Policy for:

Design & Technology

Date Written: September 2015

Date Reviewed: April 2022

Next Review Date: April 2024

Signed By:

Governor Responsible for: Robert Curry

Headteacher: Mrs Derries

THE GROVE SCHOOL

POLICY DOCUMENT

DESIGN AND TECHNOLOGY

Rationale

To provide opportunities through Design and Technology to encourage within our pupils an increased awareness of, and a more informed knowledge of, the creativity and accomplishments of our man-made world, the structures and products which surround us within our environment and to further this by stimulating each child's originality, creativity and inventiveness.

Aims

To provide a wide range of activities which ensures that all pupils have opportunities to focus upon the specific details of products, their structure, quality, purpose, mechanisms (if any) and their appropriate and safe use.

Objectives

To provide the opportunity to: -

- explore a range of materials including natural such as wood, clay, wool, cotton and manufactured such as nylon, metal, card, paper, glue, sellotape, paint, plastics etc and to be individually creative with these.
- use the above materials whilst following set assignments during which specific items are designed and made.
- discuss the design, structure and mechanisms of specific products, when they are used and how they are safely used.

- use particular skills such as cutting, gluing, painting, sketching and modelling etc and for these to be practised.
- use a range of construction kits, bricks and shapes etc which can be used to build a variety of structures and from doing so develop a knowledge of strength and understanding of the durability of stable, sound structures in contrast to the weakness of unsound structures which are easily toppled and demolished. Opportunities are given to follow set instructions with equipment such as Lego and to give children the freedom to explore and be inventive designing and building their own creations.
- explore a range of form boards and jig-saw puzzles to enable the development of the concepts of best fit, match and not fitting and increasing the skills of predicting which shape will fit which space and developing the concepts of valuing trial and error and perseverance in order to achieve success.
- use and further develop working skills by using imagination and creativity when encouraging the use of design skills in food technology.
- learn sewing and embroidery skills and use these to further creativity when designing.

Guidelines - Initial Introduction to Design and Technology

Through a sensory based curriculum children will initially be introduced to Design and Technology through a variety of focused experiences which aims to enhance visual perception, tactile exploration and when appropriate auditory discrimination and the sense of smell through a range of selected materials and manufactured goods. Through the appropriate use of products these experiences can be given a more specific focus and direction, some examples of which are, CD's, CD players, music, percussion, projector wheels, light works, interactive lite

mat, torches, oil burners, candles, foot and hand massagers, mirrors, silk scarves, woollen blankets, pieces of satin and cotton cloth etc.

The co-active exploration of a range of materials to stimulate a child's sensory awareness is more focused through the influence of Design and Technology to include: sheets of a range of papers and cards both in colour, quality and design, eg corrugated, small sheets and blocks of a range of sandpapered wood and/or varnished woods, pieces of perspex tinted in a range of shades, sheets of metallic covered card of various designs, sheets of sandpaper, a key ring of keys, small containers which open and close in a variety of ways, made from a variety of materials each opening to contain another surprise item to explore, etc.

The pupils are encouraged to co-actively experience building with bricks and knocking these over using a range of equipment of various shapes and sizes. The tumbling of a built structure through both the sudden movement and resultant noise of some of the materials, which can be used, is an excellent learning situation which through fun can establish an understanding of cause and effect whilst also developing the ability to predict what the outcome of a knock or push will be. (Cross ref: Science)

Co-actively experiencing large form boards and encouraging the development of fine motor control by picking up and placing objects supports the development of a child's skill, control and accuracy of movement.

Shape sorters, produced from a range of materials and colours, co-actively explored helps to support an understanding of what is a good possible fit and what is not. Shaking the container once a shape is correctly placed can additionally help to stimulate auditory and visual awareness.

Co-actively experiencing building sound structures through the use of manufactured equipment such as Duplo, Playmobile, etc. encourages the

ability to feel, grasp and hold whilst looking and focusing upon the task in hand. Additionally looking at the constructed colourful tower can encourage a depth and quality of observation, eye contact and eye tracking.

It is our aim to progress each child's ability, wherever possible, by gradually reducing the co-active support given with the intention of developing each child's individual achievement of these objectives.

Guidelines - Developing Design and Technology

Once a child's skills of grasping and holding, concentration and cognitive reasoning have developed sufficiently to enable a child to work for some part of the lesson independently, the lesson content is directed to more specifically focus upon Level One of Key Stage One of Design and Technology within the National Curriculum, then through further levels. Each child's skills, concepts and knowledge are supported and encouraged to progress forwards through an individualised delivery of the programme of study which is planned to be either in one to one situations, in pairs, in small or in class groups.

The system of "Plan, Do and Review" is used whereby each child has their own planning sheet upon which they sketch their design, detail the resources they will need, instructions that they will need to follow and use this sheet to guide their making of their design. The pupil's final results and achievements are then discussed and reviewed. This is recorded alongside their original plan. The planning sheets have been developed to reflect the class groups and to show progression between them.

Construction kits, Duplo, stickle bricks, popoids, stacking rods (cuisenaire rods), Lego, road way, brio train set, jig saw puzzles etc, all seem to have various times of popularity amongst the children and are resources which are encouraged to be used during lessons as well as break times.

With shape sorters, construction kits and jig saw puzzles the level of attainment from co-active support to totally independent achievement needs to be very gradually stepped to enable a child to progress. Crucial to continued success is both the adult support given and the resources used, each needs to be carefully considered and if a child is not achieving, an overall assessment of the teacher's expectations and what each child has previously achieved needs to be considered and reviewed.

Pointing to where a shape might go, a form board piece may fit or a brick may be placed is an important step between totally co-active support and independent achievement, which must not be overlooked. Correct terminology is also important at this point, as at every stage. Using phrases such as "turn it around", "slowly", "gently", "try here" encourage a child to persevere and not give up with the expectation that an adult will further control the completion of the task.

Asking questions such as "Is it too big? Is it too small? Is it the same shape? Does it fit?" encourages a child to think about what they are doing and what other alternatives there may be. Such support is also putting intentionality into each child's actions whilst encouraging him/her to further reason about what they are doing.

It is our intention that all pupils will follow the Key Stage One Programme of study.

Pupils should be taught to develop their design and technology capability through combining their Designing and Making skills with Knowledge and Understanding in order to design and make products.

1. Pupils should be given opportunities to develop their design and technology capability through:

- assignments in which they design and make products;
- focused practical tasks in which they develop and practise particular skills and knowledge;

- activities in which they investigate, disassemble and evaluate simple products.

Pupils should be given opportunities to:

- work with a range of materials and components, including sheet materials, items that can be assembled to make products, eg reclaimed material, textiles, food and construction kits;
- investigate how the working characteristics of materials can be changed to suit different purposes;
- apply skills, knowledge and understanding from the programmes of study of other subjects, where appropriate, including art, mathematics and science.

Designing skills

Pupils should be taught to:

- draw on their own experience to help generate ideas;
- clarify their ideas through discussion;
- develop their ideas through shaping, assembling and re-arranging materials and components;
- develop and communicate their design ideas by making freehand drawings, and by modelling their ideas in other ways eg. by using actual materials and components with temporary fixings;
- develop and communicate their design ideas using computer programmes if appropriate;
- make suggestions about how to proceed;
- consider their design ideas as these develop, and identify strengths and weaknesses.
- research existing similar products to draw ideas from or look at how they work

Making skills

- select materials, tools and techniques;
- measure, mark out, cut and shape a range of materials;
- assemble, join and combine materials and components;
- apply simple finishing techniques, e.g. painting;
- make suggestions about how to proceed;
- evaluate their products as these are developed, identifying strengths and weaknesses.

Knowledge and Understanding

Mechanisms

- to use simple mechanisms, including wheels and axles, and joints that allow movement;

Structures

- how to make their structures more stable and withstand greater loads;

Products and applications

- to investigate and disassemble simple products in order to learn how they function;
- to relate the ways things work to their intended purpose, how materials and components have been used, people's needs, and what users say about them;

Quality

- that the quality of a product depends on how well it is made and how well it meets its purpose;

Health and Safety

- simple knowledge and understanding of health and safety, as consumers and when working with materials and components, including:
    - considering the hazards and risks in their activities;
    - following simple instructions to control risk to themselves;

Vocabulary

- to use the appropriate vocabulary for naming and describing the equipment, materials and components they use.

Individual children who are able to progress through to Key Stage Two and beyond are encouraged to do so. Should their progress be restricted by the lack of large-scale machinery this is a specific subject area which may be considered to further through an integration arrangement. Balancing an individual timetable and dovetailing into appropriate time slots within a mainstream school are organisational factors when planning which need to be considered.

Assessment Progression and Achievement

At every stage ongoing assessment, which forms part of each child's Individual Education Plan, is essential in providing current information for detailed objectives, which are relevant to each child. Through a range of approaches and activities which focus on what a child can do, knows and understands, further steps of achievement and progression are planned for.

It is suggested as an ideal that each child's Design and Technology objective/s will be reviewed and updated on a termly basis and be collated along side evidence of their work which will form the basis of the information needed for Design and Technology for each child's Annual Review of Statement.

Liaison

It is important for teaching staff to liaise with the Design and Technology Co-ordinator, from whom additional advice and support can be sought. Through open discussion with all other teaching members of staff it is intended to give support through mutually developing an awareness of approaches, techniques and equipment used in school, but in particular to ensure continuity when a pupil moves on from one class group to another.

It is vital that teaching staff liaise closely with all class support assistants in order that they fully understand each child's objectives, and the approaches and equipment to use.

Formal liaison with parents is regularly achieved and recorded at least annually when objectives are set at each child's annual review of statement meeting. Less formally these are referred to at twice yearly class based meetings and if necessary through home/school diaries or personal contact.

Liaison may also be appropriate with any multi-professionals who are currently working with any individual child.

Cross Curricular Links

In particular further reference to the policy documents for English, Art, Craft and Design, Mathematics, Science and Physical Education would be helpful when planning for specific areas within Design and Technology.

Health and Safety

At all times regard for the health and safety of pupils and staff should be considered. Reference to our Health and Safety guidelines is essential.

Equal Opportunities

It is intended to offer equal opportunities to all our pupils regardless of gender, race or ability. However, it is essential that in the furtherment of Equal Opportunities that the Health and Safety of staff and pupils is not compromised or put at risk. Additionally all opportunities for every child are based upon what is appropriate and relevant within their individualised education plan.

Behaviour

Reference to our school behaviour policy and if relevant a child's behavioural objectives in their IEP is essential. Teaching a child self-discipline and motivation is central towards successful progress and achievement in all learning, throughout the school day, which is relevant to both structured and non-structured situations.