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Haslingfield Endowed Primary School

Cycle A			
	Yr3/4	Yr4/5	Yr5/6
Autumn 1	Anglo Saxons F Research and cook a range flavoured breads using foraged ingredients. **NC Objectives:** **2.** Generate, develop, model and communicate their ideas through discussion and annotated sketches. **4.** Select from and use a wider range of materials and components, **including ingredients, according to their functional properties and aesthetic qualities.** **10. Understand where food comes from.** **12. Understand and apply the principles of a healthy and varied diet.** **13. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.** **5. Investigate and analyse a range of existing products.** **14. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.**	Life in Tudor Times T Research, design and make a pull string Tudor style purse. **NC Objectives:** **1. 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.** **2.** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and prototypes. **3. Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately.** • **Know how to strengthen, stiffen and reinforce existing fabrics.** • **Understand how to securely join two pieces of fabric together.** • **Understand the need for patterns and seam allowances.** • **Know and use technical vocabulary relevant to the project.** **4.** 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.** • **Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics.** • **Understand how fabrics can be strengthened, stiffened and reinforced where appropriate.** • **Know and use technical vocabulary relevant to the project.** **5.** Investigate and analyse a range of existing products.	World War I F Design, make and evaluate recipes in line with those from the era. **NC Objectives:** **2.** Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **4.** 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. **6.** Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **12.** Understand and apply the principles of a healthy and varied diet. **13.** Know how to use utensils and equipment including heat sources to prepare and cook food. **14.** Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. ➢ Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. ➢ Consider the views of others to improve their work

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		6. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	
Autumn 2	Christmas DT Project F Design and make Christmas Biscuits Year 3 **NC Objectives:** **2**. Generate, develop, model and communicate their ideas through discussion and annotated sketches. **4**. Select from and use a wider range of materials and components, **including ingredients,** according to their functional properties and aesthetic qualities. **12**. Understand and apply the principles of a healthy and varied diet. **13**. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Year 4 **5**. Investigate and analyse a range of existing products. • **Know how to use appropriate equipment and utensils to prepare** • **Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught**. • **Know and use relevant technical and sensory vocabulary appropriately**. **14. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.**	Christmas DT Project SD Design and make Christmas decorations Year 4 **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and prototypes. **3**.Select from and use a wider range of tools and equipment to perform practical tasks **(for example, cutting, shaping , joining and finishing) accurately**. **4**.Select from and use a wider range of materials and components, **including construction materials and textiles,** according to their functional properties and aesthetic qualities. Year 55. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	Christmas DT Project SD Design and make and evaluate Christmas box or gift bag with carrying handle. Year 5/6 **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and prototypes. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping , joining and finishing) accurately. **4**.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. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
Spring 1	Ancient Egyptians M Design, make and evaluate own water pulley system based on a Shaduf **NC Objectives:**	The Ancient Greeks SD Design and make a Maze – Inspired by Theseus and the Minotaur. **NC Objectives:**	Invaders and Settlers SD Design, make and evaluate a Viking boat. **NC Objectives:**

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	1.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. **2**.Generate, develop and communicate their ideas through discussion and annotated sketches and prototypes. **3**.Select from and use a wider range of tools and equipment to **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **9**.Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).	**1**.Use research and develop design criteria to inform the design of functional and appealing products that are fit for purpose, aimed at particular individuals or groups. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. Year 5 **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	**1**.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. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **7**.Understand how key events and individuals in design and technology have helped shape the world. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
Spring 2	Ancient Egyptians SD Paper Making **NC Objectives:** **1**.Use research and develop design criteria to inform functional, appealing products that are fit for purpose, **2**.Generate, develop, model and communicate their ideas through discussion and annotated sketches. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **5**.Investigate and analyse a range of existing products.	The Ancient Greeks F Research and cook own savoury healthy Greek food dish. Try different ingredients and then choose favourite to create dish. **NC Objectives:** Use research and develop design criteria to inform functional, appealing products that are fit for purpose, aimed at particular individuals or groups. **2**.Generate, develop, model and communicate their ideas through discussion and annotated sketches. **4**.Select from and use a wider range of materials and components, **including ingredients,** according to their functional properties and aesthetic qualities. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	Invaders and Settlers SD Design, make and evaluate a piece of Viking styled jewellery **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion and annotated sketches. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **5**.Investigate and analyse a range of existing products.

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	6.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	**12**.Understand and apply the principles of a healthy and varied diet. **13**.Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. **14**.Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	**6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
Summer 1	Out and about the British Isles E Design and make an electrical battery operated Lamp/torch **NC Objectives:** **1**.Use research and develop design criteria to inform the design of functional and appealing products that are fit for purpose, aimed at particular individuals or groups. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. 10.Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).	Our Blue planet- World of Water M Design and make an outdoor Hand Washing station using recycled containers. **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **7**.Understand how key events and individuals in design and technology have helped shape the world. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. 9.Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).	South America- Rainforests T Design, make and evaluate a poncho to wear. **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

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Summer 2	**Out and about the British Isles** SD Test out different existing kites and design, make and evaluate own kite. **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion and annotated sketches. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.Select from and use a wider range of materials and components, including **construction materials**, according to their functional properties and aesthetic qualities. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. 8.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	**Our blue planet- World of Water** M Design and make a Mechanical Poster about the endangered Rainforest habitat. **NC Objectives:** **1**.Design purposeful, functional, appealing products for themselves and other users based on design criteria. **2**.Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **3**.Select from and use a wide range of tools and equipment to perform practical tasks (for example, cutting, joining, shaping and finishing). **4**.Select from and use a wide range of materials and components, including construction materials, textiles according to their characteristics. **6**.Evaluate their ideas and products against design criteria. **8**.Explore and use mechanisms (for example, levers, pulleys, sliders and axles) in their products	**South America- Rainforests** M Design, make and evaluate a humane animal trap. **NC Objectives:** **1**.Design purposeful, functional, appealing products for themselves and other users based on design criteria. **2**.Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. **3**.Select from and use a wide range of tools and equipment to perform practical tasks (for example, cutting, joining, shaping and finishing). **4**.Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. **5**.Explore and evaluate a range of existing products. **6**.Evaluate their ideas and products against design criteria. **8**.Explore and use mechanisms (for example, levers, pulleys, sliders and axles) in their products

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Cycle B			
	Yr3/4	Yr4/5	Yr5/6
Autumn 1	Stone age to Iron age T Design and make a woven wall hanging **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	Crime and Punishment Through the Ages E Make a lie detector using an electrical system. **NC Objectives:** **1**.Use research and develop design criteria to inform the design of functional and appealing products that are fit for purpose, aimed at particular individuals or groups. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **10**.Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).	World War II F Research and cook a range of savoury dishes using ingredients available during rationing. **NC Objectives:** **2**. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **6**. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **12**. Understand and apply the principles of a healthy and varied diet. **13**. Know how to use utensils and equipment including heat sources to prepare and cook food. **14**. Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. ➢ Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. ➢ Consider the views of others to improve their work
Autumn 2	Christmas DT Project F Make a Christmas Cake in a bake bean tin Or Make Mince Pies **NC Objectives:**	Christmas DT Project SD Design and Make an advent Calendar **NC Objectives:**	Christmas Project E Design, make and evaluate a Christmas diorama using circuits and switches and lights/bells **NC Objectives:**

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	2.Generate, develop, model and communicate their ideas through discussion, annotated sketches, **4.**Select from and use a wider range of ingredients, according to their functional properties and aesthetic qualities. **6.**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **12.**Understand and apply the principles of a healthy and varied diet. **13.**Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. **14.**Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	**1.**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. **2.**Generate, develop, model and communicate their ideas through discussion and annotated sketches and prototypes cross-sectional and exploded diagrams **3.**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4.**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. **5.**Investigate and analyse a range of existing products. **6.**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **8.**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	**1.**Use research and develop design criteria to inform the design of functional and appealing products that are fit for purpose, aimed at particular individuals or groups. **2.**Generate, develop and communicate their ideas through discussion and annotated sketches and prototypes cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.. **3.**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4.**Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities. **5.**Investigate and analyse a range of existing products. **6.**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **10.**Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).
Spring 1	Romans T Look at and evaluate existing slipper designs and design, make and evaluate own simple pair of slippers based on Roman style designs. **NC Objectives:** **1.**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. **2.**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and prototypes. **3.**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping , joining and finishing) accurately. **4.**Select from and use a wider range of materials and components, including construction materials, textiles and	The Race for space F Research and cook a range of savoury dishes that you could eat at zero gravity. **NC Objectives:** **2.**Generate, develop, model and communicate their ideas through discussion and annotated sketches cross-sectional and exploded diagrams, prototypes, pattern pieces. **4.**Select from and use a wider range of materials and components, including ingredients, according to their functional properties and aesthetic qualities. **5.**Investigate and analyse a range of existing products. **6.**Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **12.**Understand and apply the principles of a healthy and varied diet.	Victorians SD Research British Inventors/ Designers/Architects of the Victorian Era. **NC Objectives:** **2.**Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3.**Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **7.**Understand how key events and individuals in design and technology have helped shape the world. **8.**Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

	ingredients, according to their functional properties and aesthetic qualities. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	**13**.Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. **14**.Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	
Spring 2	Romans F Plan, prepare foods for a Roman feast using ingredients that would have been locally sourced **NC Objectives:** **2**. Generate, develop, model and communicate their ideas through discussion and annotated sketches. **4**. Select from and use a wider range of materials and components, **including ingredients,** according to their functional properties and aesthetic qualities. **6**. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **12**. Understand and apply the principles of a healthy and varied diet. **13**. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. **5**. Investigate and analyse a range of existing products. • Know how to use appropriate equipment and utensils to prepare • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately. **14**. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	The Race for Space M Design and make a Rocket propelled by air pressure. **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **7**.Understand how key events and individuals in design and technology have helped shape the world. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. **9**.Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).	Victorians M Make a Victorian watermill using a mechanical system (gears, pulley, cams or levers). **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **5**.Investigate and analyse a range of existing products. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **7**.Understand how key events and individuals in design and technology have helped shape the world. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. **9**.Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).

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Summer 1	**Extreme Earth** M Make an erupting volcano. **NC Objectives:** **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	**Haslingfield Explorers** C Design and make a settlement using Minecraft. (Phil Golden) Design and make a settlement using Minecraft. **NC Objectives:** **2**. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **6**. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **11**. Apply their understanding of computing to program, monitor and control their products.	**North America Road Trip** SD Study the Empire State building/ Golden Gate Bridge and the architect who designed it. **NC Objectives:** **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **7**.Understand how key events and individuals in design and technology have helped shape the world. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
Summer 2	**Extreme Earth** M Research, design and make a weather station **NC Objectives:** **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **6**.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.	**Haslingfield Explorers** M Design and make an adventure playground model. **NC Objectives:** **1**.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. **2**.Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **3**.Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting shaping , joining and finishing) accurately. **4**.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. **5**.Investigate and analyse a range of existing products.	**North America Road Trip** T Native American Textiles, beads and feathers designs to create a traditional Dream Catcher. **NC Objectives:** **1**. 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. **2**. Generate, develop, model and communicate their ideas through discussion and annotated sketches. **3**. Select from and use a wider range of tools and equipment to perform practical tasks **(for example, cutting shaping, joining and finishing) accurately**. **4**. 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**. **5**. Investigate and analyse a range of existing products.

		6.Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **7**.Understand how key events and individuals in design and technology have helped shape the world. **8**.Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. **9**.Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).	**6** .Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. **8**. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. • **Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics.** • **Understand how fabrics can be strengthened, stiffened and reinforced where appropriate.** • **Know and use technical vocabulary relevant to the project.**

F – Food Technology

T- Textile design

E – Electrical Systems

M – Mechanical Systems

S – Structural Design

C - Computing