

# Great Orton Primary School



## DT Policy

Issue number	Author / Owner	Date Written	Approved by Governors
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## **Intent**

At Great Orton, it is our intent that through Design and Technology, children are encouraged to design, make and evaluate creative, purposeful products through selecting appropriate materials and developing technical expertise to solve real, relevant problems. They will reflect on past and present design ideas and evaluate the effectiveness of these products in order to successfully design a product, which will cater for the needs and values of the end-user. Children at Great Orton will acquire a broad range of subject knowledge in a way which focuses upon skill progression, and follows a sequence to build on prior learning.

## **Aims**

At Great Orton, pupils will be taught and given opportunities to:

- develop their commitment and enjoyment of learning Design and Technology skills
- stimulate their curiosity, imagination and creativity
- develop their technical and practical skills to perform everyday tasks confidently
- develop their confidence to work independently and collaboratively
- acquire, develop and apply a broad range of knowledge, skills and understanding to solve problems to participate successfully in an increasingly technological world
- communicate ideas and information in a variety of ways
- understand and apply the principles of nutrition and learn how to cook
- develop their ability to identify safety hazards and risks and take appropriate action, especially in the use of tools and equipment
- design and make high quality products for a wide range of end-users
- develop a greater understanding of how technology is part of their everyday life
- evaluate and test their ideas and products and the work of others.

## **Implementation**

The design and technology National Curriculum outlines the three main stages of the design process: design, make and evaluate. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical and technical understanding required for each strand. Cooking and nutrition has a separate section, with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality. At Great Orton, one unit of work will be completed each term. Knowledge Organisers detailing subject specific vocabulary and skills to be taught, are provided to teachers to support in creating lessons based upon the National Curriculum objectives.

## **The Curriculum for DT**

At Great Orton, we use 'Kapow' as the basis for our scheme of work. Pupils respond to design briefs and scenarios that require consideration of the needs of the end-user, developing their skills in six key areas:

- Mechanisms
- Structures
- Textiles
- Cooking and Nutrition
- Electrical Systems (KS2 only)
- Digital World (KS2 only)

Each of the key areas follows the design process (design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum. The 'Kapow' scheme, revisits key areas again and again, with increasing complexity, allowing pupils to revisit and build upon their previous learning. (See Appendix A for Long Term plan of units of work for each year group.)

### **Impact**

Through covering the units across Key Stage 1 and Key Stage 2 over a 3 and 4-year cycle, children at Great Orton are expected to:

- Understand the functional and aesthetic properties of a range of materials and resources
- Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products
- Build and apply skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, CAD, and products to fulfil the needs of users, clients and scenarios
- Understand and apply the principles of healthy eating, diets and recipes, including key processes, food groups and cooking equipment
- Have an appreciation for key individuals, inventions, and events in history and of today, that impact the world
- Recognise where our decisions can impact the wider world in terms of community, social and environmental issues
- Self-evaluate and reflect on learning at different stages and identify areas to improve
- Meet the end of key stage expectations outlined in the National Curriculum for Design and Technology.

### **Adaptive Teaching and SEND**

At Great Orton, we teach Design and Technology to all pupils, including pupils with special educational needs (see Appendix B & C). We are committed to enabling every pupil to access the whole curriculum. No pupil will be discriminated against because of their ability, disability, gender, religion or ethnicity. Class teachers adapt their teaching to ensure that all children can meet the needs of the curriculum. At Great Orton, teachers will plan inclusive lessons so that all pupils, including those with SEND, are able to access them, wherever possible. Teachers will create an inclusive learning environment through the effective deployment of additional adults and carefully planned resources. Strategies will be employed to scaffold learning in all lessons by making reasonable adjustments.

### **E-Safety**

During the course of DT lessons, children may require the use of ICT to support their learning. For example, they may use the computers/ipads to research a topic, use forums/email to ask questions and gather information or use a specific software package related to the lesson. In such a case, the E-Safety Policy 2022 and its procedures apply and children should be reminded of their responsibilities and awareness of potential threats. If a child sees/reads something offensive or disturbing, they should switch off their monitor or close the netbook/ipad and report it to the teacher who will then report the incident to the ICT Subject Leader and/or Head Teacher as appropriate.

### **General safety for equipment and materials**

Electrical items:

- ♣ Mains electrical equipment eg. glue-guns should not be used near water.
- ♣ All portable electrical equipment should be tested on a regular basis.
- ♣ Wall sockets should be switched off before unplugging an appliance.

#### Cutting Tools:

- ♣ Cutting tools should be stored safely and only issued by the teacher.
- ♣ Teacher must count in /out number of tools.
- ♣ A bench hook must be used when using saws.
- ♣ Sharp blades are safer than blunt ones and should be replaced as required.
- ♣ Scissors must be carried and used with care.

#### Substances:

- ♣ Aprons should be worn.
- ♣ Avoid solvent- based adhesives- use water based instead.
- ♣ Cans of spray and fixatives should only be used by an adult with care and in a well-ventilated room.

#### Using Food:

- ♣ Before beginning any work with food, pupils should tie back long hair, wash their hands with soap and water and cover any cuts or scratches on their hands with a waterproof dressing. (unless allergic) 7
- ♣ Cookery aprons should be worn and not used for any other activity.
- ♣ Ensure pupils re-wash their hands after breaks or visits to the toilet.
- ♣ Food equipment should be washed thoroughly before putting away.
- ♣ A message should be sent out to parents in advance of any food tasting activities to check for allergies, religious views, food intolerances etc.
- ♣ Do not use any 'high –risk' foods eg. raw meats, shellfish, precooked rice, un-pasteurised milk etc.

Therefore, pupils work safely in their surroundings and are properly supervised during DT tasks. They are taught the correct use of tools and equipment, and are made aware of the dangers and how to avoid them by producing risks assessments to help them to work safely.

### **Assessment, Record Keeping, Reporting and Monitoring**

Teachers monitor pupil progress over the course of a unit of work informally through observing, marking and discussions. Teachers are required to complete the school assessment form at the end of the unit. Pupils keep sketches, ideas, research, plans, mock-ups and evaluations in their DT book, which is used for assessment and monitoring progression. Pupils evaluate and test their work in order to modify and make improvements to their work. They are also encouraged to assess the work of their peers and provide constructive feedback to one another

### **Roles and Responsibilities of the Subject Leader**

- to support and guide the practice of teachers and support staff;
- to ensure coverage, continuity and progression in planning;
- to monitor and evaluate the effectiveness of D&T teaching and learning;
- to update documentation where necessary;
- to produce action plans for the School Development Plan,

- to attend relevant INSET training and feedback to staff;
- to review regularly the contribution made by D&T to a meaningful curriculum.

### Appendix A – Long Term Plan

Subjects taught following KAPOW scheme. See MTP for links to objectives, outcome and differentiation.

	Autumn	Spring	Summer
<b>Year A</b> <i>*Started Jan 23</i>	<b>Structures</b> Windmills	<b>Textiles</b> Puppets	<b>Cooking/Nutrition</b> Fruit & Vegetables
<b>Year B</b>	<b>Mechanical</b> Wheels/axles	<b>Cooking/Nutrition</b> Balanced Diet	<b>Structures</b> Baby Bear's Chair
<b>Year C</b>	<b>Textiles</b> Pouches	<b>Mechanical</b> Fairground	<b>Wider Environment Project</b> Bug Hotel *
	Autumn	Spring	Summer
<b>Year A</b>	<b>Cooking/Nutrition</b> Eating Seasonally	<b>Structures</b> Castles	<b>Textiles</b> Cushions
<b>Year B</b>	<b>Electrical</b> Doodlers	<b>Mechanical</b> Slingshot Car	<b>Cooking/Nutrition</b> Creating a Healthy Menu
<b>Year C</b>	<b>Digital</b> Electronic Charm	<b>Structures</b> Playground	<b>Mechanical</b> Pop-up book
<b>Year D</b>	<b>Textiles</b> Stuffed Toy	<b>Torches</b>	<b>Digital</b> Navigating the world

	Year 1		Year 3 / 4 Topic
	Year 2		Year 5 / 6 Topic

### Appendix B – Example of differentiation on MTP

Term/Year	Topic	Objectives Covered by end of topic	Outcome (per lesson)	Differentiation
Year A Spring	<b>Structures</b>  Castles Y3/4	Draw and label a simple castle that includes the most common features. Recognise that a castle is made up of multiple 3D shapes. Design a castle with key features which satisfy a given purpose. Score or cut along lines on the net of a 2D shape. Use glue to securely assemble geometric shapes. Utilise skills to build a complex structure from simple geometric shapes. Evaluate their work by answering simple questions. <u>Key vocabulary</u> 2D 3D castle design key features net scoring shape stable stiff strong structure tab	<ol style="list-style-type: none"> <li>1. To recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure</li> <li>2. To design a castle</li> <li>3. To construct 3D nets</li> </ol>	<p><b>Y3/4:</b> Design a castle using simple 2D shapes and label the key parts (turret, wall, drawbridge, gatehouse)</p> <p><b>Y5/6:</b> Draw a design and then label which 3D shapes could be used and why (try to include key vocabulary – strong, stiff, stable)</p> <p><b>Y3/4:</b> Should use simpler geometric shapes (i.e. cuboid, cylinder, cone) for their design.</p> <p><b>Y5/6:</b> Should advance to more complex geometric shapes. Can attempt to design their own nets (i.e. hexagonal prisms). Can create specific features relevant to the person or purpose they are designing for.</p> <p><b>Y3/4:</b> Can create simpler structures and configurations. Use junk modelling to help them as well as nets.</p> <p><b>Y5/6:</b> Should create more complex and wide-ranging structures. Should use more sophisticated configurations using a mixture of their own nets and collected objects.</p>

## Appendix C – EYFS

### Progression of Design & Technology Knowledge and Skills

#### EYFS: Understanding the World

<b>Development Matters</b>
<b>Reception:</b> <ul style="list-style-type: none"><li>• Explore, use and refine a variety of artistic effects to express their ideas and feelings.</li><li>• Return to and build on their previous learning, refining ideas and developing their ability to represent them.</li><li>• Create collaboratively, sharing ideas, resources.</li></ul>
<b>ELG</b>
<b>Creating with materials</b> <ul style="list-style-type: none"><li>• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li><li>• Share their creations, explaining the process they have used.</li></ul>
<b>General learning throughout the year:</b> <ul style="list-style-type: none"><li>• Children can self-select from a range of tools and materials in the continuous provision.</li><li>• Children learn by experimenting with tools such as scissors, staplers and hole punches. They make use of fixing and joining materials such as sellotape, masking tape, string, pipe cleaners and glue.</li><li>• Through questioning children are encouraged to talk about what they like about their work and other children's designs and how they would improve it.</li><li>• Help to design and make small worlds in line with topic.</li></ul>
<b>Knowledge: By the end of EYFS the children will know...</b> <ul style="list-style-type: none"><li>• I know how to use scissors safely.</li><li>• I can cut along a straight line.</li><li>• I can cut along a wavy line.</li><li>• I can join to items using tape.</li><li>• I can use glue to fix items together</li><li>• I know how draw a plan.</li><li>• I know that I can adapt and change something I have made.</li><li>• I can work with a friend, sharing ideas.<ul style="list-style-type: none"><li>• I know that some materials are better for building with than others.</li><li>• I can talk about what I have made and say why.</li></ul></li></ul>
<b>Vocabulary:</b>
Scissors, cut, straight, join, hold, fix, glue, shape, safely, colour, design, plan, create, make, explain, why, change, together, features, pieces.