St John's Design and Technology Curriculum Coverage

Year 1

Structures (e.g. Lego zoo enclosure for 'Dear Zoo' link)

- To design purposeful, functional, appealing products for themselves and other users based on design criteria.
- To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.
- To select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].
- To select from and use a wide range of materials and components, according to their characteristics.
- To explore and evaluate a range of existing products.
- To evaluate their ideas and products against design criteria.
- To build structures, exploring how they can be made stronger, stiffer and more stable.

Food (making fruit salad)

- To design purposeful, functional, appealing products for themselves and other users based on design criteria.
- To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.
- To select from and use a range of tools and equipment to perform practical tasks [for example, cutting,].
- To select from and use a wide range of ingredients, according to their characteristics.
- To explore and evaluate a range of existing products.
- To evaluate their ideas and products against design criteria.
- To use the basic principles of a healthy and varied diet to prepare dishes.
- To understand where food comes from.

Year 2

Wheels and axels (making a fire engine)

- To design purposeful, functional, appealing products for themselves and other users based on design criteria.
- To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.
- To select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].
- To explore and evaluate a range of existing products.
- To evaluate their ideas and products against design criteria.
- To explore and use mechanisms [for example, wheels and axles], in their products.

Textiles (puppets)

- To design purposeful, functional, appealing products for themselves and other users based on design criteria.
- To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.
- To select from and use a wide range of materials and components, including textiles, according to their characteristics.
- To explore and evaluate a range of existing products.
- To evaluate their ideas and products against design criteria.

Levers and sliders

- To design purposeful, functional, appealing products for themselves and other users based on design criteria.
- To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.
- To select from and use a wide range of materials and components, according to their characteristics.
- To explore and evaluate a range of existing products.
- To evaluate their ideas and products against design criteria.
- To explore and use mechanisms [for example, levers and sliders], in their products.

Year 3

Textiles (seasonal stockings)

- To 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.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches, simple exploded diagrams and pattern pieces.
- To select from and use a wider range of materials and components, including textiles, according to their functional properties and aesthetic qualities.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.

Using tools for cutting, shaping, joining and finishing wood (Photo frames / boxes)

- To 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.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches and simple exploded diagrams.
- To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.

Food (making seasonal pizza, including kneading dough)

- To 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.
- To generate, develop, model and communicate their ideas through discussion.
- To select from and use a wider range of materials and components, including ingredients, according to their functional properties.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.
- To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.
- To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Year 4

Textiles (selecting own materials and designing own mobile phone case / tablet case / money bag)

- To 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.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches, simple exploded diagrams and pattern pieces.
- To select from and use a wider range of materials and components, including textiles, according to their functional properties and aesthetic qualities.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.

Simple electronics (making an alarm system)

- To 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.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches and simple exploded diagrams.
- To select from and use a wider range of materials and components, according to their functional properties.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.
- To understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].

Levers (making a tipper truck)

- To 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.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches and simple exploded diagrams.
- To select from and use a wider range of materials and components, according to their functional properties.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.
- To understand and use mechanical systems in their products [for example levers].

Year 5

Structures – strengthening, stiffening and reinforcing (building bridges)

- To 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.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches and computer-aided design.
- To select from and use a wider range of materials and components, including construction materials, according to their functional properties and aesthetic qualities.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.
- To apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

Gears, pulleys, cams (Fairground)

- To 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.
- To generate, develop, model and communicate their ideas through discussion and exploded diagrams.
- To select from and use a wider range of materials and components, according to their functional properties.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.
- To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].

Food (making samosas / soup)

- To 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.
- To generate, develop, model and communicate their ideas through discussion and annotated sketches.
- To select from and use a wider range of materials and components, including ingredients, according to their functional properties.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.
- To understand and apply the principles of a healthy and varied diet.

Year 6

Computing and control (using a Lego or DACIA programme)

- To 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.
- To generate, develop, model and communicate their ideas through discussion and exploded diagrams.
- To select from and use a wider range of materials and components, according to their functional properties.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.
- To apply their understanding of computing to program, monitor and control their products.

More complex electronics

- To 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.
- To generate, develop, model and communicate their ideas through discussion and exploded diagrams.
- To select from and use a wider range of materials and components, according to their functional properties.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.
- To understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].

Food (making burgers / tacos / fajitas, or similar with link to North America)

- To 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.
- To generate, develop, model and communicate their ideas through discussion and annotated sketches.
- To select from and use a wider range of materials and components, including ingredients, according to their functional properties.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in design and technology have helped shape the world.
- To understand and apply the principles of a healthy and varied diet.
- To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.