Harewood Primary School

DT Policy

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Signed by Headteacher:	Caroline Heywood
Signed by Chair of Governors:	Denis Robinson

Harewood Primary School Design Technology Curriculum Policy

National Curriculum
This policy should be read in conjunction with the National Learning Challenge Curriculum for Design Technology written in 2014.

'Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They 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, becoming 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. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.' ***National Curriculum 2014***

What is the Intent of design technology at Harewood Primary?
Design and technology is an intricate part of our day to day lives and it is therefore important that our children are taught how this subject is of great importance in our rapidly changing world. Children are encouraged to think creatively in order to solve problems and/or make improvements to existing ideas and products. It is through these methods that they can make positive changes to their own and others' lives.

The teaching of Design and technology enables children to identify needs and opportunities, and to respond by developing ideas and eventually making products and systems. Through the study of design and technology children combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on, and evaluate, present and past design and technology, its uses and impacts.

Our objectives in the teaching of design and technology are:

- to give children the opportunity to take part in creative and practical activities
- to understand the importance of design and technology in the wider world
- to develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making things
- to enable children to talk about how things work, and to draw and model their ideas
- to explore computing as a means of design
- to encourage children to be analytical and critical when they are considering and analysing products
- to encourage children to select appropriate materials, tools and techniques for making a product
- to follow safe procedures when using equipment
- to explore attitudes towards the world and how we live and work within it;
- to develop an understanding of technological processes and products, their manufacture and their contribution to society;
- to foster enjoyment, satisfaction and purpose in designing and making things.

How is the Subject Organised and Implemented within School?
Technology is taught in blocks for either one or two weeks a term. This allows the children to develop their work more efficiently.

Planning
Learning Challenges begin with an enquiry question which links directly to the design technology knowledge, skills and understanding to ensure that learning is progressive and continuous.
Where appropriate creative or expressive arts are linked to each challenge to provide breadth and balance in the coverage as a whole.
The ethos underpinning the Learning Challenge approach requires the children to revise previous knowledge and then invite them to think of their own questions.
Lesson Plans are located in each year groups planning folders on the shared system prior to teaching.
Additional resources for each projects planning can be accessed via the online web resource Kapow.

Harewood Primary School Design Technology Long Term Plan

2023-24	Structures	Mechanisms	Textiles	Electrical systems	Digital World (Control)	Cooking and Nutrition
Reception	**Junk modelling** Kapow Rec Junk modelling		**Bookmarks** Threading & weaving Kapow Rec Bookmarks			**Snack preparation/ Tasting food Pumpkin Soup** Kapow Rec Soup
Year 1	**Windmills Summer 2** Kapow Y1 Constructing a windmill	**Moving storybook Autumn 1** Kapow Y1 Making a moving storybook				**Fruit/veg Smoothies Spring 1** Kapow Y1 Fruit and veg
Year 2		**Wheels and axles Vehicles Spring 1** Kapow Y1 Wheels and axles	**Pouches** Joining fabric, running stitch and decorating **Autumn 2** Kapow Y2 Pouches			**Balanced diet – wraps Summer 2** Kapow Y2 A Balanced diet
Year 3		**Pneumatic moving monster Spring 1** Kapow Y3 Pneumatic toys	**Bags/Cushions** Cross stich/ applique **Summer 1** Kapow Y3 Cushions		**Digital technology day** Kapow Y3 Electronic charm **Autumn 2**	**Eating seasonally Seasonal tarts Autumn 1** Kapow Y3 Eating seasonally
Year 4	**Constructing a castle Autumn 1** Kapow Y3 Constructing a castle			**Torches Summer 1** Kapow Y4 Electrical systems Torches	**Digital technology day** Kapow Y4 Mindful moments timer **Summer 2**	**Adapting a recipe Biscuits Spring 2** Kapow Y4 Adapting a recipe
Year 5	**Bridges Cutting wood Spring 1** Kapow Y5 Structures Bridges		**Mobile phone covers/ book sleeve Autumn 2** Fastening , Blanket stitch Decoration Kapow Y4 Fastenings		**Digital technology day** Kapow Y5 Monitoring devices (thermometer) **Summer 1**	**What could be healthier? Farm to Fork Adapting bolognaise recipe Summer 2** Kapow Y5 What could be healthier
Year 6		**Automata toys Summer 2** Kapow Y6 Automata toys	**Christmas decorations** Stitching, Fastenings Decoration, CAD **Autumn 2** Kapow Y5 Stuffed toys	**Steady hand game Spring 2** Kapow Y6 Steady hand game	**Digital technology day** Kapow Y6 Navigating the world (compass) **Spring 1**	

Pupil Grouping
Design Technology is taught in mixed ability groups within the class.

Teaching & Learning
In designing the curriculum, teachers and learners are using a learning challenge, expressed as a question, as the starting point. Using the information gained from pre- learning tasks and the school's context, a series of subsidiary challenges are then planned. Each subsidiary learning challenge is also expressed as a question.

Teachers try to plan a diverse range of activities through which to teach design and technology skills, knowledge and understanding. These activities should reflect the different learning styles of children and encourage enthusiasm and interest in the world around them. Knowledge organisers are used to provide the children with the appropriate vocabulary and skills required for their topic. These are referred to throughout the topic and throughout the rest of the year.

Early Years Foundation Stage

Design and technology is taught within the 'Expressive Arts and Design' area of learning alongside art, music, movement, dance and role-play. The early learning goals for Expressive Arts and Design indicate what children should know, understand and be able to do by the end of the reception year. This learning is delivered through high quality design and technology, enabling children to safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function, using what they have learnt about media and materials in original ways, thinking about uses and purposes

Key stage 1 pupils

Through a variety of creative and practical activities, pupils should 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, gardens and playgrounds, the local community, industry and the wider environment).
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 their 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 pupils
Through a variety of creative and practical activities, our pupils are taught the knowledge, understanding and skills needed to engage in the process of designing and making. They work in a range of relevant contexts (for example, the home, school, leisure, culture, enterprise, industry and the wider environment).
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

Food 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.

EYFS

There are many opportunities for the children to prepare healthy snacks, selecting different ingredients. They are encouraged to consider taste, texture and colour. Under supervision, they are taught to use appropriate tools.

Key stage 1

- use the basic principles of a healthy and varied diet to prepare food
- understand where food comes from
- use appropriate kitchen tools correctly and safely, under close supervision

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
- use appropriate kitchen tools with increasing independence and accuracy

Cross- Curricular Links

Teachers try whenever possible to link concepts from within different subjects to give them meaning in a wider context. Art, model making, ICT, geography, drama, stories and poetry are all links with other subjects that can enlighten and enhance the learning in design technology. Cross-curricular links are identified in the points to note section of the units of work. Where possible, the design technology topic will be used as the theme in the English weekly plan.

ICT

Class teachers and the ICT team explore the opportunities offered by ICT to enhance teaching and learning. Use of cameras, iPads and laptops is encouraged to help enhance learning.

Cross Phase Links

Foundation stage, key stage 1 and key stage 2 staff work closely to ensure there is continuity and progression on transfer.

Specialist Teaching

Where there is a teacher with a design technology specialism within a year group, they will lead the planning and support colleagues with advice and in some cases teach the subject across the year group.

Classroom Assistants

Classroom Assistants are used primarily to support children with Special Educational Needs to enable them to have equal access to the learning objectives of the lesson. They may work alongside the children to provide additional

explanations or they may adapt activities to meet the particular special needs of an individual child. They work under the guidance of the class teacher and are part of the planning for the lessons. Auxiliaries develop knowledge and understanding of how the SEN children in their group learn and this experience is valued greatly.

Presentation and Recording of Work
In design technology children's work can take various forms. It can be exploring and developing ideas and producing a piece of work e.g. a model or a design. Children can record their work individually, as a group or class. The digital camera and video camera can be used to record the process or the finished work. Created work can be displayed in classrooms and around school to celebrate children's work.

Resources
Primary resources related to each year group e.g. materials, sewing equipment and construction kits are stored individually within the appropriate year group classrooms. It is important to ensure that resources are labelled, tidy and ready for use. There is an additional collection of specialist resources stored centrally within the caretaker's room. This contains the saws, drills and other controlled tools and equipment. There is also a mobile trolley of cooking equipment including an oven stored in the Year 2/3/5 corridor.

Assessment and Record Keeping
At the beginning of each topic an assessment sheet which contains the enquiry questions, key vocabulary and assessment framework for working below, inline and at greater depth will be stuck into workbooks before the first piece of work. The objectives will be highlighted as taught and the end of unit assessment will be recorded. Children will be given the opportunity to self-assess through pupil voice, this will also be included on the assessment sheet – each year group can choose how they wish children to record this. Formative assessment is ongoing. Marking of written work is part of the assessment process and identifies attainment and progress that is shared with the children. Children must be given opportunities to reflect on
their learning. Assessment activities are varied and can be a piece of writing, a quiz, a piece of practical work or a presentation. Teachers may use evidence from discussions or written work to assess attainment.

SEN
All children take part in mainstream lessons for design technology. Children with special educational needs are given access to the learning outcomes by additional support from teaching assistants, planned differentiated activities and specific resources where appropriate. The SENCO is available to support staff with advice concerning any aspect of special needs.

Equal Opportunities
The design technology curriculum is accessible to all children irrespective of age, ability, gender and cultural background. Children are encouraged to respect and value the diversity of other cultures and lifestyles.

Health & Safety
Health and safety is important, particularly when working with tools, equipment and resources. Children should be given suitable instruction on the operation of all equipment before being allowed to work with it.

Children need to be taught how to

- Use tools and equipment correctly
- Recognise hazards and risk control Children should be
- Be strictly supervised in their use of equipment at all times.
- Be taught to respect the equipment they are using and to keep it stored safely while not in use
- Be taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

Food Hygiene

- Pupils and staff will take care to undertake appropriate hand washing and other hygiene related activities prior to preparing food.
- Pupils and staff working with food must wear aprons designated for cooking.
- Painting equipment must not be washed up or used in the sink in the kitchen areas in the Nursery and Nurture room.
- All jewellery should be removed and hair tied back

Sawing

- Bench hooks and clamps must be used when sawing any material.
- Safety goggles must be worn and any loose items of clothing/hair must be tucked in.

Risk assessments are carried out by the class teacher for activities where a risk assessment is deemed appropriate. All school visits are carefully planned with safety in mind and consideration of the age and ability of the children. Field trips are well supervised. Staff should refer to the Educational Visits Guidelines. All trips require a risk assessment.

Role of the Subject Leader
Please refer to the policy on the role of the Curriculum Leader.

Parental Involvement
As co-educators of children parents have an important role to play. They should be kept informed about the areas of study within design technology so that they can make the most of any opportunities to apply the design technology concepts learnt at school. Parents are provided with a termly plan of subjects covered to allow for this.

Role of the Governing Body
The Curriculum Working Party has the role of approving all curriculum policies.

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