Christopher Pickering Primary School

Be the Best you can Be!

Christopher Pickering Design and Technology Long Term Plan 2025-2026

Design and Technology Long Term Plan EYFS – Y6



The intention for our young Design Technologists
To ensure that all pupils: • use creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. • acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. • learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. • evaluate past and present design and technology in order to develop a critical understanding of its impact on daily life and the wider world. • acquire the skills and knowledge to make a contribution to the creativity, culture, wealth and well-being of the nation as design technologists. **Investigate → Focused Practical Task → Design → Make → Evaluate**

Design and Technology Key Principles

At Christopher Pickering, we use the six principles and embed them within our planning to ensure that all children's learning is genuinely design and technological in nature. All units of work therefore have a clear

User	Pupils will have a clear idea of who they are making and designing products for, considering their needs, wants, values, interests and preferences. The intended users are sometimes themselves or others, an imaginary or story based character, a client, a consumer or a specific target group.
Purpose	Pupils will clearly communicate the purpose of the products they are designing and making. Each product they create should be designed to perform one or more defined tasks. Pupil's products are evaluated through use.
Innovation	When designing and making, pupils will be given some scope to be original wit their thinking. Projects that encourage innovation lead to a range of design ideas and products being developed and are characterised by engaging open-ended starting points for learning.
Authenticity	Pupils will be desitgning and making products that are believable, real and meaningful to themselves and others.
Functionality	Pupils will design and make products that work/function effectively in order to fulfil users' needs, wants and purposes. In D&, it is insufficient for children to design and make products that are purely aesthetic.
Design Decisions	Pupils are given opportunities to make their own design decisions. Making design decisions allows pupils to demonstrate their creative, technical and practical expertise, and use learning from other subjects. When making design decisions pupils decide on the form their product will take, how their product will work, what task or tasks it will perform and who the product will be for.

Coverage Overview KS1 and KS2

	Autumn	Spring	Summer	
Year 1	Construction	Mechanisms	Cooking	
Year 2	Cooking	Mechanisms	Textiles	
Year 3	Cooking	Textiles	Construction	
Year 4	Electronics	Textiles	3D Design and Printing	Cooking
Year 5	Textiles	Cooking	Mechanisms	
Year 6	Cooking	Electronics	Textiles	3D Design and Printing

Provision for Children with SEND

Supporting Children with SEND within Design and Technology Lessons (alongside Quality First Teaching)

Area of Need	Communication and Interaction	Cognition and Learning	Sensory/Physical	SEMH (Social, Emotional, Mental Health)
General Adaptations	**Speech and Lang** ❖ Preteach vocab and concepts ❖ Vocab bank/wordwall ❖ Clear and simple instructions before activities ❖ Repeat instructions ❖ Processing time ❖ Directed questions ❖ Help cards ❖ Visual aids ❖ Differentiated scaffolding	**SpLD (e.g. Dylexia)** ❖ Read text to them ❖ Handouts not copying tasks ❖ Repeat instructions ❖ Step by steps tasks/jobs list ❖ Processing time ❖ Memory aids – learning mats/KO ❖ Use of computing – if appropriate ❖ Scaffolding ❖ Visual aids for sequencing ❖ Extra time ❖ Strategies to aid organisation	❖ Sensory regulation activities ❖ Ear defenders where appropriate ❖ Fully accessible school ❖ Height adjustable desks ❖ Class seating plan ❖ Calm/Quiet Areas (e.g. reading dens)	❖ No hands up approach ❖ Talk Partners ❖ Positive rewards/praise
	ASD ❖ Prepare learner for new concepts ❖ Visual aids ❖ Set clear goals ❖ Step by step tasks/jobs list/First Next (incorporate their intese interest into specific resource) ❖ Calm time/rest breaks ❖ Clear routines ❖ Simple instructions and language ❖ Explain any changes prior to the lesson ❖ Writing frames ❖ Model social skills ❖ Structured and consistant approach ❖ Immediate reward sustem	**MLD** ❖ Preteach vocab and concepts ❖ Simple outcome linked to the objective ❖ Step by steps tasks/jobs list ❖ Use real life experiences ❖ Modelling various examples ❖ Visual aids and multi-sensory teaching approach ❖ Clear and simple instructions ❖ Scaffolding ❖ Processing time ❖ Help cards ❖ Discussion before writing ❖ Alternative to writing ❖ Small group work/1:1	**Visual** ❖ Seat pupil at the front ❖ Handouts rather thasn coptying from board ❖ Enlarged worksheets ❖ Use of ICT ❖ Verbal instructions	ADHD ❖ Provide sensory regualtion e.g. fidget toys or sensory circuit ❖ Create Check Lists for tasks and split longer tasks into smaller managable chunks ❖ Careful seating plan to support childs need e.g. away from distraction
Design and Technogy Adaptations	Pre teach any new vocabulary and technical vocabulary Opportunities to verbally record ideas during the design phase	Each DT process broken down into smaller chunks Adult and group support particularly when thinking about authenticity and design decisions Support using more complex tools Scaffolded sheets for each stage of the DT process	Working in groups for FPT and making Change of materials should the child have sensory differences Adapting the demand of the skill – e.g. simpler stiches for sewing	Guided group work Sensory rest breaks throughout longer sessions

EYFS

Design and Technology			
Three and Four-Year-Olds	Personal, Social and Emotional Development		• Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.
	Physical Development		• Use large-muscle movements to wave flags and streamers, paint and make marks. • Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors.
	Understanding the World		• Explore how things work.
	Expressive Arts and Design		Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. • Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Create closed shapes with continuous lines, and begin to use these shapes to represent objects.
Reception	Physical Development		Progress towards a more fluent style of moving, with developing control and grace. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.
	Expressive Arts and Design		Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills.
ELG	Physical Development	Fine Motor Skills	• Use a range of small tools, including scissors, paintbrushes and cutlery.
	Expressive Arts and Design	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.

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EYFS	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	All about me/Families	Celebrations	No Place like Home	Down at the bottom of the garden Lifecycles/planting/growing	Farm and Countryside	Wonderful World
FS1	Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them.	Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. **Cooking** – Bake buns **Construction** – Making Christmas cards and calendars	Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. **Cooking** – Make Gingerbread People	Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. **Construction** – Make a bug hotel and a bird feeder	Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. **Construction** – Make a farmyard animal	Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. **Cooking** – Make bread
FS2	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Create collaboratively, sharing ideas, resources and skills. Use a range of small tools, including scissors, paintbrushes and cutlery.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Create collaboratively, sharing ideas, resources and skills. Use a range of small tools, including scissors, paintbrushes and cutlery.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Create collaboratively, sharing ideas, resources and skills. Use a range of small tools, including scissors, paintbrushes and cutlery.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Create collaboratively, sharing ideas, resources and skills. Use a range of small tools, including scissors, paintbrushes and cutlery.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Create collaboratively, sharing ideas, resources and skills. Use a range of small tools, including scissors, paintbrushes and cutlery.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Create collaboratively, sharing ideas, resources and skills. Use a range of small tools, including scissors, paintbrushes and cutlery.

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	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. **Construction** – Making Hull Fair rides from junk modelling	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. **Construction** – Making Rama and Sita wooden spoon puppets	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. **Construction** – Make a house for the three little pigs	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. **Construction** – Make watering cans	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. **Construction** – Bridge building	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. **Cooking** – Make fruit salad

Key Stage 1

Programme of Study
Key Stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. When designing and making, pupils should be taught to:

Design

- (D1a) design purposeful, functional, appealing products for themselves and other users based on design criteria
- (D1b) generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- (M1a) select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- (M1b) select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- (E1a) explore and evaluate a range of existing products
- (E1b) evaluate their ideas and products against design criteria

Technical Knowledge

- (T1a) build structures, exploring how they can be made stronger, stiffer and more stable
- (T1b) explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products

Cooking and Nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

- (C1a) use the basic principles of a healthy and varied diet to prepare dishes
- (C1b) understand where food comes from

KS1	Autumn	Spring	Summer
Year 1	**My Local Area** **Construction – Freestanding Structures** **Design Brief – To design and make playground equipment for imaginary play** • (D1a) design purposeful, functional, appealing products for themselves and other users based on design criteria • (D1b) generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology • (M1a) select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • (M1b) select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics • (E1a) explore and evaluate a range of existing products • (E1b) evaluate their ideas and products against design criteria • (T1a) build structures, exploring how they can be made stronger, stiffer, and more stable.	**Travel and Transport** **Mechanisms – Slides and Levers** • (D1a) design purposeful, functional, appealing products for themselves and other users based on design criteria • (D1b) generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology • (M1a) select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • (M1b) select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics • (E1a) explore and evaluate a range of existing products • (E1b) evaluate their ideas and products against design criteria	**Across the Sea** **Cooking – Make a healthy sandwich** • (C1a) use the basic principles of a healthy and varied diet to prepare dishes • (C1b) understand where food comes from

Year 2	**Up, Up and Away** **Cooking – Vegetable Pizza Rocket** • (C1a) use the basic principles of a healthy and varied diet to prepare dishes • (C1b) understand where food comes from	**London's Calling** **Mechanisms – Wheels and Axles** • (D1a) design purposeful, functional, appealing products for themselves and other users based on design criteria • (D1b) generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology • (M1a) select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • (M1b) select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics • (E1a) explore and evaluate a range of existing products • (E1b) evaluate their ideas and products against design criteria • (T1a) build structures, exploring how they can be made stronger, stiffer and more stable • (T1b) explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products	**The Unsinkable Ship** **Textiles – Puppets** • (D1a) design purposeful, functional, appealing products for themselves and other users based on design criteria • (D1b) generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology • (M1a) select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • (M1b) select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics • (E1a) explore and evaluate a range of existing products • (E1b) evaluate their ideas and products against design criteria

Programme of Study
KS2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts; for example, the home, school, leisure, culture, enterprise, industry and the wider environment.

When designing and making, pupils should be taught to:

Design:

- (D2a) 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
- (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make:

- (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- (M2b) 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

Evaluate:

- (E2a) investigate and analyse a range of existing products
- (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- (E2c) understand how key events and individuals in design and technology have helped shape the world

Technical knowledge:

- (T2a) apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- (T2b) understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- (T2c) understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- (T2d) apply their understanding of computing to program, monitor and control their products.

Cooking and nutrition:

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

- (C2a) understand and apply the principles of a healthy and varied diet
- (C2b) prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- (C2c) understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

KS2	Autumn	Spring	Summer
Year 3	**One Hull of City** **Cooking – Seasonal Soup** • (C2a) understand and apply the principles of a healthy and varied diet • (C2b) prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • (C2c) understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	**Rock of Ages** **Textiles – Make an Iron Age tunic** • (D2a) 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 • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • (M2b) 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 • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world	**Extreme Earth** **Construction – Earthquake proof buildings** • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world • (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • (M2b) 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 • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world • (T2a) apply their understanding of how to strengthen, stiffen and reinforce more complex structures

Year 4	**Ancient Egypt** **Electronics – Electrical Game** • (D2a) 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 • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • (M2b) 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 • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world • (T2a) apply their understanding of how to strengthen, stiffen and reinforce more complex structures • (T2c) understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • (T2d) apply their understanding of computing to program, monitor and control their products.	**Roman Britain** **Textiles – Make a Roman coin purse** • (D2a) 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 • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • (M2b) 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 • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world	**Rainforests** **Cooking – Make cookies using ethically-sourced ingredients that grow in the rainforest** • (C2a) understand and apply the principles of a healthy and varied diet • (C2b) prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • (C2c) understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. **3D Printing – Make a Cookie Cutter** • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2b) 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 • (T2d) apply their understanding of computing to program, monitor and control their products.

Year 5	**Ancient Greece** **Textiles – Make a pair of sandals** • (D2a) 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 • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • (M2b) 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 • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world	**Anglo Saxons, Scots and Vikings** **Food – Bake Anglo-Saxon bread** • (C2a) understand and apply the principles of a healthy and varied diet • (C2b) prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • (C2c) understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	**Rivers and Mountains** **Construction – pulley system for transporting tomatoes up and down a mountain** • (D2a) 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 • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • (M2b) 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 • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world • (T2a) apply their understanding of how to strengthen, stiffen and reinforce more complex structures • (T2b) understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

Year 6	**Ancient Maya** **Food – Design and make a gift box of handmade chocolate truffles(CAD)** • (C2a) understand and apply the principles of a healthy and varied diet • (C2b) prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • (C2c) understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. • (D2a) 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 • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • (M2b) 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 • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world	**Crime and Punishment** **Construction – Design and make an alarm system to protect a valuable artefact** • (D2a) 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 • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • (M2b) 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 • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world • (T2a) apply their understanding of how to strengthen, stiffen and reinforce more complex structures • (T2c) understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] • (T2d) apply their understanding of computing to program, monitor and control their products.	**Changing World** **Textiles – upcycle a piece of clothing for a fashion show** • (D2a) 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 • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2a) Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • (M2b) 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 • (E2a) investigate and analyse a range of existing products • (E2b) evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • (E2c) understand how key events and individuals in design and technology have helped shape the world **3D Printing – Make an Embellishment** • (D2b)generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • (M2b) 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 • (T2d) apply their understanding of computing to program, monitor and control their products.

Design and Technology