



Chalfont St Peter Infant School

"Learning Together and Celebrating Success"



Progression of Knowledge and Skills in Design and Technology

Design and Technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

The national curriculum for design and technology aims to ensure that all pupils:

- 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.

Implementation of Design and Technology education in Reception- Understanding the World

Addressing Design and Technology in the early years can enable children to make sense of the 'made world' in which they live. By making, changing and modifying (or designing) things for themselves, children can come not simply to a greater understanding of their world, but to a sense of agency - of being able to change and modify their environment. Design and Technology enables children to gain knowledge and understanding of their world.

Design is not just about drawing, but about thinking. Creating a pizza or designing a new Lego structure require no drawing, but both involve some experience, some imagination and a willingness to change and modify ideas.

Technology, on the other hand, is about doing - making something for a purpose. It involves putting ideas into practice and having an awareness of the possibilities and limitations of different materials. Children need to experience at first hand the consequences of the decisions they have made, rather than quickly being shown by an adult how to get it 'right'. Purposeful making involves creativity, imagination and fun - as well as making mistakes.

In exploring a wide range of objects and materials with different textures, shapes and sizes, and weights enables children to develop new insights and skills related to all aspects of the curriculum. The knowledge and understanding of the world that children learn when designing and making contribute to other areas of learning and development, while learning in other aspects of the curriculum can contribute to competence and interest in design and technology.

	Reception Explore	Year 1 Discover	Year 2 Create
Design 	Explore how things are made and begin to use drawings to show what they want to make. To experiment and explore with designs using play. Through play create purposeful designs for real life problems. Providing a commentary whilst designing their product through discussion with peers and members of staff. Being able to explain what they are making confidently. Use photography to keep a record of designs made.	Begin to discover how plans are made for design ideas, showing an awareness of a beginning and end in their design. Beginning to show an understanding, through discussion, how to plan and discover different ways to make a purposeful and functional design. Communicate their ideas through modelling (talking through selection of materials) and being able to explain what they are going to do next. Discover ways to draw final designs which communicate their ideas in a clear way.	Use drawings to plan design ideas based on set criteria to solve a problem or follow a design brief. Beginning to show an understanding, through discussion, how to plan and create a purposeful, functional and appealing design with an understanding of a particular individual or a group. Start to order the main stages of making a product and explain the order of the stages. Draw their final design and communicate their ideas. Label according to discussion.
Make/technical knowledge 	Explore the main stages of making a product by following simple instructions. To listen to and show awareness of safety and hygienic procedures whilst making their product. To learn and explore some simple joining techniques – e.g. sticking with glue and tape, folding, using string and ribbon.	To discover and confidently follow the main stages of making a product by following instructions using several materials. To follow and understand procedures associated with safety and hygiene. To discover and use more joining techniques – e.g. sticking with different glue and tapes (e.g. Masking tape), scoring, using tacks and split pins, sewing.	To assemble and join a range of materials confidently and independently to create a final product. To individually or in a group demonstrate procedures associated with safety and hygiene. To develop more joining techniques – e.g. glue gun, staples, folding, tubing, double sided tape, sewing.

	To explore a variety of materials through play – eg paper, card, felt, laces, ribbon, wool, zips, foil, recycled boxes, polystyrene, sticks, lolly sticks. To explore different ways to make things move. To experiment with simple tools – scissors, hammers, lace threaders, screwdriver, plastic knife and fork, wooden spoons. Explore ways to decorate a finished product. To be given opportunities for simple construction of structures – buildings, bridges and towers - using such things as wooden bricks and large-scale construction, Duplo, Sticklebricks, star connectors.	To investigate a variety of materials and their uses – e.g. straws, balsa, cotton reels, doweling, tubing, binka, lace, velcro. To use some simple moving parts – slider, rotation. To use a wider variety of tools – tape measure, syringe, simple saw with supervision), pliers, fabric scissors, safety pins. Discover different ways to decorate a finished product. To be given opportunities for more complex construction of structures – buildings, bridges and towers using such things as Knex, Magnetix, Polydron, Lego.	To investigate and compare a variety of materials e.g. jelutong, a variety of fabrics, wadding, buttons, wheels, tracing paper for patterns and create confidently with these. To develop use of simple moving parts – flaps, pivots, pop ups, levers, cogs. To choose the correct tool for a job – and begin to use of needles, pins, hand drill, clamp, bench hook, hack saw, pinking shears. To be able to apply Art skills/techniques to create their final product as a way of enhancing the product. To be given opportunities for compare and contrast different ways to construct structures – buildings, bridges and towers- with such things as Lego, Meccano, Polydron Gears, Tinkerbot and Knex Pulleys, gears and levers.
Evaluate 	To be able to explain what they like and dislike about their product. To be able to comment on others work using guided questions from staff.	To be able to explain what went well during the process and what they might do next time whilst referring to the process they had carried out. To be able to discuss other students work in a focused way.	To begin to be able to explain what went well and even better if, through simple judgements against a success criteria. To begin to analyse and evaluate others work using a success criteria.

Cooking and Nutrition 	Start to find out where food comes from. Explore and taste a variety of foods. Learn simple cooking and food preparation techniques – eg. mixing, spreading, grating. Be introduced to simple cooking techniques. Eg baking	Continue to discover where different foods come from. Taste and describe a variety of foods. Develop simple cooking and discover uses of food preparation techniques – eg. peeling, mashing, whisking. Be introduced to more cooking techniques. E.g. boiling	Grow and use their own food. Compare a variety of foods, using culinary language. Develop simple cooking and food preparation techniques to create a wider variety of dishes – eg. chopping, kneading, slicing. Be introduced to a range of cooking techniques. E.g. frying, blending.