

# St Joseph's RCVA Primary School

## Design and Technology Policy

This policy is a statement of the aims, principles and strategies for the teaching of Design and Technology at St. Joseph's RCVA Primary School.

### What is Design and Technology?

Design and Technology is a 'hands on' subject in which pupils have the experience of evaluating, designing and making products of a high standard. Design and Technology encourages children to examine their environment, question the world and to think about how and why things work the way they do.

Design and Technology presents children with a series of real life scenarios, where children become autonomous creative problem solvers. The children will combine practical exercises with the more abstract notions of aesthetics, functional design and making skills. As they do this they will develop their ability to evaluate past and present designs, the uses they have and the impact they have on the real world. Through their Design and Technology, children become more focused on what makes a successful product and more imaginative in how a product could be made or improved.

Design and Technology should draw on the child's knowledge and experience from other subject areas particularly Literacy, Numeracy, Science, Art and ICT. At St. Joseph's it is seen as an important part of our Skills Based Curriculum. (see this Policy)

Design and Technology should always be a relevant, enjoyable and creative activity for all children.

For Design and Technology we aim to:

- develop in children an understanding of the designing and making process, the need to evaluate existing ideas and products and an ability to work through the D&T process confidently.
- ensure that by the end of key stage 2 children are able to work more independently, and with confidence on design and technology.
- ensure that children are able to identify opportunities for design and technology activities by observing more closely the objects around them .
- make children more aware of the ways in which everyday objects have been designed and made.
- to enable children to become more confident and skilled in using the range of tools and materials available in the school.

### The National Curriculum Attainment Targets for Design and Technology

During their experience of Design and Technology, children should be exposed to all of the relevant elements of the National Curriculum Attainment targets. These should be taught alongside four main purpose purposes of the National Curriculum (as outlined on pages 12 and 13 of the National Curriculum document).

#### Level 1

Pupils generate ideas and recognise characteristics of familiar products. Their plans show that, with help,

they can put their ideas into practice. They use pictures and words to describe what they want to do. They explain what they are making and which tools they are using. They use tools and materials with help, where needed. They talk about their own and other people's work in simple terms and describe how a product works.

## **Level 2**

Pupils generate ideas and plan what to do next, based on their experience of working with materials and components. They use models, pictures and words to describe their designs. They select appropriate tools, techniques and materials, explaining their choices. They use tools and assemble, join and combine materials and components in a variety of ways. They recognise what they have done well as their work progresses, and suggest things they could do better in the future.

## **Level 3**

Pupils generate ideas and recognise that their designs have to meet a range of different needs. They make realistic plans for achieving their aims. They clarify ideas when asked and use words, labelled sketches and models to communicate the details of their designs. They think ahead about the order of their work, choosing appropriate tools, equipment, materials, components and techniques. They use tools and equipment with some accuracy to cut and shape materials and to put together components. They identify where evaluation of the design and make process and their products has led to improvements.

## **Level 4**

Pupils generate ideas by collecting and using information. They take users' views into account and produce step by step plans. They communicate alternative ideas using words, labelled sketches and models, showing that they are aware of constraints. They work with a variety of materials and components with some accuracy, paying attention to quality of finish and to function. They select and work with a range of tools and equipment. They reflect on their designs as they develop, bearing in mind the way the product will be used. They identify what is working well and what could be improved.

## **Level 5**

Pupils draw on and use various sources of information. They clarify their ideas through discussion, drawing and modelling. They use their understanding of the characteristics of familiar products when developing and communicating their own ideas. They work from their own detailed plans, modifying them where appropriate. They work with a range of tools, materials, equipment, components and processes with some precision. They check their work as it develops and modify their approach in the light of progress. They test and evaluate their products, showing that they understand the situations in which their designs will have to function and are aware of resources as a constraint. They evaluate their products and their use of information sources.

## **How is Design and Technology taught at St. Joseph's RCVA Primary School?**

- At St. Josephs School Design Technology is taught in a cross curricular way concentrating on the skills needed for this subject. Children are taught to involve elements from all attainment targets in everything which they design and make. This approach will encourage the process of designing and making. Where possible, and where relevant, links should be made to other curriculum areas. Links should only be made, when the links will enrich the Design Technology Curriculum.

- Design and Technology will be taught either in blocked weekly sessions or in a condensed two or three day time frame where appropriate; for example some topics such as food topics may be better suited to a condensed time frame where as making moving models/vehicles would be better taught over a period of weeks. Individual class teachers will decide whether or not their topics will be taught over a period of weeks or whether to teach it in a condensed period.
- Each term children will experience an evaluation task, preferably of an existing product or process, a series of focused practical tasks which will develop the skills necessary for the children to carry out the D&M task (Designing and Making).
- When evaluating their own work, children should refer to the design criteria established in the design brief as their basis for deciding on how good their product is.
- The emphasis in Reception is for children to be encouraged to examine and talk about everyday objects and give possible reasons for why things are made the way they are.
- They will also be given opportunities to handle and use a wide range of materials, developing their knowledge and understanding of these through practical design and make activities. There will be more teacher direction within design and technology activities within the reception class but this support will decrease as children move through key stages 1 and 2.
- During their experience of Design and Technology the children are introduced to a variety of contexts including, home, recreation, industrial and community.
- Opportunity is provided for each child to experience construction, graphic media each year. Children will have opportunities to experience textile and food technology at least once during each key stage.
- The work undertaken should be practical, enjoyable and relevant for all children.
- Children will be taught in their normal class group.
- All children with special educational needs will be given the opportunity to undertake design and technology activities.
- At St Joseph's, children will be encouraged to use data handling, word processing, graphics and C.A.D. programs and spreadsheets to facilitate and enhance their design and technology.
- All design and technology activities will ensure an equal interest and participation level for both boys and girls.
- While resources are stored in a central storage area, where possible children should be presented with a choice of tools and resources so that they are best able to meet their designs effectively. (For appropriate use of resources please refer to the Health and Safety section of the policy.)
- Opportunities will be made each year to celebrate achievement in Design and Technology as a whole school community, either through D&T assemblies, Design and Technology days a similar event.

**Curriculum Guide (this changes from year to year and is just a guide to the type of areas that**

classes cover)

<b>Year group</b>	<b>Autumn term</b>	<b>Spring term</b>	<b>Summer term</b>
<b>Foundation Stage</b>	Junk modelling	Construction kits	Wood and Plastic
	Food	Textiles	Journeys/holidays
<b>Class 2</b>	Moving Toys/Pictures	Homes-Doors  Fruit and Veg	Playground Structures
<b>Class 3</b>	Making puppets	Vehicles	Design a coat for a teddy
<b>Class 4</b>	Levers, sliders and pop-ups	Tropical Fruit Drinks  Drink Cartons	Moving monsters  (pneumatics and hydraulics)
<b>Class 5</b>	Lighting it up!	Money containers	Biscuits
<b>Class 6</b>	Victorian moving toys or playgrounds	SAT's revision	Controllable vehicles

## Health and Safety

While individual class teachers must judge for themselves whether or not their class is able to use a particular resource the following guidance must be adhered to:

### Clamps: Pliers/Vices/Punches

Children may use these pieces of equipment when their strength of grip enables them to operate the tool. N.B. eyelet punches require a considerable amount of strength to control so should be used only by teachers or older children.

### Cookers

Once instruction has been given, children may be allowed to operate the cooker under **close** supervision.

### Drills

Hand drills: These may be used by children after training under supervision. When the teacher is satisfied that the child has become competent in the use of this tool they may use the drill in the classroom by themselves (Unsupervised in KS2 only).

### Mini Drills:

To be used by KS2 children after training under supervision.

### Power Drills:

Not for classroom use.

Where possible drills should be in a stand and the material should be clamped to a surface.

### Safety Glasses

These should be worn when there is a risk of damage to the eyes.

### **Food Hygiene**

Children should be made aware as early as possible of the need for hygienic food preparation. Teachers should train the children to prepare food hygienically and supervise preparation.

### **Glues**

**Pritt-Sticks:** These may be used by children as soon as they are competent not to get any in their eyes, mouth etc...

**PVA/Hobby glues:** As above in addition to some training and then general supervision.

**Wood Adhesive:** This should only be used by the teacher or under direct supervision

**Wallpaper paste:** This glue may be used after training and then under general supervision.

**Solvent Glues:** While the Borough allows use of solvent based glues after training and under close supervision, it is the recommendation of this policy that children use only water based glues.

**Glue Guns:** Only low temperature glue guns should be used. They should be used by the teacher only until years 5 and six, where they may be used by the child under close supervision of an adult.

### **Paper Trimmers**

These may be used by children after instruction under general supervision. While the Borough does not specify a key stage or year group, it is the recommendation of this policy that only children in years 5 and 6 and possible some mature year 4 children, at the discretion of the teacher be allowed to use a paper trimmer.

### **Hammers**

Children may use a hammer as soon as their motor skills allow them to hit the nail accurately and as soon as they are disciplined enough to stay on task.

Smaller weight hammers are sufficient for most jobs in the classroom.

**Claw hammers and Club Hammers are not for use in the classroom.**

### **Knives**

While use of scissors is preferable, children may be required to use knives for their Design and Technology work. They should only be used by older children and can be used once they have learnt the rules, techniques and skills for cutting. They should be closely supervised while working with a knife.

### **Paints**

Children should use water based paints only. These may be used under general supervision. Emulsions (house paints) should be used by adults only or with older pupils under supervision.

### **Plastics**

Plastic sheeting should be cut using scissors and may be used at any age where the pupils are competent with scissors. Years 5 and 6 may sand plastics but only after training and under supervision. Hot wire cutters

should only be used by a competent teacher.

### **Sanding/Filing**

Sandpaper/Emery paper/Files: Sanding and filing may be carried out using these tools under general supervision as soon as the children's motor skills are sufficient.

**Orbital sanders:** These should be used by teachers only. They are not for classroom use.

**Edgegrinders:** Not for use in school.

### **Saws - Hand**

**Hacksaws and Junior Hacksaws:** These are suitable for most jobs and may be used by the children providing they have undergone some training and have the appropriate motor skills.

**Tenon Saws:** As they are slightly larger, these saws are better suited to older children with finer motor control. The children using these should undergo some training in the use of a tenon saw.

**Larger saws:** For example coping saws and bow saws should not be used in class.

### **Saws - Power**

**Power saws should not be used in school.**

### **Scissors**

**Paper cutters:** These should be used by the youngest pupils until they have the motor coordination to use scissors.

**Blunt ended scissors:** These may be used as soon as the children can actually handle them under general supervision.

**Sharp ended scissors:** These may be used under general supervision once the children can be relied upon to use the correct techniques.

**Safety snips:** These may be used under general supervision once the children can be relied upon to use the correct techniques.

**Tin Snips:** These should be used by adults only.

**Left handed scissors/snips:** While most children are right handed left handed scissors and snips should be made available for left handed children.

### **Nails and Pins**

These may be used under general supervision once the children have been trained in their use.

### **Sprays - Paints/Fixatives**

These should only be used by adults in well ventilated areas. They should not be used in the presence of children.

**Staplers**

Mini staplers may be used by children under general supervision. Heavy duty staplers may be used under close supervision until the children are competent. Electric staplers are never to be used in the classroom. Staple guns are to be used on by trained adults.

Teachers should refer to their class hazard cards if they are unsure of any safety issues.

This Policy will be reviewed every 2 years

Signed.....position.....date.....

Signed.....position.....date.....