



Design and Technology Subject Approach

Intent

At Crowmarsh Gifford Primary School, we teach children to 'think like designers' by developing their skills and knowledge in design; structures, mechanisms, digital, electrical control and a range of materials including food and textiles. Evaluation is an integral part of the design process and allows children to adapt and improve their product. This is a key skill that they will need throughout their life.

Design and Technology is planning, designing and creating products, that sometimes solve problems, and evaluating how successful they are. This can be computer based or non-computer based. At Crowmarsh Gifford Primary School, when we teach the children to 'Think like a designer', we encourage them to ask themselves the following questions:

What is the purpose of this? How has it been done before? Who is the audience? Why am I making it? What do I need to consider? How will I achieve this? Which material/tool will be best? How do I know this? How am I going to...? How will I know if it is successful? What could I do differently? Where did I go wrong? What have I learnt from this? What can I change?

We encourage children to work collaboratively, while using their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts considering their own and others' needs. They are also encouraged to think about important issues such as sustainability and enterprise.

Implementation

We recognise the significance of Design and Technology as a STEM subject in our ever changing world and subsequently as a school we are dedicated to the teaching and delivery of a high-quality Design and Technology curriculum. This is implemented through the use of Kapow. We believe our lessons provide:

- A well thought out, whole school, yearly overview of the DT curriculum which allows for progression of skills and knowledge across year groups in all areas of DT (textiles, mechanisms, structures, food and nutrition, the digital world and electrical systems).
- Well planned and resourced, purposeful projects providing children with a hands-on and enriching experience.
- A range of skills being taught ensuring that children are aware of health and safety issues related to the tasks they carry out.
- Teachers being given ownership and flexibility to deliver Design and Technology; often teaching DT as a block of lessons or in a "DT Day" to allow the time needed for the children to be immersed in their projects and allowing time to be critical, inventive and reflective of their work.
- Each project from Early Years to Year 6 addresses the principles of designing, making, and evaluating and incorporating relevant technical knowledge and understanding in relevant contexts.
- The children will be introduced to specific designers, chefs, nutritionists, etc. helping to engender an appreciation of human creativity and achievement and increase the cultural capital from which they can draw in the future.



Work will be recorded in a class floor book and each child will have a presentation file to keep their individual designs and evaluations.



Assessment

The children will be assessed throughout the project with the use of a CGPS assessment grid (see example in [appendix A](#)). Teachers will determine whether the child is working towards, on track or working above the expectations. These statements have been taken directly from Kapow to ensure that they are directly linked to the units of work being taught. Teachers will also make comments on each topic which will be passed up to the class's next teacher. This will enable any strengths or weaknesses to be highlighted and addressed in their next unit of work.



DT Curriculum Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception		Cooking and Nutrition: Pumpkin soup	Textiles: Bookmarks – threading and weaving		Structures: Junk modelling – combination of materials and joining techniques Boats	
Year 1	Structures: Windmill for a mouse		Mechanical systems: Vehicles - wheels and axles		Textiles: Puppets – joining fabric	Cooking and Nutrition: Smoothies – food preparation skills
Year 2		Textiles: Pouches – a running stitch	Structures: Baby bear's chair	Cooking and Nutrition: Wraps – a balanced diet		Mechanical systems: Moving monsters – levers, linkages and pivots
Year 3	Cooking and Nutrition: Eating seasonally	Textiles: Cushions - Cross stitch and applique	Structures: Recycled material castle	Electrical systems: Electric poster	Mechanical systems: Pneumatic toys – exploded diagrams	Digital world: Wearable technology - programming
Year 4	Cooking and Nutrition: Adapting a recipe to suit a target audience	Textiles: Fabric book sleeve - fastenings	Electrical systems: Torches	Structures: Pavilions – frame structures	Digital world: Mindful moments timer – micro: bit	Mechanical systems: Slingshot cars
Year 5	Electrical systems: Doodlers – intro motors to series circuits	Textiles: Stuffed toy – blanket stitch	Structures: Bridges – marking, sawing, assembling wooden truss	Digital world: Monitoring devices – micro: bit, CAD skills	Mechanical systems: Pop up book – levers, sliders, layers and spacers	Cooking and Nutrition: Developing a recipe – what could be healthier?
Year 6	Structures: Playground equipment – specified design criteria	Textiles: Waistcoats – attaching fastenings, applique, decorative stitches	Electrical systems: Steady hand game – series circuit	Mechanical systems: Automata toys – follower and axle mechanisms	Cooking and Nutrition: Come Dine with Me – develop a 3 course menu	Digital world: Navigation tools – CAD, pitching a product



For curriculum knowledge and skills progression please see [appendix B](#).

DT Lesson Essentials			
Year Groups	Pre School to Year 6		
Time Allocation	4 units per year in KS1, 6 units per year in KS2 (1 hour a week or taught in a block)		
	Resources	In Every Lesson	Where Appropriate
INTENT	<ul style="list-style-type: none"> • NC objectives • Knowledge and skills progression document 	<ul style="list-style-type: none"> • Learning appropriate to agreed Kapow subject progression map and goals • Use of a range of well thought out resources including IT (where appropriate) • Skills are developed within and across a range of areas (mechanical systems, <i>electrical systems</i>, cooking and nutrition, <i>digital world</i>, construction, textiles) • Children are aware of different career paths linked to each area. • Children are encouraged to ‘Think like a designer’ (manufacturer, marketer, entrepreneur etc) 	
IMPLEMENTATION	<ul style="list-style-type: none"> • NC objectives • Kapow Scheme 	<ul style="list-style-type: none"> • WALTs linked to National Curriculum shared in every lesson • Success criteria (children involved in generating, where appropriate) • Revision of previous skills learnt • Modelling thinking like a designer • Skills are to be broken down into their smaller components and then brought together through effective modelling, manipulation, and practice • An opportunity for the children to practice the skills e.g. chopping, debugging, stitches. • Opportunities to apply new skills e.g. chopping vegetables for a meal, using a running stitch to make a puppet. • Collaborative learning • Discussions with children • In-lesson feedback, self and peer assessment, as appropriate • Time given for children to reflect on their own skills and whether they need to “move on” or secure their learning. • Learning recorded in individual folders or the class floor book. 	<ul style="list-style-type: none"> • Thumbs up/down • Active Listening • My turn- your- turn • Choral response • Random Reporter • Tell your partner/trio • Think-pair-share (higher order thinking) • Think time • Athlete and coach partners
IMPACT	<ul style="list-style-type: none"> • Teachers AFL records/notes • Assessment grids 	<ul style="list-style-type: none"> • Questions to check understanding. • Scanning rooms • Mini plenaries • Discussions with children. • Adapted planning for the next lesson. • Children’s self and peer assessment • Teachers’ AFL records/notes 	<ul style="list-style-type: none"> • Peer evaluation • Self-assessment • Flexible groupings. • Children’s peer and self-assessments.



Crowmarsh Gifford C of E Primary School

Impact

Our DT curriculum encourages children to become critical thinkers. Having acquired and developed the knowledge, techniques and skills needed to design and make high-quality prototypes and products, they are able to critique, evaluate and test their ideas and products, as well as the work of others. Through DT our children learn to take risks, become resourceful, innovative and enterprising individuals who leave us with the expertise needed to perform everyday tasks confidently and participate successfully in an increasingly technological world. Children learn to be passionate and excited by the designing and making of products including working with, preparing and tasting food.