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EDWARD FRANCIS PRIMARY SCHOOL

DESIGN TECHNOLOGY POLICY

THIS ISSUE – Spring 2023

CHANGES FROM PREVIOUS VERSION:

- Clarification of intent, implementation and impact of Design & Technology following an update of the DT Curriculum Map (2022)
- Include expectations relating to Food and Nutrition.

Document Purpose

This policy sets out a framework within which teaching and non-teaching staff can operate and gives guidance on planning, teaching and assessment. The policy is intended to be used in conjunction with the National Curriculum objectives for Design and Technology. It reflects the school's values in relation to the teaching and learning of Design and Technology.

Defining 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. The children 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, become resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present products, they develop a critical understanding of the impact that different designs and technologies have 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 in England 2014

"Design and Technology is about making things that people want and that work well. Creating these things is hugely exciting: it is an inventive, fun activity."- James Dyson, Chairman, Dyson Ltd.

Intent

The aims of Design and Technology at Edward Francis Primary School are:

- To promote Design and Technology as a creative problem solving subject .
- To encourage positive attitudes towards and nurture enjoyment of Design and Technology work in school by celebrating the creative ideas, practical skills and aesthetic aspects of pupils' designs.
- To provide quality teaching of materials, mechanisms and technologies and to encourage pupils to make the effort to get 'hands-on' with them to consolidate understanding of how they work.
- To encourage a healthy respect of safety through the reinforcement of correct procedures when using tools and equipment.
- To develop resilience when ideas don't work and encourage a mindset of constant improvement through the DT Cycle:
    1. Evaluate (Existing designs)
    2. Explore relevant skills and technologies
    3. Design a solution
    4. Make
    5. Evaluate (and improve)
- To encourage pupils to work both individually and in partnership with others.
- To educate pupils about the origins of food, how to follow a healthy and varied diet and to give pupils the opportunity to practise food preparation and cooking in a safe and hygienic manner.

Implementation of Design and Technology.

- Early years classes follow the foundation curriculum working towards the Early Learning Goals. Design and Technology projects are presented to the children throughout the year to help to develop their skills under each goal.
- In KS1 and KS2, the Design and Technology curriculum is undertaken alongside the Art and Design curriculum. In both key stages, Design and Technology tasks are linked to the theme being studied during that term.
- Learning activities are sequenced throughout the school to ensure progression and continuity as laid out in the DT Curriculum Map.
- Design and Technology is naturally a subject that needs a practical approach. Throughout the school the children will be taught to:
    - Investigate and evaluate commercial products, developing ideas of their own.
    - Communicate their ideas through discussion and annotated drawings.
    - Perform new skills and make deliberate material choices.
    - Understand the importance of quality in their work.
    - Reflect on their activities, evaluate their work and use knowledge gained to improve their work in the future.

An example plan for a ½ term of Design and Technology lessons:

Session 1

Introduce the design criteria & explore designs and materials

- Introduce the need or problem
- Discuss existing designs and possible materials that would be useful for this product.
- Allow children time to explore previous examples of what they are going to make – either photos, research books, the real thing or using iPads/ laptops.
- Have a selection of possible materials for the children to feel, test their strength etc. Are they fit for your purpose? Include some that will be unsuitable and allow them to come to their own conclusions.
- Create a class list on a large piece of paper which will be used in the following session.

Session 2

Design my own...

- Using the previous week materials list, explain to the children that they are now going to design a UNIQUE thing.
- What will make yours different from everyone elses? Why would someone want to buy yours rather than one you can buy in the shops already? What criteria must it meet?
- Provide template or children can use their Art/DT book
- Children complete their designs

Session 3, 4 & 5

Make using a skill

- Teach the required skill or mechanism
- Get on and make it, giving support where necessary.
- Each week show examples of where you have got to by the end of the lesson.
- Evaluate the process – did anyone struggle? What did you like? What effect did using that skill have on your product? etc

Session 6

Evaluate my design against the original design criteria

- Does it look good? Is it fit for purpose? Does it work? Does it meet the criteria?
- What went well/What would you change? - KS2 could use Peer assessment.
- Children to complete the evaluation

Measure Impact - Design & Technology

- EYFS - In Early Years classes, assessments are made by observation in all areas of the Foundation Curriculum against the Early Learning Goals.
- KS1 & KS2 - Assessments can be made throughout the design cycle. Teachers should consider if the child is working toward, at or above in the following areas, taken from the D&T National Curriculum [National Curriculum - Design and technology key stages 1 to 2]

When assessing..	KS1 National Curriculum Descriptors	KS2 National Curriculum Descriptors
For the design the pupil can…	Design purposeful, functional, appealing products for themselves and other users based on a given design criteria	Use research to develop their own appropriate design criteria.
	Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology	Design innovative, functional, appealing and fit for purpose, aimed at a particular user. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
To show technical knowledge the pupil can…	Build structures, exploring how they can be made stronger, stiffer and more stable	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
	Explore and use mechanisms for example, levers, sliders, wheels and axles, in their products.	Show evidence of understanding and using mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
		Show understanding and use of 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.
For the construction the pupil can…	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 tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
	Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.	Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.
In their evaluation, pupils can	Explore and evaluate a range of existing products	Investigate and analyse a range of existing products.
	Evaluate their ideas and products against design criteria	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.

Measure Impact - Cooking and Nutrition

As part of their work with food, pupils will be taught how to follow a recipe and apply the principles of hygiene, nutrition and healthy eating. Teachers should endeavour to instil a love of cooking in pupils. 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:

- KEY STAGE 1:
    - understand the importance of hygiene and safety in the kitchen
    - use the basic principles of a healthy and varied diet
    - prepare dishes following a demonstration and visual aids (Recipe cards or images)
    - understand where food comes from.
- KEY STAGE 2:
    - understand the importance of hygiene and safety in the kitchen
    - understand and apply the principles of a healthy and varied diet
    - prepare and cook a variety of predominantly savoury dishes using a recipe and a range of cooking techniques
    - understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Assessment against the criteria above for designing and cooking will take place when a project has been completed and the teacher will consider whether each pupil is working towards, at or above year group expectations. The assessment will be reviewed termly in the Foundation Assessment Spreadsheet on Google Shared Drive.

Health and Safety

The teacher will be responsible for the Health and Safety of themselves and all pupils within their class and should demonstrate how to:

1. Collect and return tools and equipment safely.
2. Use tools correctly.
3. Follow clear instructions.
4. Only move around the classroom/kitchen when necessary.
5. Wear safety equipment whenever necessary.

All pupils should be clear on the intended use of tools and have safe, controlled access to tools and equipment during the design and technology lesson.

Inclusion and Equal Opportunities

All teaching and non-teaching staff at Edward Francis Primary School are responsible for ensuring that all pupils, irrespective of gender, ability, ethnic origin and social circumstances have access to the whole curriculum, and the opportunity to make the greatest progress possible in all areas of the curriculum, while in our school.

Marking and Feedback

Teachers will give feedback when and where necessary. This feedback may be verbal or written. Teachers will use opportunities to move learning forwards by their comments (see Pupil Feedback Policy).

Monitoring

Monitoring of the teaching and learning of Design and Technology at EFPS is the responsibility of the subject co-ordinator. This will take place yearly to ensure coverage and progression. Teachers are encouraged to give feedback to the coordinator so that up to date resources and CPD can be arranged.