

Staplegrove Church School – Design and Technology Curriculum Overview

We recognise the importance of the role of Design and Technology in the world around us – everything that is produced has been designed. Within the curriculum, every unit will give children opportunities for:

- Investigative and evaluative activities, where children learn from existing products.
- Focused tasks, where children are taught specific technical knowledge and making skills.
- A cycle of designing, making and evaluating, where children create functional products with users and purposes in mind.

The key principles that children will consider for all products they design, make and evaluate are:

- 1) We are making **something** (the product)
- 2) For **somebody** (the user)
- 3) For **some purpose** (the purpose it performs)

The following video supports understanding of what D&T is: designtechnology.org.uk/media/3226/are-you-really-teaching-dtv2_x264.mp4

Within their work, children will make design decisions based on the product's intended function and user. They will make mistakes and adaptations as part of the process.

Design and technology in the real world is an overwhelmingly collaborative process. Therefore, to give children experience of this and further embed their teamworking skills, units of work in the 'mechanisms' strand will be paired from Year 3 onwards.

Investigation	Design	Key skills and production	Evaluation
Children will investigate real-life products, considering the 'something', 'somebody' and 'some purpose' for each.	Children will design their product in line with their design specification.	Children will learn the key making skills required to produce their product.	Children will evaluate their product against their original intentions, as set out in the design specification.
A design specification for the product being made will be created.		They will apply them to making their product.	This may involve seeking feedback from others.

We have chosen to structure our Design and Technology curriculum around the 3 key strands of mechanisms, textiles and cooking and nutrition. This enables children to experience clear skills progression whilst being offered a broad range of design experiences. The curriculum and progression documents have been developed in line with the Design and Technology Association curriculum materials.

Aspects of computer-aided design and electronics are taught through other curriculum areas.

	Mechanisms (see projects on a page for guidance about mechanisms)	Cooking and nutrition (see projects on a page for guidance about food)	Textiles (see projects on a page for guidance about textiles)
1	 Sliders, levers and pivots (summer term second half) Children create a 3D story box from shoebox based on a familiar tale, e.g. Goldilocks and the 3 bears. They need to include 2 mechanisms – slider, pivot or lever. Children will first practise these skills by creating examples. <u>Something</u>: a story box <u>Somebody</u>: a younger child <u>Some purpose</u>: to make retelling the story engaging for a younger audience.	Christmas biscuit cutting (autumn second half) Children design and make a template cutter for a Christmas biscuit. <u>Something</u>: biscuit <u>Somebody</u>: parents <u>Some purpose</u>: to be a clearly Christmas-shaped and decorated biscuit	 Wall hanging (spring second half) Children produce a felt figure from fabric (style of Keith Haring) and join to a fabric background to create a wall hanging. Can be attached using staples, glue, non-stranded thread. Felt wall hanging to be A4 paper sized – children can work in portrait or landscape. Children will sew a channel at the top of their hanging for the hanging dowel to be run through. <u>Something</u>: wall hanging <u>Somebody</u>: gift for identified person (special woman – Mothers’ day link) <u>Some purpose</u>: to produce a decorative wall hanging – thinking about colours needed for the person it is for
2	 Pop-up cards (buy lots of pop-up cards) Children make a pop-up card on an appropriate theme to the time of year – e.g. special person. Children will learn how to make a ‘v’-fold and then	Fruit kebab Children design and make a healthy fruit kebab <u>Something</u>: fruit kebab <u>Somebody</u>: children <u>Some purpose</u>: to understand the importance of a balanced diet	Book bag Children produce a book bag which is strong enough and the right size to hold a reading book. Children need to consider size of bag, length of straps, closure etc. Children create template from paper. Children have opportunities to practise stitching on pieces of scrap fabric. Non-stranded thread

	and 'internal stand' cards. The aim is to have 2 mechanisms built up on each other. <u>Something</u>: pop-up card <u>Somebody</u>: for a special person <u>Some purpose</u>: a pop-up card to develop understanding of card mechanisms		Children add velco or a tie to close the book bag. Material will need to be bought – e.g. pillowcases from Matalan – cut to size. Each child will need approx 30cm x 60cm. To form a 20 x 60cm book bag template to fold in the middle with a flap, plus additional to form a handle. <u>Something</u>: a book bag <u>Somebody</u>: for children <u>Some purpose</u>: to understand that joining skills are important in creating product's strength. Beginning to develop understanding of aesthetic appeal.
3	 Levers and linkages Children create a geographical model of a Tectonic Plate or volcano using levers/linkages. They will make a wooden cuboid frame to create their 'stage' with cardboard stuck to the back using a cold glue gun. Children will need experiences first of building the selected levers/linkages using card/paper, before designing and building their model. <u>Something</u>: a model of Tectonic plates <u>Somebody</u>: to explain to a parent how geographical forces work	Pizza Children chop toppings for a pizza – making choices about what toppings they want to put on. Using pre-bought pizza. <u>Something</u>: pizza (preparing toppings) <u>Somebody</u>: children <u>Some purpose</u>: to understand choices made to make food delicious	Christmas tree decoration Children create a stuffed 3D Christmas decoration. Children could sew or stick on decorations. Non-stranded thread. Ribbon for hanging <u>Something</u>: Christmas decoration <u>Somebody</u>: family member <u>Some purpose</u>: needs to be Christmassy and robust enough to hang on a Christmas tree, retaining stuffing.

	<u>Some purpose:</u> to correctly model the moving of tectonic plates		
4	Pneumatics (not hydraulics) Children to create an animal whose mouth is opened by pneumatics. Can they apply their art modelling skills to this? <u>Something:</u> to create a movement that demonstrates an understanding of pneumatics <u>Somebody:</u> showing an understanding of who is impacted by pneumatics – as part of the unit, children will investigate every-day applications of pneumatics. They will understand the difference between hydraulics and pneumatics <u>Some purpose:</u> to demonstrate an understanding of pneumatics and its application in the real world.	Bread Children taste and test different types of bread (e.g. Naan, pitta, Focaccia). They express opinions on which they like and don't like. The class then produces a bread. <u>Something:</u> bread <u>Somebody:</u> family <u>Some purpose:</u> to understand the role of bread as a staple food in all cultures	 Puppets Children create a puppet of an elephant from Elmer the elephant (see parade at end of story) – made from felt. Non-stranded thread to sew around edge of puppet. Any fixing technique for decorations. <u>Something:</u> puppet <u>Somebody:</u> child in EYFS – retell the story of Elmer <u>Some purpose:</u> needs to fit to a hand, stay together and look like the chosen character so it can tell the chosen story correctly.
5	Mechanisms – pulleys and gears Introduce children to the Egyptian Shaduf – a lever for lifting water. Show children a large-scale model of a Shaduf on a tripod and how there is a limit to what it will lift as a lever. Then use pulleys on a tree to demonstrate the impact of pulleys in being able to lift the same weight. Children made K'Nex models of a tripod mechanism to lift using a pulley. Needs to meet a brief of being free-standing. <u>Something:</u> mechanism using pulleys <u>Somebody:</u> people who need to collect water <u>Some purpose:</u> to create a mechanism using pulleys which makes water easier to lift	Soup Children taste a range of soups and evaluate. They design a seasonal healthy soup recipe, with a consistent base. <u>Something:</u> soup <u>Somebody:</u> children for lunch <u>Some purpose:</u> to understand the seasonality of vegetables	 Sock toys Children to create a sock toy designed as they wish for it to look, applying sewing, joining and decoration techniques learned in previous year. Range of threads – stranded or non-stranded. Sewing thread to be bought. Cut sock off at heel and sew across. <u>Something:</u> sock toy <u>Somebody:</u> make for self <u>Some purpose:</u> to create a toy robust enough to be played with
6	Mechanisms – Cams	Stew Children produce a wartime stew (autumn term).	Worship tablecloth

	Children to make a scene linked to the Frozen Kingdom project using Cams. E.g. a seal swimming in the ocean/boat travelling over the waves. <u>Something</u>: a mechanical toy which shows a scene from a Frozen Kingdom. <u>Somebody</u>: themselves <u>Some purpose</u>: to use Cams to create a lifelike movement of a model. Wood bought allowing for 15cm³ cube.	<u>Something</u>: a wartime stew <u>Somebody</u>: to feed the home front <u>Some purpose</u>: understanding wartime rationing	Children produce a worship altercloth, each child contributing to a design based on the 6 days of the creation story (summer term). Use pictures of altercloths from Wells cathedral and other places as a stimulus for children. Children produce paper templates for the elements of their square (15x15cm). Their squares are made from felt and they add to them with a focus on the quality of stitching. Material will be needed, e.g. from Dunelm, a backed velvet to fit school alter size. <u>Something</u>: an altercloth <u>Somebody</u>: staff, pupils and visitors to the school <u>Some purpose</u>: for the altercloth to be used during worship
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