LINGDALE PRIMARY SCHOOL

AND

LINGDALE PRIMARY SCHOOL TWO YEAR OLD PROVISION

DESIGN AND TECHNOLOGY POLICY

2014 – 2016

Academic Year	Coordinator	Governor/ Committee	Review Date
2014 - 2015	S Thornton	Curriculum and Achievement Committee	September 2016

Ratified by the Curriculum and Achievement Committee of Lingdale Primary School Governing Body on October 2014.

Signed:

(Chair of Curriculum and Achievement Committee)

Date:

DESIGN AND TECHNOLOGY

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.

Introduction

This policy is a statement of the aims, principles, strategies and expectations of effective teaching and learning in Design and Technology at Lingdale Primary School.

Please read this policy in conjunction with:

Teaching and Learning Policy

SEND Policy

Health and Safety Policy

Statutory Guidance

Aims

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.

Teaching and Learning in Design Technology

All lessons need clear learning objectives which are shared and reviewed with the pupils effectively. A variety of strategies are used to assess progress. The information is used to identify what is taught next.

Lessons must make effective links with other curriculum areas and subjects, especially Literacy , Numeracy and Science.

Activities should be challenging, motivating and extend pupils' learning.

As they move through school pupils have more frequent opportunities to develop their skills and select and use appropriate resources and tools, and combine these for a given purpose with confidence.

Making Cross Curricular Links

At Lingdale Primary School we believe that making links between curriculum subjects and matters, skills and processes will deepen the children's understanding by providing opportunities to reinforce and enhance their learning.

A majority of the formative assessment at Lingdale Primary School will be taken from cross curricular work where children are applying taught matters, skills and processes.

Continuity and progression

The school ensures curriculum continuity by close liaison between staff and the planning stages.

Key stage 1

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 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.

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.

Pupils should be taught to:

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

Key stage 2

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, 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.

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Pupils should be taught to:

- 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.

Inclusion

Planning at all levels ensures that the interests of boys and girls are taken into account. At Key Stage 1 the pupils are grouped in mixed ability age groups and gender groups for all activities. In Key Stage 2 pupils may be grouped by ability within their age group.

The pupils work individually, in pairs, as part of a small group and as a whole year group each term. They use a variety of means for communicating and recording their work.

All pupils, including those with special educational needs, undertake the full range of activities. Teacher assessment determines the depth to which individuals and groups go during each unit of work.

Implementation

Computing is taught discretely for one hour per week with the children then being provided with opportunities to develop their skills in cross curricular activities.

Assessment, Recording and Reporting in Computing

Types of Assessment

Formative – assessment for learning – allows the teacher to see what the child knows, understands and can do
Summative – assessment of learning – records overall achievement of the child
Diagnostic – identifies areas of strength and weakness
Evaluative – allows teachers and school leaders to see the effectiveness of teaching in terms of performance

Formative Assessment

Formative assessment is embedded in the teaching and learning process of Computing at Lingdale Primary School.

It involves:

1. Evaluating pupils level of knowledge
2. Setting explicit learning intentions
3. Sharing learning intentions and success criteria with pupils
4. Questioning effectively
5. Pupils evaluating their own and peers performance against success criteria
6. Teacher s and pupils reflecting and reviewing performance and progress
7. Effective oral feedback to inform pupils what they should do next
8. Children responding to feedback

Self-Assessment and Peer Assessment

Peer and self-assessment are ways of engaging children in understanding their progress in learning and identifying next steps in their learning that can be used in addition, and to support, oral feedback from teachers and Support Staff. The aim is to involve children in the analysis and constructive criticism of their own and others work.

Learners use the success criteria to make judgements on their own, and peers, learning and identify areas for development – next steps.

Day to Day Assessment

The main focus involves teachers using their professional skills to observe a child to see if the work provided for them is sufficiently challenging to ensure progress or that misconceptions or 'gaps' are not impacting on progress. The assessments are recorded on the planning sheets and used to inform future planning.

This may be achieved through:

- Questioning
- Observing
- Discussing
- Analysing
- Checking children's understanding
- Engaging children in reviewing progress

Assessment <u>of</u> Learning – Summative Assessments

At the end of a unit of work summative assessments are made about each child's achievements throughout the unit and are recorded on the Computing Assessment Sheet. Each statement that the child has achieved throughout the unit is highlighted and dated. Teachers also note where evidence for each achievement can be found.
Strengths and areas for development are identified and this informs future learning of the skills matters and processes for the next unit of work.

Then at the end of each year a summative judgement is made as to whether individual children are emerging, expected or exceeding their year group expectations in Computing.

Assessment <u>for</u> Learning – Formative Assessments

The skill, matter or process objectives and success criteria are made explicit in all planning. Key questions and cross-curricular opportunities are identified on weekly planning.

Assessment opportunities are identified in weekly foundation planning and these form the basis of the planning for learning for the next lesson.

Teachers make brief notes in the assessment note column on planning to inform subsequent teaching and learnings. It is best practice to be constantly revising planned learning.

Success Criteria

Success criteria are shared with all children and displayed throughout the lesson to be used by the learner, peers or teacher. These should be differentiated where appropriate.

<u>Marking and Feedback</u>

Rationale

We are committed to providing relevant and timely oral feedback to pupils. Feedback intends to serve the purposes of valuing pupils' learning, helping to diagnose areas for development or next steps, and evaluating how well the learning task has been understood. Feedback should be a process of creating a dialogue with the learner, where questions can be asked; the learner is actively involved in the process.

At Lingdale Primary School, we aim to:

- Improve standards by encouraging children to give of their best and improve on their last piece of work;
- Develop children's self-esteem through praise and valuing their achievements;
- Create a dialogue which will aid progression.

Effective Feedback Strategies

The following strategies can be used to assess and provide feedback:

1. Verbal Feedback

This means the discussion of work in direct contact with the child/ group of children. It is particularly appropriate with younger, less able or less confident children.

2. Success Criteria Checklists

Success Criteria checklists can be used in all subjects and may include columns for self/peer assessment and teacher assessment. These should be differentiated where appropriate.

For example:

Success Criteria Checklist	
Learning Objective: To design and make a simple moving vehicle.	
1. Design a chassis (that will enable wheels to be attached to an axle)	
2. Select wheels of appropriate dimensions (and attach to axle)	
3. Ensure that axle can turn when wheels are attached to it (and do not 'catch' on the chassis)	

Moderation

Moderation is the process of bringing individual judgements into line with general standards and those throughout school and nationally. Moderation is carried out annually for Design Technology.

Monitoring and Evaluation of the Computing Policy.

Moderation of the teaching and learning of Design Technology at Lingdale Primary will occur yearly alongside moderation of work.

Monitoring and evaluation of teaching, learning and the curriculum enable us to:

- Find out about the quality of teaching and learning and standards of achievement
- Identify strengths and areas for development
- Identify areas for development and take appropriate action
- Ensure consistency in continuity and progression
- Provide appropriate support and resources
- Ensure the needs of all groups or children are addressed
- Share good practice

The Headteacher monitors:

- Long term, medium term and short term planning
- Co-ordinates and monitors moderation of judgements
- Scrutinises assessment notes
- Ensures policy is implemented

Subject Leader monitors:

- Long term, medium term and short term planning
- Annual assessments when a summative judgement is made.
- Co-ordinates and monitors moderation of judgements
- Ensures policy is implemented
- Supports and guides teachers in teaching and learning of Design Technology.
- Monitors and evaluates practices in school
- Keeps up to date with latest initiatives, research and resources and communicate these to staff
- Attends relevant CPD
- Prepares, organises and delivers appropriate CPD

All staff:

- Complete weekly planning that indicates assessment focus
- Assess pupils work in each lesson and provide notes on planning
- Plan learning that is in response to assessment information
- Highlights children's achievements on the Summative assessment sheets at the end of a unit of work.
- Makes a summative judgement at the end of the year or upper/lower key stage for each child.

Review and Evaluation of the Policy

The policy will be reviewed annually, to ensure it is kept in line with any curriculum changes that take place within the school or externally.

Equal Opportunities and Differentiation

It is important when planning work in Design Technology that the teacher pays close attention to equal opportunity in respect of gender, race , the needs of the most able children and those children with special educational needs.

Points for consideration by teachers when planning Design Technology work are

- Am I promoting Design Technology equally to both sexes?
- Is the material I am using attractive to all children- particular care should be taken when using illustrations in books or worksheets
- Take care when planning work so that racial ethics are given consideration, especially in work connected with the human body and food
- Am I catering for the needs of the most able and those with learning difficulties? Will the work provided enable all children to feel that they are achieving and progressing?
- If there is evidence of underachievement by any group, positive corrective action must be initiated.

Activating Prior Knowledge

Using prior assessment information to guide activities and strategies this enables teachers to accurately identify the start point for learning.

Learning Intentions/ Objectives

Based on prior assessment information and outcomes from the activation of prior knowledge teachers identify ordered learning objectives for each group within the class to ensure that progress in learning is made.

Learning objectives and success criteria are to be shared with the children at the beginning of each Design Technology lesson so that children know their learning steps throughout the lesson.

See Appendix A for year group objectives and curriculum overview.

Differentiation

There are a number of different forms of differentiation:

- By outcome – where a task is given and the children respond at different levels
- Different tasks around the same topic matched to the needs of the children
- Variety of input for the same task
- Variety of questioning
- Completing different tasks

Contribution of Design Technology to other areas of the curriculum

Activities within Design Technologyallow children to develop their skills in other areas of the curriculum such as Mathematics (measuring and estimating); Science (testing to see if their prediction/ prototype 'works' the way that they expect); Literacy (communication with peers and research to find information).

Appropriate vocabulary (and the correct use of this vocabulary) should be encouraged both orally and when recording across the curriculum.

Financial Commitment

The financial commitment for Design Technology will differ each year, details of which will be found in the SDP. However, in order that staff can deliver the Design Technology Curriculum effectively, the following financial commitment is envisaged.

- an annual maintenance budget
- a budget for staff development
- bids for specialised amounts of funding
- a financial commitment for Computing will be presented each year to the Head teacher for discussion and approval.

Role of the Design Technology Co-ordinator

The role of the Design Technology co-ordinators is

- to co-ordinate the teaching of Design Technology within the school
- to be involved in the induction of new staff
- to monitor the use of the policy and scheme of work
- to ensure continuity and progression of the teaching and learning of Design Technology across the Key Stages
- the review the Policy and Scheme of Work
- to make staff aware of Design Technology courses on offer and encourage them to attend when appropriate
- to provide, where necessary, staff training and development
- to show by example and good Design Technology practice

Monitoring and Review

Monitoring of the standards of children's work and the quality of teaching in Design Technology is the role of the Design Technology Co-ordinator and the Senior Leadership Team in the following ways:

- systematic analysis of medium and short term plans
- classroom observations
- through samples of children's work saved on School network
- through areas of Design Technology identified for development through the School Development Plan.

This policy was revised and updated in July 2014 by C Gallagher and N Oxtoby