Design Technology Policy

2020

Our Mission:

'To develop responsible, independent individuals who love learning and have the knowledge and attitudes to be successful in an ever changing world'.

St. Lawrence Primary School

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Mission

To develop responsible, independent individuals who (love learning and) have the knowledge and attitudes to be successful in an ever changing world.

Ethos and beliefs

School should be about empowering children to be successful in an ever changing world. By providing rich and memorable learning experiences and engaging our children through hands on activities, we support the development of their skills as well as their knowledge and understanding.

It is important to us that children are able to connect what they do at school to the real world and that they learn how to think creatively and solve problems, both independently and collaboratively. As such, we enable children to take on responsibilities, to make choices about their learning and to find out their own interests and fascinations.

Core Values

Independence:

- We are confident to be unique
- We respect each other inside and out
- We are happy for our own and for each other's successes

Responsibility:

- We treat others how we would like to be treated
- We tell the truth
- We care about each other's feelings

Success

- We ask questions and figure things out for ourselves
- We listen in a respectful way
- We try our best and learn from our mistakes

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Aims and Objectives

We live in an increasingly scientific and technological age where children need to acquire the knowledge, skills and attitudes to prepare them for life in the 21st century.

We, at St. Lawrence Primary School believe that the teaching of design technology develops in children collaboration, problem solving and knowledge in design, materials, structures, mechanisms and electrical control. Children are encouraged to be creative and innovative, and are actively encouraged to think about important issues such as sustainability and enterprise.

Through our design technology teaching we aim to:

- Equip children to use themselves as starting points for learning about design technology, and to build on their enthusiasm and natural sense of wonder about the world.
- Raise standards of achievement and attainment in design technology.
- Encourage and enable pupils to offer their own designs, to be creative in their approach to dt, and to gain enjoyment from their dt journey.
- Enable children to develop their skills of co-operation through working with others
- Encourage children to persevere.
- Support children to acquire and apply knowledge and understanding of materials and components, mechanisms and control systems, structures, existing products, quality and health and safety.

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Planning

The long and medium term science planning can be found in Teacher shared, planning. It is the role of the DT leader to review the long-term plan, which is reviewed annually.

The requirements in the long-term plan are taken from each year group's projects and the Design Technology Jersey Curriculum

It is the responsibility of the class teachers to generate the medium term plan and weekly plans, which are in line with the long term planning requirements and therefore have clear learning objectives. It is the role of the DT leader to monitor and advise teachers on medium planning giving feedback and assistance where necessary.

Marking/ Assessment

Marking of the children's work is completed in line with the school's marking policy. It is also the responsibility of the class teacher to maintain an overview of each child's progress in design technology. A variety of strategies including observations, taking photographs, questioning, discussion and marking are used to formatively assess progress against the learnt objectives. This information is used to identify what is taught next.

Teaching of Design Technology

To provide adequate time for developing design technology, skills and understanding, each teacher provides 25 hours per year to the teaching of DT. Each teacher will deliver it as they see fit eg; 1 hour per week for ½ a term. A block of 2 days. The skills learned in DT also help with learning across the curriculum. Knowledge about the properties of materials helps in science and the practice of measuring accurately helps in maths. These skills help in IT through the children's use of computer control and naturally in art and design.

Health and Safety

The safe use of equipment and consideration of others is promoted at all times. Some general risk assessments have been taken from the CLEAPS website (see Appendix) and read/amended by class teachers when necessary before specific tasks are carried out/ equipment is used. Children are made aware of safety issues and, where appropriate, the reasons behind them. In most cases, dynamic risk assessments are continuously carried out by the class teacher. Activities which take place away from the school's premises require a risk assessment form to be filled in.

Resources

The school holds a central bank (DT cupboard) of resources. The Design Technology leader is responsible for maintaining this area and ordering any necessary items that have been identified as a need. All staff members are responsible for collecting and returning necessary items to the correct place to ensure that resources are easy for all staff to find.

Equal opportunities

All children at St. Lawrence School are given equal opportunities in all areas of design technology. We are committed to providing all children with an equal entitlement to DT activities and opportunities regardless of race, gender, culture or class.

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Coverage

Design and Technology education involves two important elements; learning about the designed and made world and how things work, learning how things work and making functional products for particular purposes and users.

In Key Stage 1, children will 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.

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).

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.

Pupils should be taught to:

Key stage 1

Use 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.

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Sharps

including **scalpels, knives, syringe needles, seekers, etc** (2013)

Source	Hazard	Comment
Scalpels, knives and other blades	DANGER	Cuts and puncture wounds can lead to infection, especially if the blade or point is contaminated by contact with living or once-living material. Careless use and handling of scalpels, syringes with needles, seekers and other sharps can lead to cuts and puncture wounds. Sharp scalpels are safer to use than blunt ones because there is less risk of them slipping as less force needs to be used. Carrying scalpels, syringes with needles, seekers and other sharps especially in crowded rooms, can present a hazard to the user and others. Carelessly-disposed sharps can present a hazard to waste handlers and others.
Syringe needles	DANGER	
Seekers and other sharps	DANGER	

Typical control measures to reduce risk

- Follow your teacher's guidance on safe practice in relation to the material being dissected.
- Cut in a direction away from yourself and where possible cut using a cutting board, dissection tray or pad or similar.
- Wear eye protection when changing scalpel blades or cutting material likely to "flick" (eg, cartilage or bone).
- Count sharps at the beginning and end of the lesson.
- Carry sharps with the blade or point protected, eg in a shallow tray, and do not carry them at all if you are likely to be jostled..
- Dispose of used sharps in a proper, safe container, eg a sturdy box, clearly labelled, and sealed and wrapped before disposal.

Assessing the risks

- ***What are the details of the activity to be undertaken? What are the hazards?***
- ***What is the chance of something going wrong?***
  Eg, Could the user or somebody else be cut or stabbed by accident?
- ***How serious would it be if something did go wrong?***
- ***How can the risk(s) be controlled for this activity?***
  Eg, Can it be done safely? Does the procedure need to be altered?

Emergency action

- **Minor cuts** Rinse the wound with water. Get the casualty to apply a small, sterile dressing.
- **Severe cuts** Lower the casualty to the floor. Raise the wound as high as possible. If feasible, ask the casualty to apply pressure on or as close to the cut as possible, using fingers, a pad of cloth or, better, a sterile dressing (adding further layers as necessary). If the casualty is unable to do so, apply pressure yourself, protecting your skin and clothes from contamination by blood if possible. Leave any embedded large bodies and press around them. Send for a first aider.

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Electricity

Situation	Hazard	Comment
Electric power distribution 230 V ac and above at high currents (over 5 mA).	 ELECTRIC SHOCK / BURN	*In non-school contexts*: over-head power lines and local sub-stations could cause accidents if children behave foolishly.
Home and school Above 28 V ac or 40 V dc and at currents over 5 mA. This includes the 230 V ac mains supply.	 ELECTRIC SHOCK / BURN	*In school science*: problems may arise from terminals of high voltage (high tension, HT) supplies or low-voltage units with an HT outlet (as some supply 150 mA); also in activities involving electrophoresis, model transformers or conductivity of molten glass. *In non-school contexts*: problems arise due to poor insulation (damaged wiring and plugs), incorrect wiring, over-loaded circuits, poor earthing or vandalism.
School science investigations Less than 28 V ac or 40 V dc and at currents over 5 mA. This includes almost all work with batteries in school or elsewhere.	LOW ELECTRICAL HAZARD  TOXIC / CORROSIVE	Most school circuit work, including electrolysis, is in this category (although problems could arise if currents over 10 A were used). Some cells, batteries and accumulators contain TOXIC or CORROSIVE materials.
Everywhere: eg, static electricity Any voltages at very low currents (well below 5 mA)	LOW HAZARD	Examples include the van de Graaff generator (but **not** induction coils which may give over 5 mA). Electronic equipment nearby may be damaged by static discharges or electromagnetic fields.

Typical control measures to reduce risk

- Use the lowest voltage possible (and, for electrolysis, the lowest current and concentration that gives good results).
- Avoid exposed conductors which are live above 28 V.
- Avoid the possibility of water coming into contact with conductors which are live above 28 V.
- Check that primary and secondary insulation (ie, both layers of plastic coating) are in good condition.
- Avoid over-loaded circuits, too many plugs in one socket, etc.
- Check that plugs are correctly wired with appropriate fuses.
- Ensure good earth connections where necessary.

Assessing the risks

- ***What are the details of the activity to be undertaken? What are the hazards?***
- ***What is the chance of something going wrong?***
  Eg, Accidentally touching a live component through poor design or poor maintenance.
- ***How serious would it be if something did go wrong?***
  Eg, Could a current flow through the heart? How large a voltage and/or current?
- ***How can the risk(s) be controlled for this activity?***
  Eg, Can it be done safely? Does the procedure need to be altered?

Emergency action

- **Electric shock** — **Take care for your own safety.**
  Break contact by switching off or removing the plug. If this is not possible, use a wooden broom handle or wear rubber gloves to pull the casualty clear. See a doctor.
  If the casualty is unconscious, check that airways are clear and that the casualty is breathing and has a pulse. If so, place the casualty in the 'recovery position'. If a pulse is found but the casualty is not breathing, artificial ventilation is necessary. If no pulse is found and the casualty is not breathing, cardio-pulmonary resuscitation is necessary.

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Version	Date Issued	Issued by	Reason for Change	Presented To (initials to agree policy has been read and understood)	Approved by:	Date
0.1	May2020	Claire Fitzpatrick	Draft			
0.2						
0.3						