Castleton&Glaisdale Federation

Design and Technology Policy
March 2016

Children from an early age should be introduced to the processes of:-

- **EXPLORATION** of their environment in order to gather experiences at first hand;
- **MANIPULATION** of objects and materials;
- **OBSERVATION** of things around them;
- **QUESTIONING** and arguing about things;
- **TESTING** things out, indulging in simple problem solving activities;
- **LOOKING** for pattern and relationship.

Some situations demand the making of things, whether it be a strength testing machine to find out how strong fibres can be, or a device to carry a line across the river in the building of a suspension bridge. This will involve the children in:-

- **RESEARCHING** the problem;
- **CONSIDERING** possible solutions;
- **CHOOSING** the best solutions;
- **DESIGNING** a device or making a plan on paper;
- **MAKING** the device or carrying out the plan;
- **TESTING** the device or carrying out the plan;
- **IMPROVING** the device or plan – or scrapping them and seeking a new solution;
- **EVALUATING** the above.

These processes can be explored through the cross-curricular topic approach and the five Attainment Targets in the Technology National Curriculum document. See two year long term plan for details.

Children will design, make and evaluate, using a variety of materials relevant to their age and capabilities such as junk materials, types of wood, Plasticine and clay, fabrics and textiles and food during cookery lessons.

The computer will be used for word processing, data storage and retrieval, simulations and adventure games, to assist with subjects across the curriculum according to the children's age, aptitude and ability.

Assessment will be completed at the end of each unit of work, according to the assessment policy.

Programme of Study

What the National Curriculum requires in design and technology at KS1
When designing and making, pupils should be taught to:

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.

What the National Curriculum requires in design and technology at KS2

When designing and making, pupils should be taught to:

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