St Nicholas School

Design and Technology Policy

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Draft Design and Technology Policy

Introduction

At St Nicholas School we believe that by teaching our pupils Design and Technology we are providing them with practical learning experiences that can give them a sense of achievement and improve their self-esteem. We believe that by designing and making real products and evaluating their own and others work our pupils can consolidate their learning from across the curriculum and develop their attention, patience and persistence.

What is Design and Technology?

Primary Design and Technology offers opportunities for children to:

- Develop their designing and making skills
- Develop knowledge and understanding
- Develop their abilities to create high quality products through combining their skills with their understanding
- Develop creativity and innovation skills
- Explore values and attitudes to the world and how we live and work in it.
- Develop an understanding of technology and its contribution to society.

Primary Design and Technology offers opportunities for children to acquire and apply knowledge and understanding of:

- Materials and components
- Mechanisms and control systems
- Structures
- Existing products
- Quality

- Health and safety

Primary Design and Technology offers opportunities for children to acquire and develop:

- Designing skills
- Practical skills associated with making
- Scientific skills e.g. predicting, fair testing
- Mathematical skills e.g. measuring
- ICT skills e.g. using control devices
- Art skills e.g. finishing off a product

- Source: QCA

The importance of Design and Technology to pupils with learning difficulties

At St Nicholas School Design and Technology is accessible to all pupils. We plan and deliver learning experiences which allow access to the breadth of the Design and Technology curriculum and which offer pupils with learning difficulties opportunities to:

- Make choices
- Be involved in sensory and communication activities
- Consider the needs and preferences of others
- Focus on design problems that are meaningful to them
- Work on personally motivated design tasks.
- Work within a flexible range of contexts which allow adaptations to suit individual interests.
- Communicate using a range of methods without over reliance on the written word.
- Carry out practical tasks
- Use ICT to develop and enhance their work
- Work at their own pace and level with appropriate staff support

The structure of Design and Technology

The Design and Technology curriculum covers three aspects:

- **Developing, planning and communicating ideas**
- **Making products using tools, materials, components and equipment.**
- **Evaluating products and processes**

Knowledge and understanding supports attainment in these three aspects.

How is Design and Technology taught at St Nicholas School?

At St Nicholas School we provide access to the whole of the Design and Technology curriculum by planning activities that match and challenge our pupils' abilities. We have modified the Design and Technology Programmes of Study and the QCA Scheme of Work to give all pupils relevant and challenging work in each Key Stage and in each aspect of the Design and Technology curriculum.

In **developing, planning and communicating ideas** we enable access to all pupils by:

- Choosing elements from earlier key stages
- Maintaining and reinforcing previous learning as well as introducing new skills and knowledge.
- Allowing children to explore and experience products first hand using the senses.
- Encouraging and providing access to methods of planning and communicating that don't rely too heavily on the written word.

- Setting tasks which require improvements to an existing product rather than designing a whole new product
- Giving a range of alternative solutions to a design problem and asking the children to select from these.
- Setting short, focused tasks rather than long, more open ones.
- Providing appropriate staff support.

In **making products** we enable access to all pupils by:

- Choosing elements from earlier key stages
- Maintaining and reinforcing previous learning as well as introducing new skills and knowledge.
- Focusing on one skill in the making process e.g. cutting, and providing help with the others.
- Practising practical skills in everyday activities.
- Providing short and structured tasks in familiar contexts
- Providing appropriate staff support and time to complete tasks.

In **evaluating products and processes** we enable access to all pupils by:

- Choosing elements from earlier key stages
- Maintaining and reinforcing previous learning as well as introducing new skills and knowledge.
- Encouraging and providing access to methods of evaluating their designs and methods that don't rely too heavily on the written word.
- Focusing on one aspect of a product or a limited range of aspects when evaluating.
- Evaluating products as part of a group rather then as individuals
- Evaluating products using all of the senses rather than just a visual/verbal response.
- Providing appropriate staff support

Opportunities and activities at Key Stage 1

At St Nicholas School we believe that much of the Design and Technology Programme of Study is relevant to pupils with learning difficulties.

Our focus of teaching Design and Technology at Key Stage 1 is on giving pupils opportunities to:

- Work with basic tools, equipment and components to make basic products in a range of materials, including food.
- Explore common materials and components and investigate the sensory qualities and properties of these.
- Investigate familiar products and communicate likes and dislikes.

Given these opportunities by the end of Key Stage 1 at St Nicholas School:

All pupils will	Most pupils will	A few pupils will
Respond to a range of sensory experiences Explore and experience a range of common materials and tools Observe and explore familiar products and how things work	Explore the qualities of materials by playing and experimenting Begin to communicate likes and dislikes	Communicate what they like and dislike Make choices, choosing products or elements of a design Draw or model their ideas Begin to plan by indicating what to do next.

Opportunities and activities at Key Stage 2

Our focus of teaching Design and Technology at Key Stage 2 is on giving pupils opportunities to:

- Work with basic tools, equipment, materials and components to make products in a wider range of materials including food, mouldable materials, stiff and flexible sheet materials and textiles.
- Explore the sensory qualities of common materials and components and how to use them
- Investigate familiar products and think about who will use them and how they work
- Understand how mechanisms can be used to make things move in different ways
- Begin to plan what they have to do.

Given these opportunities by the end of Key Stage 2 at St Nicholas School:

All pupils will	Most pupils will	A few pupils will
Make choices in response to sensory activities Observe, explore and experience a range of common materials and tools Observe and explore familiar products and find out how things work	Communicate what they like and dislike Make choices, choosing a product or elements of a design Try out ideas by shaping materials and putting components together	Make products on the basis of preferences expressed by others Think about what products are used for and the needs of people who use them and identify what works well Select tools and materials from a range suggested by the teacher

A breakdown of expected P Level targets for most pupils in each year group

	Investigating/ developing ideas	Planning/ communicating ideas	Making	Evaluating
Reception P4		Make choices within a limited range of options e.g. choosing to add grapes or apples to a fruit salad. (P4)	Coactively grasp and move simple tools e.g. A glue spreader. Assemble components with help e.g. placing bricks together.	Look at objects they have helped to make.
Year 1 P5		Demonstrate preferences for products, materials and ingredients e.g. selecting a preferred sandwich filling	Use basic tools with support e.g. pushing a roller. Assemble components with help e.g. sticking pieces of junk together to make a model.	Actively explore products that they have helped to make.
Year 2 P6	Recognise familiar products and explore the different parts they are made from.	Begin to offer responses to making objects e.g. suggesting a colour or shape.	Watch others using a basic tool and copy the actions.	Demonstrate preferences for products, materials and ingredients.
Year 3 P7	Operate familiar products with support and explore how they work	Choose basic tools or equipment in negotiation with staff. Begin to communicate preferences when designing a product e.g. the shape of felt pieces they would like to use.	Use basic tools and equipment in simple processes e.g. in cutting materials	Say whether they like or don't like a product, material or ingredient.
Year 4 P8	Explore familiar products and communicate views about them when prompted. Begin to generate ideas.	Plan (talk, pictures or writing) what they will do and how.	Manipulate a wider range of basic tools in making activities.	Say what they like or dislike about products, materials or ingredients.
Year 5 Level 1	Recognise characteristics of familiar products Generate ideas.	Use words or pictures to show what they want to do. Explain what they are making and which tools they are going to use.	Use tools and materials, with help where needed. Explain what they are making and what tools they are using.	Talk about their own and others work in simple terms and describe how a product works.

Year 6 Level 2	Use experience of other products to generate own ideas.	Select appropriate tools, techniques and materials and explain their choices. Use models, pictures and words to describe their designs.	Use tools and assemble, join and combine materials in a variety of ways.	Recognise what they have done well and suggest things they could do better in the future.

These are target levels for the mid-range children in each year group. For lower ability children take targets from previous year group(s). For higher ability children take targets from successive year group(s).

Performance descriptions

The performance descriptions for P1 to P3 are common across all subjects. They outline the types and range of general performance that pupils with learning difficulties might characteristically demonstrate. Subject-focused examples are included to illustrate some of the ways in which staff might identify attainment in different subject contexts.

P1 (i) Pupils encounter activities and experiences. They may be passive or resistant. They may show simple reflex responses, *for example, startling at sudden noises or movements*. Any participation is fully prompted.

P1 (ii) Pupils show emerging awareness of activities and experiences. They may have periods when they appear alert and ready to focus their attention on certain people, events, objects or parts of objects, *for example, pausing over food smells in the room*. They may give intermittent reactions, *for example, sometimes briefly grasping materials placed in their hands*.

P2 (i) Pupils begin to respond consistently to familiar people, events and objects. They react to new activities and experiences, *for example, turning to a particular food item*. They begin to show interest in people, events and objects, *for example, briefly focusing on the sound of a making activity*. They accept and engage in coactive exploration, *for example, with staff support, feeling the textures of wood, metal, plastic, fabric and foods*.

P2 (ii) Pupils begin to be proactive in their interactions. They communicate consistent preferences and affective responses, *for example, turning towards a particular food item or colour product*. They recognise familiar people, events

and objects, *for example, grasping the handle of a tool*. They perform actions, often by trial and improvement, and they remember learned responses over short periods of time, *for example, lifting and lowering a tool or pressing their fingers into soft dough several times*. They cooperate with shared exploration and supported participation, *for example, working with an adult to apply glue to a surface*.

P3 (i) Pupils begin to communicate intentionally. They seek attention through eye contact, gesture or action. They request events or activities, *for example, reaching out towards a particular piece of equipment*. They participate in shared activities with less support. They sustain concentration for short periods. They explore materials in increasingly complex ways, *for example, tearing, squashing, mixing or bending materials*. They observe the results of their own actions with interest, *for example, after bending sheet materials*. They remember learned responses over more extended periods, *for example, banging with a hammer*.

P3 (ii) Pupils use emerging conventional communication. They greet known people and may initiate interactions and activities, *for example, pushing the spoon into the mixing bowl*. They can remember learned responses over increasing periods of time and may anticipate known events, *for example, covering their ears before a loud sound*. They may respond to options and choices with actions or gestures, *for example, picking up one tool rather than another*. They actively explore objects and events for more extended periods, *for example, banging, scraping, rubbing or pressing tools against a surface*. They apply potential solutions systematically to problems, *for example, pressing materials together*.

Performance descriptions in design and technology

From level P4 to P8, many believe it is possible to describe pupils' performance in a way that indicates the emergence of skills, knowledge and understanding in D&T. The descriptions provide an example of how this can be done.

P4 With help, pupils begin to assemble components provided for an activity, *for example, placing bricks together*. They contribute to activities by coactively grasping and moving simple tools, *for example, a glue spreader*. They explore options within a limited range of materials, *for example, adding grapes or*

chopped apple to a fruit salad.

P5 Pupils use a basic tool, with support, *for example, pushing a roller.* They demonstrate preferences for products, materials and ingredients, *for example, selecting a preferred filling for a sandwich.*

P6 Pupils recognise familiar products and explore the different parts they are made from. They watch others using a basic tool and copy the actions, *for example, preparing a surface with a glass paper block.* They begin to offer responses to making activities, *for example, suggesting the colour or shape of a product.*

P7 Pupils operate familiar products, with support, and explore how they work. They use basic tools or equipment in simple processes, chosen in negotiation with staff, *for example, in cutting or shaping materials.* They begin to communicate preferences in their designing and making, *for example, adding selected felt shapes to fabric.*

P8 Pupils explore familiar products and communicate views about them when prompted. With help, they manipulate a wider range of basic tools in making activities, *for example, joining components together to make their intended product.* They begin to contribute to decisions about what they will do and how, *for example, communicating their approval of certain features of a process.*

Level descriptions in Design and Technology

Level 1
Pupils generate ideas and recognise characteristics of familiar products. Their plans show that, with help, they can put their ideas into practice. They use pictures and words to describe what they want to do. They explain what they are making and which tools they are using. They use tools and materials with help, where needed. They talk about their own and other people's work in simple terms and describe how a product works.

Level 2
Pupils generate ideas and plan what to do next, based on their experience of working with materials and components. They use models, pictures and words

to describe their designs. They select appropriate tools, techniques and materials, explaining their choices. They use tools and assemble, join and combine materials and components in a variety of ways. They recognise what they have done well as their work progresses, and suggest things they could do better in the future.

Level 3
Pupils generate ideas and recognise that their designs have to meet a range of different needs. They make realistic plans for achieving their aims. They clarify ideas when asked and use words, labelled sketches and models to communicate the details of their designs. They think ahead about the order of their work, choosing appropriate tools, equipment, materials, components and techniques. They use tools and equipment with some accuracy to cut and shape materials and to put together components. They identify where evaluation of the design and make process and their products has led to improvements.

Level 4
Pupils generate ideas by collecting and using information. They take users' views into account and produce step-by-step plans. They communicate alternative ideas using words, labelled sketches and models, showing that they are aware of constraints. They work with a variety of materials and components with some accuracy, paying attention to quality of finish and to function. They select and work with a range of tools and equipment. They reflect on their designs as they develop, bearing in mind the way the product will be used. They identify what is working well and what could be improved.