



## KS1 Year A

**Mechanisms (wheels and axels):**  
 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, where appropriate information technology e.g. Purple Mash design programme for a vehicle.  
 Make: Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping and finishing]. Select from and use a wide range of materials including construction materials according to their characteristics.  
 Evaluate: Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria.  
 Technical Knowledge: Explore and use mechanisms (wheels and axels) in their product.  
 e.g. Building a vehicle relating to the topic (if applicable) or farming machinery linked to cooking and nutrition.  
 e.g. Finger skateboard

**Cooking and Nutrition (Countries around the world):**  
 To understand where food comes from.  
 Use the principles of a healthy and varied diet to prepare dishes.  
 e.g. To prepare a salad  
 Skills – chopping, grating

**Structures:**  
 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 and mock-ups.  
 Make: Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping and finishing]. Select from and use a wide range of materials including construction materials according to their characteristics.  
 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 (e.g. Three Billy Goats Gruffs' bridge/ The three little pigs' houses (straw, sticks and stones)

## Year 3 Year A

**Structures (Frame structures):**  
 Technical Knowledge- Apply their understanding of how to strengthen, stiffen and reinforce structures  
**Design:** Use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose, aimed at particular individuals or groups.  
 Generate, develop, model and communicate their ideas through discussion and annotated sketches.  
**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities.  
**Evaluate:** Analyse a range of existing products. Evaluate their ideas and products against their own design criteria

**Cooking and Nutrition (LOTC Fire Pit):**  
 :Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.  
 Understand seasonality, and know where and how a variety of ingredients are grown  
 e.g. How to start a fire using a flint

**Textiles**  
**Design:** Use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion and annotated sketches.  
**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities.  
**Evaluate:** Analyse a range of existing products. Evaluate their ideas and products against their own design criteria

## Year 4 Year A

**Textiles**  
**Design:** Use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion and annotated sketches.  
**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities.  
**Evaluate:** Analyse a range of existing products. Evaluate their ideas and products against their own design criteria

**Structures (Frame structures):**  
 Technical Knowledge- Apply their understanding of how to strengthen, stiffen and reinforce structures  
**Design:** Use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion and annotated sketches.  
**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities.  
**Evaluate:** Analyse a range of existing products. Evaluate their ideas and products against their own design criteria

**Cooking and Nutrition (LOTC Fire Pit):**  
 :Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown  
 e.g. How to start a fire using a flint

## Year 5

**Textiles:**  
**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 and pattern pieces.  
**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting and joining], accurately. Select from and use a wider range of materials and components, including textiles, according to their functional properties and aesthetic qualities.  
**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 (Fashion/furnishing designs). e.g. Funky furnishings, Super cool slippers.

**Cooking and Nutrition**  
 Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.  
 e.g. Juicy, tasty burgers

**Mechanical Systems (pulleys or gears):**  
**Design:** Use research and develop design criteria to inform the design of functional products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches and computer aided design (Purple mash design programme).  
**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting and joining], accurately. Select from and use a wider range of materials and components according to their functional properties.  
**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.  
**Technical Knowledge:** Understand and use mechanical systems in their products [for example levers and pulleys].  
 e.g. Behead or hang King Charles the 1<sup>st</sup>.

## Year 6

**Structures (Shell structures including computer aided design):**  
*Survival Shelter (Bivi)*  
**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  
**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities.  
**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.  
**Technical Knowledge:** Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

**Electrical Systems (Including programming, monitoring and control):**  
*Victorian light up house (electricity, light, sculpture)*

**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 and annotated sketches. Use computer-aided design (Purple mash design programme).  
**Make:** Select from and use a wider range of tools and equipment to perform practical accurately. Select from and use a wider range of materials and components according to their functional properties.  
**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:** Understand and use electrical systems in their products [for example, series circuits incorporating switches and buzzers or motors]. Apply their understanding of computing to program, monitor and control their products.

**Cooking and Nutrition**  
*Design a healthy, balance meal (food packaging – labels)*  
*Taste test hot chocolate adding spices (origins, where grown)*  
*Mexican vegetable fajitas*

Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.



## KS1 Year B

### Textiles:

**Design:** Design appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, and templates.

**Make:** Select from and use a range of tools and equipment to perform practical tasks [for example, cutting and joining]. Select from and use a wide range of materials including textiles according to their characteristics.

**Evaluate:** Evaluate their ideas and products against design criteria.

*e.g. Superhero sock puppets.  
e.g. Create your own Elmer.*

### Mechanisms (sliders and levers):

**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, and templates.

**Make:** Select from and use a range of tools and equipment to perform practical tasks [for example, cutting].

**Evaluate:** Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria.

**Technical Knowledge:** Explore and use mechanisms (sliders and levers) in their product.

*e.g. Traditional tale story with sliders and levers.  
e.g. Under the sea moving picture.*

### Cooking and Nutrition

To understand where food comes from.

Use the principles of a healthy and varied diet to prepare dishes.

*e.g. (Farm/Plants) To make a sandwich/wrap  
Skills – cutting, spreading*

## Lower KS2 Year B

### Mechanical Systems (cams):

Technical Knowledge- Understand and use mechanical systems in their products [for example cams]. *e.g. Ducking stool*

**Design:** Use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas.

**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting], accurately. Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities.

**Evaluate:** Analyse a range of existing products. Evaluate their ideas and products against their own design criteria.

**Cooking and Nutrition (Healthy Breakfast)-** Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, e.g. A Viking banquet

**Electrical systems:** Technical Knowledge- Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs] *e.g. Light up signs or torches*, how key events and individuals in design and technology have helped shape the world (*Thomas Edison*).

**Design:** Use research and develop design criteria to inform the design of functional, appealing products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas.

**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting], accurately. Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities.

**Evaluate:** Analyse a range of existing products. Evaluate their ideas and products against their own design criteria.

## Year 5

### Textiles:

**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 and pattern pieces.

**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting and joining], accurately. Select from and use a wider range of materials and components, including textiles, according to their functional properties and aesthetic qualities.

**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 (Fashion/furnishing designs). *e.g. Funky furnishings, Super cool slippers.*

### Cooking and Nutrition

Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

*e.g. Juicy, tasty burgers*

### Mechanical Systems (pulleys or gears):

**Design:** Use research and develop design criteria to inform the design of functional products that are fit for purpose, aimed at particular individuals or groups. Generate, develop, model and communicate their ideas through discussion, annotated sketches and computer aided design (*Purple mash design programme*).

**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting and joining], accurately. Select from and use a wider range of materials and components according to their functional properties.

**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.

**Technical Knowledge:** Understand and use mechanical systems in their products [for example levers and pulleys].

*e.g. Behead or hang King Charles the 1<sup>st</sup>.*

## Year 6

### Structures (Shell structures including computer aided design):

*Survival Shelter (Bliv)*

**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

**Make:** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. Select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities.

**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.

**Technical Knowledge:** Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

### Electrical Systems (Including programming, monitoring and control):

*Victorian light up house (electricity, light, sculpture)*

**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 and annotated sketches. Use computer-aided design (*Purple mash design programme*).

**Make:** Select from and use a wider range of tools and equipment to perform practical accurately. Select from and use a wider range of materials and components according to their functional properties.

**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:** Understand and use electrical systems in their products [for example, series circuits incorporating switches and buzzers or motors]. Apply their understanding of computing to program, monitor and control their products.

### Cooking and Nutrition

*Design a healthy, balance meal (food packaging – labels)  
Taste test hot chocolate adding spices (origins, where grown)  
Mexican vegetable fajitas*

Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.