



Design and Technology Policy

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Curriculum Intent Statement:

'A Family Committed to Making a Difference'

At Friezland Primary School we aim to develop well-rounded, resilient individuals who demonstrate mutual respect and tolerance and who have a positive impact on their community and the wider world. Our Curriculum is designed with this in mind. We aim to encourage a life-long love of learning and develop skills for life through the delivery of exciting, challenging and stimulating experiences within and beyond the classroom.

The Design and technology scheme of work aims to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation. We want pupils to develop the confidence to take risks, through drafting design concepts, modelling, and testing and to be reflective learners who evaluate their work and the work of others. Through our scheme of work, we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements. Our Design and technology scheme of work enables pupils to meet the end of key stage attainment targets in the National curriculum and the aims also align with those in the National curriculum. EYFS (Reception) units provide opportunities for pupils' to work towards the Development matters statements and the Early Learning Goals.

Curriculum

Friezland's Design Technology curriculum follows 'Kapow-mixed planning scheme of work'. Through the design and technology scheme, pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in key areas. The scheme is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning. Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required.

The national curriculum for Design and Technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook

The National Curriculum 2014

Foundation Stage

We encourage the development of skills, knowledge and understanding that help our reception children make sense of their world. Design and technology in the foundation stage aims to develop independence and self- evaluation of their work.

We relate the development of the children's expressive arts and design to the objectives set out in the Early Learning Goals and Early Years Outcomes. This learning forms the foundations for later work in design and technology. These early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials, tools, developing making skills and handling appropriate tools and construction material safely and with increasing control.

We provide a range of experiences that encourage exploration, observation, problem solving, critical thinking and discussion. These activities are imaginative and enjoyable. They take place indoors and outdoors and attract the children's interest and curiosity.

Key Stage 1

In Key Stage 1, Design and technology will be taught through a variety of creative and practical activities. Pupils will be taught the knowledge, understanding and skills needed to engage in the process of designing and making.

Children will be taught:

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.

Key Stage 2

Through a variety of creative and practical activities, pupils will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, leisure, culture, enterprise, industry and the wider environment].

Children will be taught:

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.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Children will be taught:

Key stage 1

- understand the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key stage 2

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques

- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Cross Curricular Learning

Design and Technology contributes significantly to other areas of the curriculum. It enhances literacy and numeracy skills, providing valuable opportunities for discussion, drama and listening to the views of others and helps children apply numerical skills such as measuring. Children will apply scientific skills e.g. predicting and fair testing and apply art skills e.g. in the use of finishing skills.

When appropriate, we use ICT to support Design and Technology teaching. Children use software to enhance their skills in designing and making, and use draw-and-paint programs to model ideas and make repeating patterns. The internet is used to gain access to images of people and environments and for research purposes. The children also use ICT to collect information and to present their designs e.g. through draw-and-paint programs, photographs and use of video/animation. Teachers use visualizers to demonstrate ideas and techniques and video conferencing may also be used to enhance learning where appropriate.

Design and Technology contributes to the teaching of personal, social and health education and citizenship. We encourage the children to develop a sense of responsibility in following safe procedures when making things. They also learn about health and healthy diets. Their work encourages them to be responsible and to set targets to meet deadlines, and they also learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food.

The teaching of Design and Technology offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Children work together to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in design and technology, the children develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding, and they learn to appreciate the value of differences and similarities. A variety of experiences teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

Equal Opportunities

Provision is made for all pupils regardless of ability, disability, special Educational need, medical condition, gender, faith or ethnicity. All children have a right to be treated equally and the school will take measures against adults who do not abide by this ethos.

Health and Safety

Design and Technology provides an excellent opportunity for teaching aspects of Health and Safety. Teachers will always model the safe use of tools and equipment and insist on safe practice. Children will be taught to return tools to the tool box when not in use. They will also be taught how to pass, walk and carry tools to where they are being used.

Food Hygiene and safety- we will teach children how to follow proper procedures for food safety and hygiene.

Fresh food will be brought into school, stored in the fridge and used on the same day. Class teachers / LSA will check table tops, all equipment and cookers etc. are clean and in working order. All pupils and adults must wash hands before preparing food.

Assessment for Learning

Teachers assess children's work in Design and Technology by making assessments against the Progression of Skills Document (Appendices 2) as they observe them working during lessons by questioning, observing and eliciting children's ideas. The assessment of children's work is on-going to ensure that understanding is being achieved and that progress is being made.

Children's progress is measured against the learning objectives set for the lesson. Observations and on-going teacher assessment inform next steps in learning and future planning. Peer and self-evaluation are also encouraged.

Feedback is given to the children as soon as possible, and marking work will be guided by the school's Marking Policy. Teachers will encourage all children, giving feedback and guidance for future work, to enhance understanding.

Reporting to Parents

Parents receive a written assessment of their child's ability in Design and Technology at the end of each academic year and have the opportunity to discuss their child's progress at termly parent's meetings.

Resources

Consumable materials are ordered to resource the scheme of work. These are stored either in classrooms or centrally in the ART/DT cupboard.

Tools and equipment related to cooking and nutrition is stored in a separate food cupboard on the corridor.

Consumable food items are purchased by staff and taken from the class annual budget allowance.

Resource expenditure and staff CPD are linked to school improvement priorities and their impact upon motivation, engagement and standards is monitored and evaluated annually during the summer term.

Roles and Responsibilities

Headteacher & Governing Body

The headteacher and Governing Body are responsible for:

- Involvement in focus groups to develop policy and practice;
- Overseeing the standards of Design and Technology, and
- Approving the acquisition of new resources.

Subject Leader

The subject leader is responsible for:

- The audit and identification of resources for purchase for DT;
- Liaising with Resource Team to ensure effective maintenance and ease of access to resources;
- Monitoring and evaluating the implementation of the scheme of work and its effectiveness on learning;
- Reviewing planning;
- Delivering relevant inset training to other members of staff;
- Preparing an activity plan based on the school cycle of develop practice, monitor, evaluate, review and school improvement priorities;
- Writing, modifying and reviewing, in consultation with other staff and governors, the policy document for Design and Technology, and
- From time to time report on standards to the governing body.

Class teacher

The Class teacher is responsible for:

- Planning and delivering the Design and Technology Curriculum;
- Assessing children's work both formatively and summatively, and
- Reporting to parents and DT coordinator.

Monitoring & evaluating

Policy and practice in Design and Technology are monitored and evaluated on a regular basis in accordance with the school development planning cycle. The provision of DT will be monitored by the DT co-coordinator in conjunction with the headteacher. Monitoring may take the form of lesson observation, planning, display, pupil voice or cross curricular book scrutinies. Feedback will be given to all staff along with recommendations to inform future policy and planning. Personal development of the DT co-coordinator will be maintained to ensure that new initiatives and curriculum updates are fed back to staff and incorporated into regular practice. All staff are involved in the review and development of the DT policy.

Data Protection Statement

The procedures and practice created by this policy have been reviewed in the light of our Data Protection Policy. All data will be handled in accordance with the school's Data Protection Policy.

Data Audit for the Assessment Policy					
What?	Probable Content	Why?	Who?	Where?	When?
Pupil assessment data Pupil end of term reports	Name D.O.B. Teacher Assessment data	Monitor a child's progress and identify next steps	All Staff (as necessary)	Staff electronic records Data is deleted / shredded as necessary	Held on File throughout a child's time at school Key data is passed onto a new School when moving on Some data is archived until the child is 25 (e.g. SEND pupil)

As such, our assessment is that this policy:

Has Few / No Data Compliance Requirements	Has A Moderate Level of Data Compliance Requirements	Has a High Level of Data Compliance Requirements
	✓	

This policy will be reviewed every three years or sooner if legislation / school assessment systems change.

Appendices 1

Appendices 2

Friezland School Progression Document for Design Technology

Class	Yearly Objectives
Year 1	<p>I can use my own ideas to make something. I can describe how something works. I can cut food safely I can make a product which moves I can make my model stringer I can explain to someone else how I want to make my product I can choose appropriate resources and tools I can make a simple plan before making.</p>
Year 2	<p>I can think of an idea and plan what to do next I can choose tools and materials and explain why I have chosen them I can join materials and component in different ways I can explain what went well with my work I can explain why I have chosen specific textiles I can measure materials to use in a model or structure I can describe the ingredients I am using</p>
Year 3	<p>I can prove that my design meets some set criteria I can follow a step by step plan choosing the correct materials I can design a product and make sure that it looks attractive I can choose a textile for both its suitability and its appearance I can select the most appropriate tools and techniques for a given task I can make a product that uses both electrical and mechanical components I can work accurately to measure, make cuts and make holes. I can design how food ingredients come together</p>
Year 4	<p>I can use ideas from other people when I am designing I can produce a plan and explain it I can evaluate and suggest improvements for my designs I can evaluate products for both their purpose and appearance I can explain how I have improved my original design I can present a product in an interesting way I can measure accurately I can persevere and adapt my work when my original ideas do not work I know how to be both hygienic and safe when using food</p>
Year 5	<p>I can come up with a range of ideas after collecting information from different sources I can produce a detailed step by step plan I can suggest alternative plans outlining the positive features and drawbacks I can explain how a product will appeal to a specific audience I can evaluate appearance and function against original criteria I can use a range of tools and equipment competently I can make a prototype before I make a final version I show that I can be both hygienic and safe in the kitchen</p>
Year 6	<p>I can use market research to inform my plans and ideas I can follow and refine my plans I can justify my plans in a convincing way I can show that I consider culture and society in my plans and designs I show that I test and evaluate my products I can explain how product should be stored and give reasons I can work within a budget I can evaluate my product against clear criteria</p>