

Design & Technology

At Holmer Green Junior School all the children receive Design and Technology lessons, which focus on a range of skills and techniques to design, make and evaluate innovative products based on a design brief.

Design and Technology at our school is deeply imbedded in STEM, with close links to Theme where DT becomes a vehicle for further research and expression through product design, product testing and creativity.

D&T gives children the opportunity to develop skills, knowledge and understanding of designing and making functional products. We feel it is vital to nurture creativity and innovation through design, and by exploring the designed and made world in which we all live and work.

Aims of DT

The national curriculum has 4 main aims which are;

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.
- Critique, evaluate and test their ideas and products and the work of others.
- Understand and apply the principles of nutrition and learn how to cook.

Inclusion (e.g. EAL/SEN/PP/Provision for AMA)

In school we aim to meet the needs of all our children by differentiation and the use of hard harder and hardest tasks in our Design and Technology planning where possible. We aim to use a variety of approaches and tasks appropriate to ability levels and adapt the use of tools to support physical needs. This involves providing opportunities for SEND children to complete their own projects, with scaffolds and support, to develop speech and language skills, as well as support to enhance the practical elements of design. This will enable children with learning and/or physical difficulties to take an active part in DT learning and practical activities to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through differentiated and the use of hardest activities. By being given enhancing, application tasks and enriching challenges to extend their projects. More able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities. Teachers will use the school's inclusion planning key to ensure that a range of strategies are used which include and motivate all learners, ensuring that optimum progress is made throughout each part of the lesson

Intent

Design and technology is an inspiring and practical subject that unlocks the creativity and imagination within all of our pupils. All children engage in designing and making products that solve real and relevant problems within a variety of contexts, whilst acquiring a broad range of subject knowledge taught progressively through the year groups. The children experience a rich D&T programme, imparted by the class teacher and supported by the D&T coordinator and experienced member of the support team. The curriculum has been tailored to teach a variety of creative and practical activities progressively throughout the year groups.

Our D&T curriculum has been designed to ensure that the children at Holmer Green Junior school experience a range of exciting, engaging and sometimes risk-taking experiences, that draw upon other subject skills such as mathematics, science, engineering, computing and art. As with areas of the curriculum, vocabulary is an intrinsic part of the sessions, with staff modelling and developing pupils' use of the correct D&T terminology throughout the lesson.

Children are taught the skills needed to participate in an engaging process of planning/designing, making and evaluating. We want to ensure that our children have all the skills required to achieve high standards in their D&T creations, therefore basic skills such as cutting out, measuring and drawing accurately are taught and reinforced right through the school.

The teaching of Design Technology across the school follows the National Curriculum. Children design products with a purpose in mind and an intended user of the products. Food technology is implemented across the school with children developing an understanding of where food comes from, the importance of a varied and healthy diet and how to prepare this.

Design and technology is a crucial part of school life and learning and it is for this reason that as a school we are dedicated to the teaching and delivery of a high quality Design and Technology curriculum; through well planned and resourced projects and experiences.

Our children design and make products that solve real and relevant problems within a variety of contexts. It is very cross - curricular and draws upon subject knowledge and Children learn to take risks, be reflective, innovative, enterprising and resilient. Through the evaluation of past and present technology they can reflect upon the impact of Design Technology on everyday life and the wider world.

Implementation

At Holmer Green Junior school we are committed to:

A clear and comprehensive scheme of work in line with the National Curriculum. The Design Technology National Curriculum is planned for and covered in full within KS2. The strong links with STEM and Theme, makes sure that children learn additional skills, knowledge and understanding through cross curricular work.

Children have weekly lessons that help to build on skills and nurture creativity through research and design evaluation

We Deliver design and technology projects with a clear structure. Each year group will undertake a construction topic, a textile topic and a STEM project as well as termly cooking projects.

Delivery showing clear following of the design process where each project follows: research, design, make and evaluate.

A range of skills will be taught ensuring that children are aware of health and safety issues related to the tasks undertaken.

Clear and appropriate cross curricular links to underpin learning in multi areas across the curriculum giving the children opportunities to learn life skills and apply skills to 'hands on' situations in a purposeful context.

Children are also asked to self-evaluate their work. Design and evaluation work is kept and built on throughout the year and forms one of the areas for assessment.

Design Technology focused displays celebrate the outstanding three dimensional creations on display throughout the school. These displays celebrate exceptional practice and exemplify terminology and vocabulary used.

Independent learning: In design technology children may well be asked to solve problems and develop their learning independently. This allows the children to have ownership over their curriculum and lead their own learning in Design Technology.

Collaborative learning: In design and technology children may well be asked to work as part of a team learning to support and help one another towards a challenging, yet rewarding goal.

Children of all abilities are supported within lessons and considered in planning to ensure that all children feel the success and accomplishment.

Impact

By the end of KS2 at Holmer Green Junior School our children will be skilled in the following areas:

Design

Children will be able to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at focused areas of the wider curriculum.

Children will be able to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer-aided design.

Make

Our children will be able to select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately

The children will be confident in selecting 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

Through STEM based project children will investigate and analyse a range of existing products as well as their own designs.

All children will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

Children gain an understanding how key events and individuals in design and technology have helped shape the world.

Technical knowledge

All children will apply their understanding of how to strengthen, stiffen and reinforce more complex structures

Children will have been encouraged to understand and use mechanical systems in their products, (for example as gears, pulleys, cams, levers and linkages)

Through STEM and Design and Technology children will understand and use electrical systems in their products, (for example series circuits incorporating switches, bulbs, buzzers and motors).

Food Technology

All lessons will help the children to understand and apply the principles of a healthy and varied diet

All children will prepare and cook a variety of predominantly savoury dishes from around the world using a range of cooking techniques three times a year.

Our children will have a greater awareness and understanding of seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.