THE BOWLAND FEDERATION OF SCHOOLS

DESIGN TECHNOLOGY CURRICULUM NARRATIVE

THE NATIONAL CURRICULUM

Purpose of study

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.

Aims

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.

When designing and making, pupils in key stage 1 should be taught to:

Design

♣ design purposeful, functional, appealing products for themselves and other users based on design criteria

♣ generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

♣ select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing

♣ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

♣ explore and evaluate a range of existing products

♣ evaluate their ideas and products against design criteria

Technical knowledge

♣ build structures, exploring how they can be made stronger, stiffer and more stable

♣ explore and use mechanisms, such as levers, sliders, wheels and axles, in their products.

Cooking and Nutrition

♣ use the basic principles of a healthy and varied diet to prepare dishes

♣ understand where food comes from.

Working as a Designer

Design	Make	Evaluate	Apply
The art or process of dividing how something will look or work.	Create something by combining materials or putting parts together.	Form an opinion of the value or quality of something after careful thought.	Use something or make something work in a particular situation.

KEY STAGE 1 TOPICS						
TITLE	**MECHANISMS**		**STRUCTURES**		**FOOD AND NUTRITION**	
CONCEPT	Investigate how sliders work		Investigate what needs to be in place so that a structure can remain standing.		Learn about nutrition and that eating is a sensory experience.	
	Learn how wheels and axles work together		Increase the strength and stability of paper by folding.		Learn what healthy means.	
BIG IDEAS/KEY QUESTIONS/LEARNING FOCUS	How can you make a picture move? **Designer – Thomas Malton, The Elder** An architectural draughtsman credited with creating the first pop-up in a book. Know the common uses of sliders Know different methods to create card sliders Know how sliders can create simple mechanisms Be able to design and make a slider product Be able to evaluate the success of their outcomes and recommend improvements		How can you stop a tower from toppling over? **Design – The Leaning Tower of Pisa** Know a freestanding structure is a structure that stands on its' own foundation or base without attachments to anything else Be able to build structures that are freestanding using a range of different materials.		How does food affect your senses? Know why colourful food can be healthier Know how different foods can affect senses – Vegetable kebabs Be able to peel, chop and grate a selection of vegetables - Crudites Be able to modify food to suit food senses – Rainbow wraps	
	Are bigger wheels always better? **Designer - Karl Friedrich Benz (1844 – 1929)** Karl Friedrich Benz was a German mechanical engineer who designed and built the world's first practical automobile to be powered by an internal combustion engine How wheels and axles work together The size and position of wheels affects how they move Create a simple wheel mechanism Use wheel mechanisms to propel a simple vehicle		How strong is a piece of paper? **Designer - Dame Zaha Mohammad Hadid (1950 – 2016)** Dame Zaha Mohammad Hadid was an Iraqi architect, artist and designer and is possibly one of the most famous female architects in the world. Paper becomes stronger when it is folded A load is the amount of weight a structure must carry Fold paper to increase strength and stability Test and record how much weight paper can hold		What does healthy mean? Why vegetables are so important to our health. What processed foods are. Prepare a range of salad vegetables Shape and season a bread snack	
VOCABULARY	**High Frequency VOCABULARY**	**Subject Specific VOCABULARY**	**High Frequency VOCABULARY**	**Subject Specific VOCABULARY**	**High Frequency VOCABULARY**	**Subject VOCABULARY**
	Slider Slot Bridge	Push Pull Rigid	Tower Topple Lean	Foundation Balance Perpendicular	Senses Vitamins Sensory	Ribboning Caramelise Marinade

	Wheel Axle Axle-holder Chasis	Rotate Position Centre	Paper (noun) Crease (noun) Corrugated	Pillar Storey Load (noun)	Free-range Processed Coagulate	Vitamins Protein Wholemeal

TITLE	UNDERSTANDING MATERIALS	TEXTILES	FOOD AND NUTRITION
CONCEPT	Investigate how materials can be changed by adding heat or water.	Sew pieces of fabric together to form a pouch.	Learn about the health benefits of eating vegetables daily and how to prepare them.
	Investigate materials to see if they resist or absorb water.	Use a template to create a simple patchwork.	Practise skills that will help prepare food that will improve energy, mood and future health.
BIG IDEAS/KEY QUESTIONS/LEARNING FOCUS	Can you build with this bread? **Designer - Frank Lloyd Wright (1867 – 1959)** Frank Lloyd Wright was an American architect, designer, writer and educator who designed more than one thousand structures over a period of seventy years. Wright believed in designing in harmony with humanity and the environment. Know building materials have different properties which enable them to be used for different purposes Be able to identify, sort and select materials that can be used in construction. Be able to combine materials.	How can two squares of fabric keep you warm? **Design - The Bayeux Tapestry (1077)** The Bayeux Tapestry is an embroidered cloth (not a tapestry) that is nearly 70 metres long and 50 centimetres tall that depicts the events leading up to the Norman conquest of England, concerning William, Duke of Normandy, and Harold, Earl of Wessex and later King of England, and culminating in the Battle of Hastings Know fabric can be joined together using a running stitch. Know the types and names of tools needed for sewing Be able to create a running stitch Be able to select tools for sewing Be able to thread a needle	Why are vegetables the best? Know the importance of including a range of vegetables in a diet – vegetable dips Be able to peel, grate, season and breadcrumb a range of vegetables – breaded vegetables and pitta pockets

	How can you waterproof a hat? **Designer - Arthur Wellesley (1769 – 1852)** The Duke designed a boot for his soldiers in 1917 which became known as the Wellington boot. Materials can be modified to become waterproof Origami comes from the Japanese words: ori – folding and kami – paper Make paper waterproof Transform flat paper by folding and creasing to form a hat		How can you repurpose an item of clothing? **Designer - Frank Havrah 'Kaffe' Fassett (born 1937)** Frank Havrah 'Kaffe' Fassett, MBE, is an American-born, British-based artist who is best known for his colourful designs in the decorative arts. He specialises in needlepoint, patchwork, knitting, painting and ceramics. How to cut out shapes which have been created by using a template How to use a range of basic sewing skills Use a template to transfer a pattern Cut out and join fabric shapes using a template		How healthy is your food? The difference between fresh food and ultraprocessed foods Shape and form ingredients to make delicious food Use a range of culinary techniques	
VOCABULARY	**High Frequency VOCABULARY** Construction Properties Architect	**Subject Specific VOCABULARY** Modify Cement Solidify	**High Frequency VOCABULARY** Binca Sewing Felt	**Subject Specific VOCABULARY** Running stitch Attach Pouch	**High Frequency VOCABULARY** Function Variety Texture	**Subject Specific VOCABULARY** Vitamins Nutritious Pane
	Manipulate Flexible Barrier	Waterproof Resist Absorb	Patchwork Overstitch Repurpose	Template Applique Quilt	Ingredients Fibre Protein	Processed Vitamins Starch