Design and Technology on a page

Design and Technology develops a range of practical skills and encourages children's creativity, risk taking and problem solving. They will appreciate and gain knowledge about significant designers and architects that will inspire their own work. We champion the importance of good nutrition and healthy lifestyles providing opportunities to design and make healthy recipes that will stand them in good stead in later life.

Inspiration: Understanding the impact that a variety of professions has had on design and technology is essential to having a balanced design and technology curriculum at Mandeville. By studying engineers, designers, scientists and chefs we are able to understand the challenges and achievements of different time periods. It is essential that we learn facts about key designs but also compare views and formulate our own opinions as to their achievements.

Thinking like a designer: Children must develop the skill of design and the process for developing new ideas and solving problems. Photos and objects are used to stimulate discussion and as the children move through the school they should develop the ability to formulate questions, use specific vocabulary, justify opinions and critically evaluate their work. Most design and technology lessons will start with a stimulus that will encourage discussion and ask children to formulate an opinion. Children should realise that design and technology is a practical and creative subject that is reinforced throughout all year groups and encourages children to take risks and solve problems.

Building: Children will be taught a set of progressive skills to find different ways to attach, join, strengthen and stiffen their structures. They will use a variety of tools suitable to their project as well as learning the functions of different systems e.g. mechanical, levers and linkages.

I**mplementation:** In most cases Design and Technology will follow a four part lesson structure.

Explore	The children will be given a discussion prompt(Photo, object, product, question) and be expected to form opinions and ideas based on prior knowledge, common sense and their ability to think like a designer/engineer/builder.
Teach	The teacher will be the expert introducing a combination of new facts, vocabulary and skills. This will provide links to previous learning within the topic and to previous skills being taught.
Practise/Demonstrate	Working as a whole class, in groups or in pairs pupils will produce a design template. This may include, models, drawings, diagrams, sketches or ICT.
Apply	Working as a whole class, in groups, in pairs or individually pupils will produce what they have designed using the skills taught. Pupils will learn how to evaluate an existing product or their own.

Impact: Pupils leaving Mandeville in year 6 will have been exposed and been taught a progression of skills that would create an environment where team work, problem solving, resourcefulness, life skills and taking calculated risks are encouraged.

Resources to support Design and Technology: Each year group will identify specific vocabulary related to their curriculum. Most lesson will contain pictures/photos, objects to products to stimulate discussion and provide a discussion starting point and encourage independent thinking.

	PROGRESSION OF SKILLS	THEMES
EYFS	Cutting, snipping, rolling, and folding. Children will be exposed to junk modelling and taught how to	Ourselves, People and Jobs, A long time ago, Living things/Seasons/
YEAR 1	Children will design a specific product. To make their designs with the materials and tools provided, using sliders and axels as a mechanical system. Children will evaluate their own product.	Superhero's Bright Lights, Big City Paws, Claws and Whiskers
YEAR 2	Children will design a product using templates and mock ups. They will begin to select tools to use and include a lever as a mechanical system. They will evaluate their product against a design criteria.	Street Detectives Muck, Mess and Mixtures Wriggle and Crawl

		Tunnels, Towers and Turrets
YEAR 3	Children will design their product using annotated sketches. They will begin to choose their tools, discuss working accurately and use linkages as a mechanical system. They will evaluate their product against their own design criteria and consider views of others.	Scrumdiddlyumptious Gods and Mortals Tremors
YEAR 4	Children will design a product or explain their ideas using exploded diagrams and prototypes. They will select tools from a wider range and use a pulley as a mechanical system. They will evaluate their product against existing products.	Potions 1066 Vikings Romans
YEAR 5	Children will design a product using hand drawn designs that are fit for a purpose. They will use a wide range of tools and explore the use of cams as a mechanical system. They will evaluate their product against their own design criteria and suggest improvements.	A Child's War Frozen Kingdom Blood Heart Peasants, Princes and Pestilence Revolution Hola Mexico!
YEAR 6	Children will design a product using hand drawn designs and computer aided designs fit for a purpose. They will use a wide range of tools and explore the use of gears as a mechanical system. They will evaluate their own products and include comparisons against other designs.	Darwin's Delights Off with her head Scream Machine

Year group	Design Projects
Year 1	Design, make and evaluate capes, dinosaurs, moon buggies, sliders. Food tasting and naming
Year 2	Design, make and evaluate houses/bridges, castle, bug hotel. Food tech: making soup/sandwiches/cookies
Year 3	Design, make and evaluate clay pots Research Burj Khalifa Product research and making smoothies
Year 4	Design, make and evaluate mosaic, Viking ships, clay pots Food tech: healthy beverage/stew
Year 5	Investigate load strengths Design, make and evaluate mask making Food tech: guacamole, salsa Extended Day: research products, design, make evaluate packaging
Year 6	Investigate load strengths Investigate linkages and stable structures Extended day: Making bread, food pyramid