axle for cars Cooking - use the basic principles of a healthy and varied diet to prepare dishes - understand where food comes from.		
Vocabulary	planning, investigating design, evaluate, make, user, purpose, ideas, product, design criteria, function, fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients		
Cross-curricular opportunities	English: Using key vocabulary in oral work and writing an evaluation History: Travel over time. Key focus on the moon landing	English: Using key vocabulary in oral work and writing an evaluation Geography/Science: Animals and their habitats	Science: Healthy eating and food production Geography: Sustainability and the environment English: Using key vocabulary in oral work and writing an evaluation

DT curriculum progression Year 3

	Term 2	Term 3	Term 5
Enquiry title	How did Britain change from the Stone Age to the Iron Age?	How has Ancient Greece shaped our lives?	How do UK capital cities compare?
Themes of study	Design and make: Sewing - a kit bag for PE	Design and make: Greek Sandals	Design and make: a meal from the UK
Skills & knowledge	Design -use research 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 ideas through discussion, annotated sketches and prototypes Make -select from and use a range of tools and equipment to perform practical tasks. Include scissors, hole punch, needles, cotton & measuring equipment. -select from and use a wide range of materials and components, including construction materials, textiles, according to their functional properties. Include: vinyl, leather, cork, synthetic cloth Evaluate -investigate and analyse a range of existing products -evaluate ideas and products against their own design criteria. Technical knowledge -apply their understanding of how to strengthen, stiffen and reinforce more complex structures Cooking -understand and apply the principles of a healthy and varied diet -prepare and cook a savoury dish from the UK using a range of cooking techniques - understand seasonality, and know where and how a variety of ingredients are grown.		
Vocabulary	function, innovative, design specification, design brief, user, purpose, evaluate, authentic, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype, design decisions, design criteria, appealing, annotated sketch, sensory evaluations, ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble		
Cross-curricular opportunities	English: Using key vocabulary in oral work and writing an evaluation. Maths: Using mm/cm to measure.	English: Using key vocabulary in oral work and writing an evaluation. History: A study into the Ancient Greeks and the impact their achievements have had on society today. Geography: Locating Greece on a map, climate.	English: Using key vocabulary in oral work and writing an evaluation. Recording written recipe. Maths: Measuring ingredients. History/Geography: Traditional foods eaten in different parts of the UK.

DT curriculum progression Year 4

	Term 1	Term 3	Term 5
Enquiry title	What are the achievements of the Ancient Egyptians?	How do we know the Roman empire was here?	Where in the world do they speak Spanish?
Themes of study	Design and make: a bird box/bird feeder	Design and make: a Roman catapult	Design and make: a Spanish dish
Skills & knowledge	Design -use research 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 ideas through discussion, annotated sketches. Make -select from and use a range of tools and equipment to perform practical tasks. Include saws, clamps, measuring equipment, nails, hammers, drills & glue guns. -select from and use a wide range of materials and components. Include wood, binder clips and elastic bands Evaluate -investigate and analyse a range of existing products -evaluate ideas and products against their own design criteria. Technical knowledge -apply their understanding of how to strengthen, stiffen and reinforce more complex structures Cooking -understand and apply the principles of a healthy and varied diet -prepare and cook a savoury dish from another European country using a range of cooking techniques - understand seasonality, and know where and how a variety of ingredients are grown.		
Vocabulary	function, innovative, design specification, design brief, user, purpose, evaluate, authentic, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype, design decisions, design criteria, appealing, annotated sketch, sensory evaluations ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble		
Cross-curricular opportunities	English: Using key vocabulary in oral work and writing an evaluation. Maths: Shape. History: The construction of the pyramids and the significance of the shape.	English: Using key vocabulary in oral work and writing an evaluation. History: What can we learn about the Roman's from studying different artefacts? English: Write a letter to Rome from Roman Britain describing daily life.	English: Using key vocabulary in oral work and writing an evaluation. Recording written recipe. History/Geography: Traditional foods eaten in Spain, the ingredients used and their significance to the Geography.

DT curriculum progression Year 5

	Term 2	Term 4	Term 6
Enquiry title	Why did the Anglo Saxons, Scots and Vikings raid and invade?	How do China and the UK compare?	Who were the Mayans?
Themes of study	Design and make: a model villages of a Saxon settlement	Design and make: a dish from China	Design and make: a toy rotating solar system that flashes (Link to Science work in term 4)
Skills & knowledge	Design -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 ideas through discussion, annotated sketches, cross-sectional, prototypes, pattern pieces and computer-aided design Make -select from and use a wider range of tools and equipment to perform practical tasks. Include saws, clamps, measuring equipment, nails, hammers, drills & glue guns. -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. Include shoe boxes, cogs, dowelling Evaluate -investigate and analyse a range of existing products -evaluate 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 Technical knowledge -apply their understanding of how to strengthen, stiffen and reinforce more complex structures -understand and use mechanical systems in their products -apply their understanding of computing to program, monitor and control their products. Cooking -understand and apply the principles of a healthy and varied diet -prepare and cook a savoury dish from an Asian country using a range of cooking techniques - understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.		
Vocabulary	function, innovative, design specification, design brief, user, purpose, evaluate, authentic, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype, design decisions, design criteria, appealing, annotated sketch, sensory evaluations ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble		
Cross-curricular opportunities	English: Using key vocabulary in oral work and writing an evaluation. English: The Vikings are coming (T4W) History: A study into the settlement of the Anglo-Saxons, Scots and Vikings. Computing: Powerpoint presentation about the Vikings.	English: Using key vocabulary in oral work and writing an evaluation. Recording written recipe. History/Geography: Traditional foods eaten in China, the ingredients used and their significance to the Geography.	English: Using key vocabulary in oral work and writing an evaluation. Maths: 3D shape. Science: The solar system.

DT curriculum progression Year 6

	Term 2	Term 3 & 4	Term 5
Enquiry title	What happened after the Bristol Blitz?	Could we ever run out of water?	How do animals and plants adapt to suit their environment?
Themes of study	Design and make: a savoury meal from the 1940s (Consider rationing)	Design and make: an electronic car	
Skills & knowledge	Design -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, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Make -select from and use a wider range of tools and equipment to perform practical tasks. Including saws, clamps, measuring equipment, nails, hammers, drills, wire cutters, screw drivers & glue guns. -select from and use a wider range of materials and components, according to their functional properties and aesthetic qualities. Including wheels, axles, dowelling, cams, wire, bulbs, buzzers, switches and motors. Evaluate -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 Technical knowledge -apply their understanding of how to strengthen, stiffen and reinforce more complex structures -understand and use mechanical systems in their products -understand and use electrical systems in their products Cooking -understand and apply the principles of a healthy and varied diet -prepare and cook a savoury traditional British dish using a range of cooking techniques - understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.		
Vocabulary	function, innovative, design specification, design brief, user, purpose, evaluate, authentic, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype, design decisions, design criteria, appealing, annotated sketch, sensory evaluations, ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble		
Cross-curricular opportunities	Maths: Finding out how to convert from metric to imperial and vice-versa when looking at rationing recipes. English: Using key vocabulary in oral work and writing an evaluation. English: Create an information text about rationing in Bristol. Create an instruction text using their own wartime rationing recipe.	English: Using key vocabulary in oral work and writing an evaluation. Science: Electricity	

