Design and Technology (DT)

Statement of Intent

At St. Giles Junior School we aim to equip pupils with the knowledge, skills and understanding as set out in the National Curriculum Design and Technology (DT) Programme of Study. It is our intent to offer the children the chance to use creative thinking and design within a defined purpose and tangible outcome. Through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in a process of designing and making. Through the study of DT pupils 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, become 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 use progression grids to ensure that prior knowledge, skills and vocabulary are built upon in subsequent year groups. Teachers then use these progression grids in order to map this into a long-term plan for their year group in the specific subject area. Once this is done, teachers then plan the sequencing of content to be taught across each unit, in detail.

Implementation

We ensure that teachers have the required subject knowledge to ensure DT is taught effectively and promotes lifelong trajectories. Subject matter is presented clearly and made accessible to all learners. Teachers carefully check learning and identify misconceptions, providing direct feedback. Teaching is designed to ensure children know more and remember more. Provide further opportunities to engage and enthuse pupils interests in DT such as forest school, parent/pupil sessions, and educational visits.

Impact

Children will know more, remember more and understand more about DT. Assessment of children's learning in Design Technology is an ongoing monitoring of children's understanding, knowledge and skills by the class teacher, throughout lessons. This assessment is then used to inform differentiation, support and challenge required by the children.

Design Technology is also monitored by the subject leader throughout the year in the form of knowledge audits, book monitoring, looking at outcomes which are measured against age-based progression grids, and pupil voice to discuss their learning and understanding and establish the impact of the teaching taking place.

Children are to retain prior-learning and explicitly make connections between what they have previously learned and what they are currently learning. The impact and measure of this is to ensure that the children at St Giles are equipped with skills and knowledge that will enable them to be ready for the curriculum at Key Stage 3 and for life as an adult in the wider world.

DT Progression of skills Y3 and Y4

Food:

- I can prepare ingredients hygienically using appropriate utensils.
- I can measure accurately.
- I can follow a recipe.
- I can assemble or cook ingredients

Materials:

- I can cut materials accurately and safely by selecting appropriate tools.
- I can select appropriate joining techniques.

Textiles:

- I can understand the need for a seam allowance.
- I can join textiles with appropriate stitching.

Electricals and electronics:

- I can create series circuits.

Computing:

- I can control and monitor models using software designed for this purpose

Construction:

- I can choose suitable techniques to construct products or to repair items.

Mechanics:

- I can use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).

Inspiration from design throughout history:

- I can identify some of the great designers in all of the areas of study to generate ideas for designs.
- Improve upon existing designs, giving reasons for choices.

Design, make, evaluate, improve

- Design with purpose by identifying opportunities to design.
- Make products by working efficiently (such as by carefully selecting materials).
- Refine work and techniques as work progresses, evaluating the end product design.

DT Progression of skills Y5 and Y6

Food:

- I can measure accurately and calculate ratios of ingredients to scale up or down from recipe.
- I can create and refine recipes, including ingredients, methods, cooking times and temperatures.

Materials:

- I can show an understanding of the qualities of materials to choose appropriate tools to cut and shape (e.g. the nature of fabric may require sharper scissors than would be used to cut paper).

Textiles:

- I can use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion).

Electricals and electronics:

- I can create circuits using electronics kits that employ a number of components with increasing confidence.

Computing:

- I can write code to control and monitor models or products.

Construction:

- I can develop a range of practical skills to create products.

Mechanics:

- I can use innovative combinations of electronics (or computing) and mechanics in product designs

Inspiration from design throughout history:

- I can design with the user in mind, motivated by the service a product will offer (rather than simply for profit).
- Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.

Design, make, evaluate, improve

- Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.
- Evaluate the design of products to suggest improvements to the user experience.