

# RAVENSCLOTE JUNIOR SCHOOL

## DESIGN AND TECHNOLOGY POLICY

2024 - 2025



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March 2024		July 2025	
Signed	Mrs Amy Wells Headteacher	Signed	Mrs Emily Gibson Chair of Governors



## Ravenscote Junior School

### Design and technology Policy

#### Statement:

At Ravenscote we believe that design and technology prepares the children to take part in the development of tomorrow's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and making products and systems. It encourages pupils to recognise that the world around them has been created both by nature and human intervention. It also prepares them for living and working in an ever increasingly technological based world.

#### Aim

The aims of D.T. at Ravenscote are for the pupils to:

- Build and extend their experiences and develop their capability to design and construct products to meet people's needs and wants within a real and purposeful content, by combining their designing and making skills with knowledge and understanding.
  - To make something, for someone, for some purpose (the 3 S's)
- To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making. Not only about their own work but designers/manufacturers work and peers work.
- To enable children to talk about how things work, and to draw and model their ideas.
- To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- To explore attitudes towards the made world and how we live and work within it.
- To develop and understand technological processes (including ICT – through the use of CAD software), products and their manufacture, and their contributions to society.
- Enable fluid learning through the connected curriculum via cross-curricular links.
- Make and apply judgements to their designing, drawing knowledge and understanding from other areas of the curriculum.
- Be provided with opportunities that are challenging, relevant and motivating, giving them enjoyment and satisfaction.
- Continue throughout the four years to build on their skills and understanding in D.T. to produce quality products.
- Foster curiosity, ingenuity and imagination through personal involvement with ideas and materials.
- Build on the skills and knowledge developed by our feeder schools.
- To prepare children for D.T. I higher education but making links with secondary schools.

#### National Curriculum Requirements

The programmes of study specify that knowledge and understanding are applied when developing ideas, planning, making products and evaluating them. These are found in five main sections;

- Developing, planning and communicating ideas.
- Working with tools, equipment, materials and components to make quality products.



- Evaluating processes and products.
- Knowledge and understanding of materials and components.
- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

At Ravenscote through the study of D.T. children combine practical skills with an understanding of aesthetic, social and environmental issues. This allows them to reflect on and evaluate present and past D.T., its uses and its impact.

### Planning

At Ravenscote planning is the responsibility of one teacher per year group. The long- and medium- term plans and progression maps identify the progression sequence of key concepts in D.T.. It is the planner's responsibility to use these resources to plan well sequenced lessons. The skills and vocabulary that need to be covered in each lesson are outlined in the medium-term plan. The knowledge organisers allow pupils to draw on learning from previous years and see links between the skills. They also allow for the children to clearly identify the 3 S's and their design criteria for their product. Planning includes introducing the children to the 3 S's (something, for someone, for some purpose) for each topic so that children can see the relevancy of their learning in the real world.

### Role of the Subject Leader

The Subject Leader will be responsible for:

- Monitoring D.T. within the school e.g. through book looks or curriculum learning walks.
- Keep up to date with new developments and inform staff.
- Deliver staff training.
- Encourage other members of staff in their D.T. teaching and give support where appropriate.
- Ensure that D.T. resource are available and appropriate to the needs of the staff.
- Ensure that D.T. maintains a strong profile within the school, through displays etc.
- Ensure that children are photographed with their final products to evidence and to aid in the evaluation processes.
- Audit resources regularly and take overall responsibility for equipment and resources.
- Preparing an up to date policy and schemes of work which provide for progression and continuity.
- Liaison with Feeder schools and Secondary schools.
- Link with subject advisors, co-ordinators in neighbouring and feeder schools and Governors.

### Breadth of Study

Throughout Key Stage 2 the pupils are taught knowledge, skills and understanding through:

- Using a range of materials including stiff and flexible sheet materials, materials for frameworks, textiles, food, ICT, electrical and mechanical components.
- Modelling and investigations.
- Working in groups and individually.
- Evaluations – written and oral, peer and self.
- Application of skills, knowledge and understanding from other subjects, particularly art, mathematics, science and ICT.

Children should be able to develop their ability to comment and write about the strengths and weaknesses of



their products.

### **Design and technology at Ravenscote**

D.T. is taught throughout the school by the class teacher each week for a half term block each term. This is accomplished by whole class teaching, working in small groups or working as individuals. Skills are built upon each year which the continuity between Key Stage 1 and 2 and in providing a foundation for Key Stage 3. Cross curricular links have been made where possible within the limits of the children's knowledge, understanding and curriculum constraints.

### **Health and Safety**

Safety issues are addressed where appropriate. The children are made aware of the following:

- At Ravenscote children will be given suitable instruction on the operation of all equipment before being allowed to work with it.
- Children should be strictly supervised in their use of equipment at all times.
- Children should be taught to respect the equipment they are using and to keep it stored safely while not in use.
- Children should be taught to recognise and consider hazards and risks and to act to control these risks, having followed simple instructions.
- Children should use low temperature glue guns under supervision in a designated work area, wearing safety goggles.
- 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.
- Children may use cutting equipment under supervision, using a cutting mat and wearing safety goggles.

### **Food hygiene**

Children and staff will take care to undertake appropriate food hygiene when working in close contact with food.

- The need for hygienic practices when undertaking food activities.
- All staff and children's hands should be washed and other hygiene related activities prior to preparing food.
- Children and staff working with food must wear aprons designed for cooking
- All jewellery must be removed, and hair tied back.

### **Health Education**

Through D.T., the following issues are addressed:

- Safety of the individual in different environments.
- Nutrition, associated with diet and health nutritional value of various foods, quality of food preparation and handling.
- Personal hygiene and cleanliness.

### **Environmental Education**

Environmental education and D.T. activities are closely linked, increasing children's awareness of the consequences of planning and economic decisions and the compromises which are reached. Wherever possible the benefits of using recycled products are utilised within projects. Within topics children have opportunities to learn about sustainability.

### **Citizenship**



The D.T. curriculum aims to give children the opportunity to be positive and well-motivated, working as individuals and as a member of a team.

### Long term plan and whole school overview

	AUTUMN	SPRING	SUMMER
<b>Year 3</b>	<b>Seasonal textiles</b> (stocking making)	<b>Egyptian food</b>  <i>Links – History (Egyptians), English (non-fiction account Egyptians)</i>	<b>British Inventors</b>  <i>Links - Geography (UK)</i>
<b>Year 4</b>	<b>Italian Food</b> (pizza making)  <i>Links – Geography (Italy), English (instruction writing)</i>	<b>Light up boxes</b>  <i>Links – Science electric circuits</i>	<b>Pop-up books</b>  <i>Links – English (Mount Vesuvius)</i>
<b>Year 5</b>	<b>Instruments</b>  <i>Link – eco skills and sustainability, Music (orchestra), Reading (Ada's Violin)</i>	<b>South American food</b> (burgers)	<b>Building Bridges</b>  <i>Links – History/ Geography (History of London)</i>
<b>Year 6</b>	<b>Fairground rides</b>  <i>Link – Science electric circuits</i>	<b>Bird houses</b>  <i>Links – eco skills, sustainability</i>	<b>Textiles (bags)</b>  <i>Links – eco skills, sustainability, Art (Asian Artists)</i>

### Assessment

Pupils are assessed as they progress. The assessment of achievement in D.T. will include product and process. This will be achieved through:

- Observation
- Class discussion
- Individual discussions with pupils about their work
- Evaluation of own and others designs and final products
- Pupil self-assessment (see Appendix 1 for example)
- Skills progression maps are referred to and traffic lighted at the end of each lesson or the start of the next. Children have an opportunity to come back to the skills in each unit they do throughout the year
- Knowledge organisers

### Teaching

The teaching and learning aims are as set out in the school's Teaching and Learning Policy.

We use a variety of teaching and learning styles in D.T. lessons. The principal aim is to develop children's knowledge, skills and understanding in D.T., and teachers encourage children to use their knowledge and understanding when developing ideas, planning and making products and evaluating them.



- Activities and tasks should be well organised.
- Resources should be available, appropriate and accessible there should be fair sharing between the children.
- Teacher expectations should be high and matched to the ability and experience of the pupils.
- Emphasis should be placed on the need to produce products of quality.
- Teachers should take account of health and safety factors, be aware of the range of activities in their classrooms and instil in pupils the need to work safely at all times.
- Teachers should create opportunities for pupils to apply their knowledge, discuss and analyse their work, justify their ideas, material and techniques.
- Through evaluation, improvements should be suggested.
- Teachers should encourage co-operative group work in which children learn to value each other's contributions.

### Learning

At Ravenscote children are encouraged to listen to the ideas of others, and treat them with respect, to critically evaluate existing products, both their own work and those of others. They have the opportunity to use a wide range of materials and resources, including ICT. During Key Stage 2 at Ravenscote, pupils will:

- Consistently use and extend their knowledge, understanding and skills as they design and make products.
- Show curiosity in investigating the properties of different materials.
- Use a range of techniques, processes and resources with confidence.
- To understand the design brief of the products they are making, ensuring that they follow the 3 S's.
- Evaluate them at each stage, testing them fairly.
- Work independently and as part of a team.

### Progression

The elements of progression in D.T. are interwoven and will not develop in a unified linear pattern. Our D.T. curriculum is based on extending pupils' experience, knowledge and understanding from the time they join in Year 3 and as they move up through the school.

- Progression is achieved through increasing the complexity of the task, the choice of materials used, the application of skills and processes and the amount of autonomy given to the children.
- Progression can be recognised when pupils make decisions based on knowledge gained from earlier activities.
- Progression can also be identified in the increased skill needed to shape, cut or join certain materials.
- Progression allows pupils to design and make with increased sophistication by allowing them to select from a wide range of options which develop their knowledge and understanding of the properties of materials and their uses.
- Progression maps are used in D.T. lessons to enable the children to clearly see the skills they may need for the current unit and how these skills have been developed previously and how they are going to develop further.

The key concepts in the D.T. progression maps are as follow:

- Developing planning and communicating ideas
- Working with tools, equipment, materials and components to make quality products.



- Evaluating processes and products.
- Mechanisms.
- Construction and use of materials.
- Textiles.

### Adaptations

D.T. is adapted by the following methods.

- Adaptation by outcome - the same assignment is given to all children but with sufficient flexibility for the children to complete it at their own level.
- Adapted by task.
- Adapted by resource, where children cover the same designing and making but where resources are matched to the children's capability.
- Adapted by support, where teachers review progress and understanding with individual children as they design and make and provide appropriate help.
- Adapted by challenges to allow for more extended achievements.
- Adapted by level of autonomy and choice offered to pupil.
- Adapted by recording, modelling and evaluating methods provided by the teacher.

### Special Educational Needs and Inclusion

D.T. lessons are planned to allow all children to access the learning activities to reach their full potential and in order to successfully complete a prototype. Where appropriate, tasks are adapted to consider factors that may prevent them or restrict their learning. Those on the inclusion register have access to differentiated sheets or a scaffolded prototype.

Tasks in D.T. are set out in the Engage, Enrich, Excel format with the key competencies being included in these tasks. This will allow those on the inclusion register to choose a task that suits their abilities and these can then be developed and challenged once they are confident.

The use of the 5 a day principle (explicit instruction, cognitive and metacognitive strategies, scaffolding, flexible grouping and using technology) are apparent in lessons to support all learners. This provision allows learners to chunk their work in order to work at their own pace, with support from an adult or peer to ensure they experience success and to raise self-esteem. Throughout their time at Ravenscote, children will continually develop and build on their knowledge from previous years through the planning of lessons and the use of knowledge organisers.

### Equal Opportunities and Protected Characteristics

At Ravenscote all children, regardless of gender, race or learning needs will be given equal access to the D.T. curriculum.

- The D.T. curriculum will be differentiated according to the needs of the children. If a child needs specialist equipment to access the curriculum, the school will source the appropriate equipment.
- Any SEND children who are not able to access the curriculum at the same level as their peers, then provision is made for the child to access the curriculum at their own level. If a child is identified as being more able, in this curriculum area, they will be challenged with their learning.
- Assessment will include considerations of issues identified by the involvement of disabled children, staff or parents and any information the school holds on these persons.
- The curriculum is customised, personalised and designed to build upon the experiences and backgrounds of pupils. All learning will be accessible to pupils and support given to ensure that all children achieve the skills outlines in the lessons to the best of their ability.
- Children are given opportunities to personalise their work to their interests to allow for no gender stereotypes.



### Resources

There is a central store for general resources which all staff have access to and year group stores for topic-specific resources. The Curriculum Team member for each year group is responsible for putting resources away in the Central Store after each unit of work is finished. The DT Subject Leader is responsible for ordering all resources and maintaining the organisation of the central store.

### Tools

Year 3	Year 4	Year 5	Year 6
Scissors Needles Pins Scales/cooking Equipment Steel rulers	Hacksaws Bench hooks Card snips Plastic jinks joiners Wooden jig Right angle joiner Steel rulers Hole punch Scissors Scales/cooking equipment Glue guns	Wire strippers Pliers One holed eyelet punch Scissors	Hacksaws Bench hooks Stanley knives/cutting boards Card snips Steel rules Drills and bits Scissors Hammer Wooden jig Right angle joiner Glue guns

### Materials

Card Cooking ingredients Squared paper Card Coloured felt Sequins, buttons Fabric pens Embroidery cottons	Cooking ingredients Card, sugar paper Squared paper Split pins Dowel Cm2 wood, sandpaper Wire Bulbs/holders Battery clips batteries	Straws String Card Sugar paper Recyclable materials Cooking ingredients	Cm2 wood PVA glue Dowel MDF Nails Staples Sandpaper Card Wooden wheels Masking tape Pipe cleaners Recyclable materials
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### Evaluation

The evaluation of D.T. is an on-going process. It will be undertaken termly. Individual class teachers will monitor pupils' experiences as will pupils in the form of self-evaluation and peer evaluation. Each unit of work will be evaluated by the curriculum team under the leadership of the subject leader.





**Appendix 1:****Self-assessment sheet****Topic: Fairground rides**

Lesson Topic		Objectives
1. To look at a range of familiar products that use rotating parts. DT23, DT25, DT35	Date:	
2. To investigate ways of using electrical motors to create rotating parts. DT12, DT13, DT39	Date:	
3. To investigate ways of making a framework for a fairground ride. DT33, DT36	Date:	
4. To design a fairground ride with a rotating part. DT4, DT6, DT8, DT11	Date:	
5. To make a 3D electrical fairground ride. DT3, DT33, DT38, DT39	Date:	
6. To evaluate my final product. DT4, DT6, DT19, DT20	Date:	

