



'God's love shines through us by the work of our hands'

let your light shine before others, so that they may see your good works and give glory to your Father in heaven.
(Matt. 5:14-16)

We are a church school where education is nourished through the teachings of Jesus Christ, enabling each child to fulfil their potential and which reflects our commitment to academic excellence.

Design and Technology

Intent:

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. 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.

We intend to deliver a DT curriculum with appropriate subject knowledge, skills and understanding as set out in the National Curriculum Design Technology Programmes of study. It will prepare pupils for the opportunities, responsibilities and experiences in later life.

Implementation:

Skills and knowledge in the Design and Technology curriculum will be mapped out across a two-year programme for each class. Delivery of design and technology projects will follow a clear structure. This will follow the National Curriculum and the need to know mat (written, provided and updated by the subject leader). The delivery of DT will follow a structure of the design process where each project will follow: research, design, make and evaluate.

In addition, a range of skills will be taught ensuring that children are aware of health and safety issues related to the tasks undertaken. There will be clear and appropriate cross curricular links, in line with year group topics, to underpin learning across the curriculum. This will provide pupils with opportunities to learn life skills and apply skills to 'hands on' situations in a purposeful context.

Impact:

Pupils at Norley will have clear enjoyment and confidence in DT, which they will apply to other areas of the curriculum. The DT curriculum will allow pupils to expand their knowledge, when using tools or skills in other areas of the curriculum and in opportunities outside of school. The DT curriculum at Norley will contribute to children's personal development in creativity, independence, judgement and self-reflection. As designers, children will develop skills and attributes which they can use beyond school and into adulthood.

Long Term Planning

| Cycle A | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|-------------------|--|----------|--|----------|--|----------|
| Class 1-Reception | Chopping and preparing vegetables for a soup Looking at a healthy diet Exploring different celebrations Making diva candles with clay Weighing out and mixing ingredients to make donuts for Hanukah | | Making their own games using tools and equipment (snakes and ladders, snap, dominoes) Making egg sandwiches Constructing a vehicle with wheels – designing, creating and evaluating. | | Welly planting pots | |
| | <i>Topics in class 1 may vary due to children's interests.</i> | | | | | |
| Class 2 Yr 1/2 | <p style="text-align: center;"><u>Structures</u> <u>Free Standing Structures</u></p> <p style="text-align: center;"><i>A 3-D house (linked to The Great Fire of London)</i></p> <p>Can I design purposeful, functional, appealing products for myself and other users based on design criteria?</p> | | <p style="text-align: center;"><u>Mechanisms</u> <u>Wheels and Axles</u></p> <p style="text-align: center;"><i>Making a moving vehicle</i></p> <p>Can I design purposeful, functional, appealing products for myself and other users based on design criteria?</p> <p>Can I evaluate my ideas and products against design criteria?</p> | | <p style="text-align: center;"><u>Food</u> <u>Preparing fruit and vegetables</u></p> <p style="text-align: center;"><i>Design and make a sandwich using produce from the local village shop.</i></p> <p>Can I explore and evaluate a range of existing products?</p> <p>Can I select from and use a range of tools and equipment to perform practical tasks? [for</p> | |

| | | | | |
|----------------|---|---|--|---|
| | Can I build structures, exploring how they can be made stronger, stiffer and more stable? | | | example, cutting, shaping, joining and finishing] |
| Class 3 Yr 3/4 | <p style="text-align: center;"><u>Food</u> <u>A healthy and varied diet</u></p> <p style="text-align: center;"><i>Bake bread</i></p> <p>Can I understand seasonality and learn about where and how a range of ingredients are grown, reared, caught and processed?</p> <p>Can I prepare and cook a predominantly savoury dish using a range of cooking techniques?</p> | <p style="text-align: center;"><u>Textiles</u></p> <p style="text-align: center;"><i>Design and create a leather sandal</i></p> <p>Can I use research and develop design criteria to inform the design of innovative, functional appealing products which are fit for purpose and aimed at individuals or groups?</p> | <p style="text-align: center;"><u>Structures</u> <u>Shell structures</u></p> <p style="text-align: center;"><i>Design and make a shoe box for the leather sandal</i></p> <p>Can I use annotated sketches and prototypes to explain my ideas?</p> | <p style="text-align: center;"><u>Textiles</u> <u>2D Shape to 3D product</u></p> <p style="text-align: center;"><i>Design and create a poison dart beanbag</i></p> <p>Can I 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?</p> <p>Can I evaluate my ideas and products against my own design criteria and consider the views of others to improve my work?</p> |
| Class 4 Yr 5/6 | <p style="text-align: center;"><u>Mechanical Systems</u> <u>Pulleys or gears</u></p> <p style="text-align: center;"><i>Design, make and evaluate own inventions</i></p> <p>Can I create a moving object and use mechanical systems in my product (e.g. gears, pulleys and cams)</p> <p>Can I understand and include an electrical system in my product (e.g. a series circuit incorporating switches, bulbs, buzzers and motors)</p> <p>Can I generate, develop, model and communicate my ideas through discussion and annotated sketches?</p> | <p style="text-align: center;"><u>Food</u> <u>Celebrating culture and seasonality</u></p> <p style="text-align: center;"><i>Cook a traditional North American dish</i></p> <p>Can I prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques?</p> <p>Can I understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed?</p> <p>Can I understand and apply the principles of a healthy and varied diet?</p> | <p style="text-align: center;"><u>Electrical Systems</u> <u>More Complex Switches and Circuits</u></p> <p style="text-align: center;"><i>Keeping Norley School Safe. Creating an alarm or lighting system</i></p> <p>Can I understand and use electrical systems in my products?</p> <p>Can I continually evaluate and modify the working features of the product to match the initial design specification?</p> <p>Can I competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product?</p> | |

| | | | | | | |
|-------------------|---|----------|---|---|--|----------|
| | <p>Can I 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?</p> <p>Can I understand how key events and individuals in design and technology have helped shape the world?</p> | | | <p>Can I evaluate my ideas and products against my own design criteria and consider the views of others to improve my work?</p> | | |
| Cycle B | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Class 1-Reception | <p>Chopping and preparing vegetables for a soup Looking at a healthy diet</p> <p>Exploring different celebrations</p> <p>Making diva candles with clay</p> <p>Weighing out and mixing ingredients to make donuts for Hanukah</p> | | <p>Making shadow puppets</p> <p>Looking at different foods from around the world</p> | | <p>Designing and making t shirts linked to global awareness</p> <p>Clay mini beasts</p> | |
| | <i>Topics in class 1 may vary due to children's interests.</i> | | | | | |
| Class 2 Yr 1/2 | <p style="text-align: center;"><u>Mechanisms</u> <u>Sliders and Levers</u></p> <p style="text-align: center;"><i>Making a card with a slider</i></p> <p>Can I generate, develop, model and communicate my ideas through templates, mock-ups and, where appropriate, information and communication technology?</p> | | <p style="text-align: center;"><u>Food</u></p> <p style="text-align: center;"><i>Create two different dishes from around the world</i></p> <p>Can I use the basic principles of a healthy and varied diet to prepare dishes?</p> <p>Can I understand where food comes from?</p> | | <p style="text-align: center;"><u>Textiles</u> <u>Templates and joining techniques</u></p> <p style="text-align: center;"><i>Designing and making a finger puppet</i></p> <p>Can I generate, develop, model and communicate my ideas through talking and drawing?</p> <p>Can I select from and use a wide range of materials and components, including</p> | |

| | | | | | |
|----------------|---|--|---|--|---|
| | Can I explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products? | | construction materials, textiles and ingredients, according to their characteristics? | | |
| Class 3 Yr 3/4 | <p style="text-align: center;"><u>Food</u> <u>Healthy and varied diet</u></p> <p style="text-align: center;"><i>Design and make a croissant</i></p> <p>Can I prepare and cook a savoury dish using a range of cooking techniques?</p> <p>Can I understand and apply the principles of a healthy diet?</p> <p>Can I investigate and analyse a range of existing products?</p> | <p><u>Create a moving robot using the WeDo Lego programme</u></p> <p>Can I apply my understanding of computing to program, monitor and control products?</p> | <p><u>Mechanical Systems</u> <u>Levers and Linkages</u></p> <p style="text-align: center;"><i>Design and create a moving robot using a pneumatic mechanism</i></p> <p>Can I understand and use mechanical and electrical systems in a products? For example pulleys and levers.</p> <p>Can I select from and use a wide range of materials and components including construction materials according to their functional properties and aesthetic qualities?</p> | <p><u>Electrical Systems</u> <u>Simple circuits and switches</u></p> <p style="text-align: center;"><i>Make eyes which light up for the robot.</i></p> <p>Can I understand and use mechanical and electrical systems in a products such as circuits incorporating switches, bulbs and buzzers?</p> <p>Investigate and analyse a range of existing battery powered products.</p> | <p><u>Structures</u></p> <p style="text-align: center;"><i>Design and make a floating Viking ship</i></p> <p>Can I select from and use a wide range of tools and equipment to perform practical tasks? [for example cutting, shaping, joining and finishing], accurately?</p> |
| Class 4 Yr 5/6 | <p style="text-align: center;"><u>Textiles</u> <u>Combining different shapes of fabric</u></p> <p style="text-align: center;"><i>Making an Egyptian Slipper</i></p> | <p style="text-align: center;"><u>Food</u> <u>Celebrating culture and seasonality</u></p> <p style="text-align: center;"><i>Cook a traditional Greek Dish</i></p> | <p style="text-align: center;"><u>Structures</u> <u>Frame Structures</u></p> <p style="text-align: center;"><i>Design a Maya temple</i></p> | | |

| | | | |
|--|---|---|--|
| | <p>Can I 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?</p> <p>Can I generate, develop, model and communicate my ideas through prototypes, pattern pieces and computer-aided design?</p> | <p>Can I prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques?</p> <p>Can I understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed?</p> <p>Can I investigate and analyse a range of existing products?</p> | <p>Can I generate, develop, model and communicate my ideas through cross-sectional and exploded diagrams?</p> <p>Can I select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately?</p> <p>Can I evaluate my ideas and products against my own design criteria and consider the views of others to improve their work?</p> <p>Can I apply my understanding of how to strengthen, stiffen and reinforce more complex structures?</p> |
|--|---|---|--|