Design Technology Intent

Rationale

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Knowledge Choice

Pupils will acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world.

St Peter's design technology curriculum comprises of:

<table>
<tr><td colspan="2">Design
Designing purposeful, functional and appealing products though the generation of plans and communicating their ideas in a variety of ways.</td></tr>
<tr><td>Make:
Selecting and using a wide range of tools and equipment alongside a range of materials and components.</td><td>Evaluate:
Explore and evaluate a range of existing products as well as their own ideas and products.</td></tr>
<tr><td colspan="2">Technical Knowledge and Understanding:
Build complex structures, understand and use mechanical systems in their products as well as using electrical systems within their products. As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating.</td></tr>
</table>

Progression in DT involves developing skills and knowledge through:

- developing the creative, technical and practical expertise needed to perform everyday tasks confidently and to participating successfully in an increasingly technological world
- building and applying a repertoire of knowledge, understanding and skills in order to design and making high-quality prototypes and products for a wide range of users
- critiquing, evaluating and testing their ideas and products and the work of others
- understanding and applying the principles of nutrition and learn how to cook.

End Points:

Key Stage1:

Design:

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

Make:

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, 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
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products

Cooking and nutrition:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key Stage2:

Design:

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make:

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- 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:

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

Technical knowledge:

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

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.

As a designer and maker leaving St Peter's, every child will:

- Will be inspired by the work of expert designers, engineers and technicians – both past and current – and have an understanding of the exciting range of careers available in this ever-developing world
- Understand the principles of design and the processes involved in the creation of prototypes and quality finished products
- Be able to use a variety of tools and materials with accuracy and expertise
- Be inspired to take risks in their designs and understand the value of evaluating, reworking and improving initial designs
- Be able to plan, and create exciting meals using a range of healthy ingredients
- Have had opportunities to present and share their ideas, designs and products to others and showcase their work.