

## Intent:

Through their experience of Design and Technology at Hillstone Primary School children will learn to use their creativity and imagination to design and make products that solve problems within a variety of contexts, considering their own and others' needs. The skills and knowledge developed through our Design and Technology curriculum will allow children at Hillstone to develop the creative, technical and practical expertise to perform everyday tasks confidently and to participate in an increasingly technological world. We aim to, wherever possible, link Design and Technology briefs to class projects. This helps to ensure children feel immersed in the context of the products they are making and design for a purpose. Our children are also given opportunities to reflect upon and evaluate their own designs and past design technology and are encouraged to become innovators and risk-takers.

Design and Technology at Hillstone is underpinned by our three curriculum drivers *oracy*, *problem solving* and *well being*. Children are encouraged to develop their *oracy* skills as they discuss their designs and the designs of others and especially as they continually evaluate their products as part of the iterative design process. *Problem solving* is a fundamental part of D&T at Hillstone. Each project encourages children to innovate and test their designs and to identify how their products might solve a problem for their users. Continual evaluation during the design process supports the children develop their resilience when faced with challenges and to see these as integral to the design process and a crucial part of creating a worthwhile product. The cooking and nutrition projects provide opportunities to support children as they consider how to plan and cook healthy and balanced dishes which form part of a healthy lifestyle. This knowledge makes a vital contribution towards their overall *well being* both physical and mental.

## Implementation:

We teach the knowledge, understanding and skills needed to engage in an iterative process of designing and making through a variety of creative and practical activities. Our children design and create products that consider function and purpose and which are relevant to themselves or others. Pupils at Hillstone Primary will design and make a range of products. A good quality finish will be expected in all design and make activities and tasks will be made appropriate to the age and ability of the child through adaptive teaching methods.

When designing and making, the children are taught to:

### **Design:**

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular people.
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer-aided design.

### **Make:**

- select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing, as well as chopping and slicing) accurately.
- select from and use a wide range of materials, ingredients and components, including construction materials, textiles and ingredients, according to their functional properties, aesthetic qualities and, where appropriate, taste.

### **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.
- understand and use electrical systems in their products.
- apply their understanding of computing to program, monitor and control their products
- Understand some of the ways that food can be processed and the effect of different cooking practices (including baking and grilling).

Key skills and key knowledge for Design and Technology have been mapped across the school to ensure progression between year groups. The context for the children's work in Design and Technology is also well considered and children learn about real life products and consider a real purpose for their design. Design and Technology lessons are often taught as a block to allow children to become fully absorbed in the design process.

## Impact

Through their experience of Design and Technology at Hillstone children will learn how to take risks, becoming resourceful, innovative, enterprising and capable members of society. By evaluating past and present design and technology, they will develop a critical understanding of its impact on daily life and the wider world. The skills developed through Design and Technology will allow children to make an essential contribution to the creativity, culture, wealth and well-being of the nation.

We ensure the children:

- 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 products for a wide range of users and critique, evaluate and test their ideas and products and the work of others
- develop crucial life skills by understanding and applying the principles of a healthy and balanced diet and by learning how to cook a range of predominantly savoury dishes.

## Planning

At Hillstone Primary School Design and Technology is often planned to take place within a class project. Class projects incorporate a range of subjects including Science, History and Geography. Design and Technology projects are linked to class projects or a special event (e.g. World Book Day) in order to give them purpose and relevance.

There is a programme of study for Design and Technology in place from Nursery through to Year 6. Bespoke Hillstone D&T planning guides are used to support teachers deliver their D&T lessons with these available for all teachers on our Staff Shared file. Information about coverage and progression within our D&T curriculum can also be accessed there.

Teachers from EYFS to Year 6 will ensure full coverage of DT skills appropriate to their year group through the D&T projects planned.

## Delivery

- Through D&T lessons children experience opportunities to plan and carry out practical and evaluation activities. Children are encouraged to view evaluation as a continuous process and adapt and refine their designs as they work.
- The D&T curriculum is arranged to develop skills and ensure children make progress year on year.
- D&T projects are organised ensuring progress and breadth.
- There are regular opportunities for children to showcase their work and discuss how their products were made and how they work.

## Early Years

Children in the Early Years at Hillstone enjoy developing their early designing and making skills through a wide variety of adult-led and independent activities. Our approach in EYFS encourages children to be creative and curious thinkers and allows them to develop many of the problem solving skills essential to later learning in D and T. Through practical and play based activities children will learn how to plan and make decisions about how to approach a task, explore a wide range of materials when constructing and learn how to cut and join materials and objects safely and effectively. Children will also be encouraged to develop good hygienic practises when handling food and to be safe when preparing and cooking ingredients. Pupils will be supported in reviewing their activities and changing strategy when needed. Bespoke D&T lesson plans for mini D&T projects are provided for Nursery and Reception teachers.

## Children with SEND

We teach Design and Technology to all pupils, whatever their need, in accordance with the school curriculum policy of providing a broad and balanced education to all children. Our bespoke D&T planning guides give suggestions and signpost relevant resources for SEND pupils. Teachers are encouraged to use adaptive teaching strategies to ensure that Design and Technology learning is accessible to all pupils whatever their need or ability

## Adaptive Teaching, Assessment and Reporting

Adaptive teaching strategies are used to support the progress of individual pupils in Design and Technology at Hillstone. Through formative assessments teachers identify each child's progress in each aspect of the project, determining what each child has learned and what should therefore be the next step in their learning. Formative assessment is mostly carried out informally by the teachers during their teaching.

At Hillstone Primary teachers make judgements when assessing their class at the end of a project. Teachers record their assessments using Insight and identify which children have achieved the identified objectives or are working at a level above or below. Throughout a unit of work children are asked to reflect on their learning and recall new and previous knowledge. This alongside children's own evaluations of their products helps to inform teacher's judgements at the end of a project.

### Monitoring

Teaching and learning for Design and Technology is monitored via floor book evidence pages, pupil voice, informal observations, photographic evidence of products. Each term teachers are asked to create an annotated evidence page using photographs and examples of children's work. These are then collated in the Design and Technology evidence floor book for that academic year. These evidence folders provide the basis of the D&T subject leader's monitoring. They also provide useful support for teachers when delivering D&T as they can be used for ideas and guidance, especially if a teacher is new or has not taught a year group before.

## Cooking @ Hillstone

At Hillstone we believe that children should be given the opportunity to develop healthy eating habits and gain vital life skills by learning how to prepare, cook and taste a wide variety of healthy ingredients and dishes. Through D&T food focused projects children design, make and evaluate their own healthy dishes. A food focused project is planned for every year group from EYFS-Year 6. In the EYFS children are able to explore food focused activities regularly throughout the year through healthy snack times.

Our kitchen team give valuable support to teachers in the delivery of food focused D&T projects. In particular the expertise of our kitchen lead is used to enhance the children's experience of healthy eating and cooking ensuring pupils at Hillstone learn important life skills.

The Hillstone allotment may be used as a source of fresh ingredients for our cooking activities. Through growing their own produce and then using it as part of their design children gain an invaluable understanding of seasonality and where our food comes from.

## Health and Safety

Risk assessments for Design and Technology activities can be found on the Staff Share file within the Design and Technology folder. These cover risks associated with using tools, kitchen utensils, sewing equipment and food hygiene. Teachers are expected to consider the risks associated with their planned project before undertaking any practical activities and note these on the appropriate risk assessment form.