Bell Lane Primary School

Design & Technology

Key Stage 1

Curriculum map

Philosophy

There are six underlying attributes at the heart of Bell Lane curriculum and lessons.

1. Lessons and units are knowledge and vocabulary rich so that pupils build on what they already know to develop powerful knowledge.
2. Knowledge is sequenced and mapped in a coherent format so that pupils make meaningful connections.
3. Our flexible curriculum enables teachers to tailor content to other subjects in the curriculum and the current context.
4. Our curriculum is evidence informed through rigorous application of best practice and the science of learning.
5. We prioritise creating a diverse curriculum by committing to diversity in teaching and teachers, and the language, texts and media we use, so all pupils feel positively represented.
6. Creating an accessible curriculum that addresses the needs of all pupils is achieved to accessibility guidelines and requirements.

Inclusive and ambitious

The D&T units are pitched so that pupils with different starting points can access them. Lessons within a unit are sequenced so that each one builds on prior learning. The activities are scaffolded so all children can succeed, and they provide scope for all to be challenged.

Pupil engagement

The D&T lessons are structured to engage pupils in thinking during their lessons - both to engage with the subject matter and to strengthen their memory of what is being learnt.

The nature of D&T is that alongside reading and writing activities in the lessons, pupils will need to be sketching and drawing ideas. In addition, many of our lessons require practical application of the concepts and skills being learned. In many cases this can be done using materials commonly found in the home and the lessons provide guidance on how to use such materials safely alongside adult supervision where necessary and reinforce the learning from the lesson.
It is our intention to contextualise learning where possible and applicable. This real-life application and understanding of D&T is important to show how D&T skills, knowledge and key learning are relevant and applicable in a vast number of areas of work, consumer choices and everyday life.

Motivation through education

D&T engages pupils in learning how to design and make, in order to improve the world they live in.

Where possible, we draw on real-world experiences to provide an engaging context for developing, designing and making skills and knowledge. Every pupil should have the opportunity to make use of their designing and making skills and knowledge and, through this, develop personal achievement. We provide opportunities for pupils to be creative and solve problems by developing their own solutions to real-world contexts and offer (where possible and applicable) various methods to communicate their ideas and understanding.

A curriculum of quality

The D&T curriculum has been put together with careful consideration and by consulting with specialists from IT T, secondary and primary education. This wealth of expertise has resulted in an effective, exciting, relevant, and challenging curriculum for pupils and teachers to engage in. The learning in Key Stages 1 and 2 should provide a good foundation for learning in Key Stage 3 and beyond.

Curriculum design constraints

The D&T curriculum features 20 lessons per Year Group for Key Stage 2, split into two equal units. This is a significantly reduced provision compared to what should ideally be available in a school context and as a result does not fully address all aspects of an ideal D&T curriculum and the national curriculum programmes of study. Due to the constraints of asynchronous learning, there is no easy way to ensure full curriculum coverage. Whilst the curriculum coverage is reduced, we are confident that the fundamentals of a quality D&T curriculum remain and allow both teachers and pupils to benefit from the offering.

Table of Contents

Units Overview

Unit Number	Unit Title	Recommended year group	Number of lessons
1.	Structures: freestanding structures	Year 1	10
2.	Cooking and nutrition: preparing fruit and vegetables	Year 1	10
3.	Mechanisms: sliders and levers	Year 2	10
4.	Textiles: templates and joining techniques	Year 2	10

Unit Specifics

Unit title	Prior knowledge required:	Equipment required
Year 1 Structures: Freestanding structures	Experience of using construction kits to build walls, towers and frameworks Experience of using basic tools e.g. scissors or holes punches with construction materials e.g. plastics, card. Experience of different methods of joining card and paper.	Paper, scissors, tape, gluestick
Year 1 Cooking & nutrition: Preparing fruit and vegetables	Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. Experience of cutting soft fruit and vegetables using appropriate utensils.	Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls
Year 2 Mechanisms: Sliders and levers	Early experiences of working with paper and card to make simple flaps and hinges. Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.	Card, paper, masking tape, paper fasteners, glue stick, scissors
Year 2 Textiles: Templates and joining techniques	Explored and used different fabrics. Cut and join fabrics with Simple Thought about the user and purpose of products.	Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool

Lessons

Unit 1 Structures: freestanding structures

Lesson number	Lesson question	Pupils will learn	Key Vocabulary	Skills and Subtantive knowledge
1.	**What is a structure?**	**Pupils will learn** ● work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment ● use simple design criteria to help develop their ideas ● generate ideas by drawing on their own experiences **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong **Disciplinary knowledge** ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick	Structure Freestanding Hollow	- To know that a structure is a combination of materials to make a 3D shape. - To know that freestanding means that the structure can stand up by itself. - To be able to identify/name some famous structures incTower Bridge, The Shard, Sydney Opera House, Eiffel Tower. - To link knowledge of materials from science and 3D shape from maths, landmarks from Geog to DT. - SKILL - To be able to create a hollow 3D Shape

		Guidance warnings ● Equipment requiring safe usage.		
2.	**Understanding functions of freestanding structures**	**Pupils will learn** ● generate ideas by drawing on their own experiences ● use knowledge of existing products to help come up with ideas **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong **Disciplinary knowledge** ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick **Guidance warnings** ● Equipment requiring safe usage.	Wall Freestanding Structure Pattern Staggered joints Single File Columns	- To be able to understand the function of a freestanding structure. - To be able to identify and name famous walls inc Great Wall of China and Hadrian's Wall - SKILL - to be able to make a simple wall using staggered joints/single file columns - SKILL - to predict best join for strength/ use - to keep HD safe - SKILL - to test own structure for strength
3.	**Designing a structure**	**Pupils will learn** ● plan by suggesting what to do next	Structure Freestanding	- To know that a frame structure is made of thin

		● select from a range of tools and equipment, explaining their choices **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong **Disciplinary knowledge** ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick **Guidance warnings** ● Equipment requiring safe usage.	Stability Join Frame	materials we can fit together to make a structure - To be able to identify a frame structure in the world around us - Swings - To be able to spot shapes in frame structures - To know that a triangle is the strongest shape - SKILL - to be able to make a simple frame structure
4.	**Cutting and joining**	**Pupils will learn** ● use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components ● measure, mark out, cut and shape materials and components ● assemble, join and combine materials	Fix Freestanding Base Join Stability	- To know that a structure had a purpose even if it is just aesthetic - SKILL - to be able to test a freestanding structure for stability - SKILL - To be able to design a structure for a given

		and components **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong **Disciplinary knowledge** ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick **Guidance warnings** ● Equipment requiring safe usage.		purpose and audience - SKILL - to be able to join different materials together to make a stable structure.
5.	**Designing a bridge**	**Pupils will learn** ● talk about their design ideas and what they are making ● suggest how their products could be improved **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic,	Brief Freestanding Plan	-To be able to design a structure according to a given brief To know that a plan is part of the design process SKILL - to be able to test a design to ensure it meets the brief To know that DT is a problem

		circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong **Disciplinary knowledge** ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick **Guidance warnings** ● Equipment requiring safe usage.		solving subject and that all designs are made to overcome an existing problem
6.	**From idea to prototype**	**Pupils will learn** ● what they like and dislike about products ● measure, mark out, cut and shape materials and components ● assemble, join and combine materials and components **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong	Support Brief Prototype Aesthetics	To know that a prototype is a model of the product SKILL - to make a prototype using various materials and using prior knowledge of best shapes and joins for strength and stability

		Disciplinary knowledge ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick **Guidance warnings** ● Equipment requiring safe usage.		
7.	**Investigating and testing**	**Pupils will learn** ● about the simple working characteristics of materials and components ● assemble, join and combine materials and components **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong **Disciplinary knowledge** ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with	Stability Base Centre of gravity	To be able to name and identify some of the world's tallest towers inc: Burj Khalifa and The Shard To know that the position of an objects centre of gravity affects its stability To know that the weakest point of a tower's gravity is at the top SKILL - testing a product to make sure it fits the brief

		construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick **Guidance warnings** ● Equipment requiring safe usage.		
8.	**Baby Bear's chair**	**Pupils will learn** ● measure, mark out, cut and shape materials and components ● assemble, join and combine materials and components **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong **Disciplinary knowledge** ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick	Replicate User Function	To know that designers always start design process by looking at designs that already exist To know the choice of material for a design affects stability To be able to identify the user in an existing design SKILL - to be able to design a product on paper and label its key features SKILL - to be able to build a prototype based on own design

		Guidance warnings ● Equipment requiring safe usage.		
9.	**Strong, stiff and stable**	**Pupils will learn** ● how freestanding structures can be made stronger, stiffer and more stable ● what they like and dislike about products **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong **Disciplinary knowledge** ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick **Guidance warnings** ● Equipment requiring safe usage.	Evaluate Fit for purpose Sturdy Stable Shell structure	To know that evaluating means judging if you have done a good job To know that a shell structure is something you can go under to be protected SKILL - to be able to evaluate own design to see if it meets the brief
10.	**Technical terms**	**Pupils will learn** ● the correct technical vocabulary for the	Structure Frame	Recapping all learnt Assessment for learning lesson

		projects they are undertaking **Lesson vocabulary** ● Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong **Disciplinary knowledge** ● Experience of using construction kits to build walls, towers and frameworks. Experience of using basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. Experience of different methods of joining card and paper. **Equipment** ● Paper, scissors, tape, gluestick **Guidance warnings** ● Equipment requiring safe usage.	Solid	To be able to label parts of all structures made in the unit

Unit 2 Cooking and nutrition: preparing fruit and vegetables

Lesson number	Lesson question	Pupils will learn	Key Vocabulary	Skills and Subtantive knowledge
1.	**Introduction: exploring delicious fruits and vegetables**	**Pupils will learn** ● work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment ● what they like and dislike about products ● make simple judgements about their products and ideas against design criteria **Lesson vocabulary** ● Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria **Substantive knowledge** ● Experience of common fruit and vegetables, undertaking sensory	Investigate Fruit Vegetable Evaluate	To know that when using certain equipment we need to stay safe. To be able to differentiate a fruit from a vegetable To be able to identify and name a variety of fruits and vegetables To be able to use descriptive words to evaluate different fruit and vegetables

		activities i.e. appearance taste and smell. **Disciplinary knowledge** ● Experience of cutting soft fruit and vegetables using appropriate utensils. **Equipment** ● Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls **Guidance warnings** ● Equipment requiring safe usage.		
2.	**Developing ideas for a fruit salad**	**Pupils will learn** ● what products are ● who products are for ● what products are for ● use simple design criteria to help develop their ideas **Lesson vocabulary** ● Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria	Food products Criteria Ideas Purpose User	To know what a food product is and who it is designed for To be able to identify potential purpose and users for existing food products To know that you should eat over 5 fruit and veg a day SKILL - to create a set of criteria for own food product

		Substantive knowledge ● Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. **Disciplinary knowledge** ● Experience of cutting soft fruit and vegetables using appropriate utensils. **Equipment** ● Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls **Guidance warnings** ● Equipment requiring safe usage.		
3.	**Making a fruit salad**	**Pupils will learn** ● select from a range of tools and equipment, explaining their choices ● follow procedures for safety and hygiene ● use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components ● measure, mark out, cut and shape materials and components ● assemble, join and combine	Prepare Cut Combine Peel Chop	To know that hygiene is really important when preparing food To know that safety is really important when preparing food To be able to name and identify equipment used in food prep SKILL - to be able to prepare fruit to be used in a product using the appropriate equipment

		materials and components **Lesson vocabulary** ● Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria **Substantive knowledge** ● Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. **Disciplinary knowledge** ● Experience of cutting soft fruit and vegetables using appropriate utensils. **Equipment** ● Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls **Guidance warnings** ● Equipment requiring safe usage.		safely and hygienically

4.	**Designing and making a savoury salad**	**Pupils will learn** ● say whether their products are for themselves or other users ● use knowledge of existing products to help come up with ideas ● develop and communicate ideas by talking and drawing **Lesson vocabulary** ● Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria **Substantive knowledge** ● Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. **Disciplinary knowledge** ● Experience of cutting soft fruit and vegetables using appropriate utensils. **Equipment** ● Chopping boards, peeler, grater, washing up facilities, knives, range of	Savoury Investigate Design Sweet Criteria	To be able to identify fruits or vegetables we could use in a savoury salad. To be able to identify key ingredients in a given food product To be able to create a criteria for a food product SKILL -To design a salad based on criteria

		fruit and veg, spoons, bowls **Guidance warnings** ● Equipment requiring safe usage.		
5.	**Planning how to make a savoury salad**	**Pupils will learn** ● how products work ● how products are used ● where products might be used ● state what products they are designing and making **Lesson vocabulary** ● Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria **Substantive knowledge** ● Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. **Disciplinary knowledge** ● Experience of cutting soft fruit and vegetables using appropriate utensils.	Ingredients Equipment Method Safety Hygiene	To be able to plan a savoury salad based on criteria To be able to plan a method for a food product design

		Equipment ● Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls **Guidance warnings** ● Equipment requiring safe usage.		
6.	**Making a savoury salad**	**Pupils will learn** ● that food ingredients should be combined according to their sensory characteristics ● the correct technical vocabulary for the projects they are undertaking **Lesson vocabulary** ● Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria **Substantive knowledge** ● Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. **Disciplinary knowledge**	Ingredients Equipment Drain Grate Cut	To be able to follow a plan and method to create food product based on criteria To be able to prepare ingredients hygienically SKILL - to be able to use correct equipment efficiently and safely

		● Experience of cutting soft fruit and vegetables using appropriate utensils. **Equipment** ● Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls **Guidance warnings** ● Equipment requiring safe usage.		
7.	**Where do our fruit and vegetables come from?**	**Pupils will learn** ● that all food comes from plants or animals ● that food has to be farmed, grown elsewhere (e.g. home) or caught **Lesson vocabulary** ● Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria **Substantive knowledge** ● Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and	Plants Animals Farmed Grown Caught	To be able to identify where in the world different fruit/veg comes from - link to Geog To identify which part of the plant different fruit/veg is from - link to Science

		smell. **Disciplinary knowledge** ● Experience of cutting soft fruit and vegetables using appropriate utensils. **Equipment** ● Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls **Guidance warnings** ● Equipment requiring safe usage.		
8.	**Exploring the Eatwell Guide: investigating how to make a smoothie**	**Pupils will learn** ● how to name and sort foods into the five groups in The Eatwell Guide ● that everyone should eat at least five portions of fruit and vegetables every day ● how to prepare simple dishes safely and hygienically, without using a heat source ● how to use techniques such as cutting, peeling and grating ● select from a range of tools and equipment, explaining their choices; follow procedures for safety and hygiene **Lesson vocabulary** ● Fruit and vegetable names, names of equipment and utensils, sensory	Ingredients Fruits Vegetables Blend Healthy	To know what the Eatwell Guide is and what it helps with To be able to identify the fruit and veg in their own diets To know the types of foods eg: carbohydrates, dairy products/alternatives, protein and fatss make up a balanced meal To understand the importance of drinking water 6/8 glasses a day To understand that a balanced plate and lots of water = a healthy diet To know what foods are not on the eatwell guide

		vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria **Substantive knowledge** ● Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. **Disciplinary knowledge** ● Experience of cutting soft fruit and vegetables using appropriate utensils. **Equipment** ● Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls **Guidance warnings** ● Equipment requiring safe usage.		To know that a smoothie is a good way of making sure you are having all of the key food types in one meal
9.	**Exploring ideas for a fruit or vegetable smoothie**	**Pupils will learn** ● use knowledge of existing products to help come up with ideas ● develop and communicate ideas by talking and drawing **Lesson vocabulary**	Ingredients Equipment Plan Design	To be able to create a plan for a smoothie including ingredients, equipment, method etc. To be able to explain the reason for choice of

		● Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria **Substantive knowledge** ● Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. **Disciplinary knowledge** ● Experience of cutting soft fruit and vegetables using appropriate utensils. **Equipment** ● Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls **Guidance warnings** ● Equipment requiring safe usage.		ingredients - taste/nutrition/ colour etc
10.	**Making a fruit or vegetable smoothie**	**Pupils will learn** ● what they like and dislike about products ● how to prepare simple dishes safely	Ingredients Test Combine Cut	To be able to prepare the environment and equipment so that it is hygienic and safe

		and hygienically, without using a heat source ● how to use techniques such as cutting, peeling and grating ● follow procedures for safety and hygiene **Lesson vocabulary** ● Fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria **Substantive knowledge** ● Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. **Disciplinary knowledge** ● Experience of cutting soft fruit and vegetables using appropriate utensils. **Equipment** ● Chopping boards, peeler, grater, washing up facilities, knives, range of fruit and veg, spoons, bowls	Blend	To be able to prepare fruit and veg safely using different techniques eg claw To be able to test and evaluate a food product

		Guidance warnings ● Equipment requiring safe usage.		

Unit 3 Mechanisms: sliders and levers - Year 2

Lesson number	Lesson question	Pupils will learn	Key Vocabulary	Skills and Subtantive knowledge
1.	**To explore a range of sliders and levers**	**Pupils will learn** ● measure, mark out, cut and shape materials and components ● assemble, join and combine materials and components ● about the movement of simple mechanisms such as levers, sliders, wheels and axles **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings**		

		● Equipment requiring safe usage.		
2.	**To explore and evaluate products with moving parts**	**Pupils will learn** ● use knowledge of existing products to help come up with ideas ● develop and communicate ideas by talking and drawing ● what they like and dislike about products **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings** ● Equipment requiring safe usage.		

3.	**To investigate the properties of everyday materials**	**Pupils will learn** ● generate ideas by drawing on their own experiences ● select from a range of materials and components according to their characteristics **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings** ● Equipment requiring safe usage.		

4.	**To explore a range of materials to help make design decisions**	**Pupils will learn** ● plan by suggesting what to do next ● select from a range of tools and equipment, explaining their choices ● work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings** ● Equipment requiring safe usage.		

5.	**To explore a range of users and purposes**	**Pupils will learn** ● talk about their design ideas and what they are making ● make simple judgements about their products and ideas against design criteria ● suggest how their products could be improved **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings** ● Equipment requiring safe usage.		

6.	**To investigate and evaluate cards that include a variety of mechanisms and moving parts**	**Pupils will learn** ● what products are what products are for ● who products are for ● where products might be used ● how products work, how products are used ● what materials products are made from **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings** ● Equipment requiring safe usage.		

7.	**To generate design ideas for a congratulations card**	**Pupils will learn** ● generate ideas by drawing on their own experiences ● state what products they are designing and making ● describe what their products are for ● say how they will make their products suitable for their intended users **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings** ● Equipment requiring safe usage.		

8.	**To use skills from art and design to decorate your congratulations card**	**Pupils will learn** ● use finishing techniques, including those from art and design ● select from a range of materials and components according to their characteristics **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings** ● Equipment requiring safe usage.		

9.	**To apply a chosen mechanism to a celebration card**	**Pupils will learn** ● measure, mark out, cut and shape materials and components ● assemble, join and combine materials and components **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings** ● Equipment requiring safe usage.		

10.	**To evaluate your congratulations card**	**Pupils will learn** ● the correct technical vocabulary for the projects they are undertaking ● make simple judgements about their products and ideas against design criteria ● suggest how their products could be improved **Lesson vocabulary** ● Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function **Substantive knowledge** ● Early experiences of working with paper and card to make simple flaps and hinges. **Disciplinary knowledge** ● Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape. **Equipment** ● Card, paper, masking tape, paper fasteners, glue stick, scissors **Guidance warnings** ● Equipment requiring safe usage.		

Unit 4 Textiles: templates and joining techniques - Year 2

Lesson number	Lesson question	Pupils will learn	Key Vocabulary	Skills and Subtantive knowledge
1.	**To explore a range of existing products**	**Pupils will learn** ● what products are what products are for ● who products are for ● how products are used where products might be used ● what materials products are made from ● what they like and dislike about products **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge** ● Thought about the user and purpose of products. **Equipment** ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g.		

		buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		
2.	**To work confidently within a chosen context**	**Pupils will learn** ● work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment ● use knowledge of existing products to help come up with ideas ● generate ideas by drawing on their own experiences **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge** ● Thought about the user and purpose of products.		

		Equipment ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		
3.	**To experiment with different joining techniques**	**Pupils will learn** ● say how their products will work ● say how they will make their products suitable for their intended users ● about the simple working characteristics of materials and components ● that a 3-D textiles product can be assembled from two identical fabric shapes **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge**		

		● Thought about the user and purpose of products. **Equipment** ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		
4.	**To use design criteria to develop ideas**	**Pupils will learn** ● say whether their products are for themselves or other users ● use simple design criteria to help develop their ideas ● develop and communicate ideas by talking and drawing **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge**		

		● Thought about the user and purpose of products. **Equipment** ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		
5.	**To create a final design idea**	**Pupils will learn** ● talk about their design ideas and what they are making ● state what products they are designing and making ● model ideas by exploring materials, components and construction kits and by making templates and mockups ● use information and communication technology, where appropriate, to develop and communicate their ideas **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function,		

		identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge** ● Thought about the user and purpose of products. **Equipment** ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		
6.	**To explore how to make accurate templates and pattern pieces**	**Pupils will learn** ● select from a range of tools and equipment, explaining their choices ● select from a range of materials and components according to their characteristics ● that a 3-D textiles product can be assembled from two identical fabric shapes **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality		

		mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge** ● Thought about the user and purpose of products. **Equipment** ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		
7.	**To explore finishing techniques**	**Pupils will learn** ● measure, mark out, cut and shape materials and components ● assemble, join and combine materials and components ● use finishing techniques, including those from art and design **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality		

		mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge** ● Thought about the user and purpose of products. **Equipment** ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		
8.	**To make a final puppet product**	**Pupils will learn** ● measure, mark out, cut and shape materials and components ● assemble, join and combine materials and components ● use finishing techniques, including those from art and design **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality		

		mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge** ● Thought about the user and purpose of products. **Equipment** ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		
9.	**To evaluate your puppet making simple judgements**	**Pupils will learn** ● what they like and dislike about products ● suggest how their products could be improved ● make simple judgements about their products and ideas against design criteria **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate,		

		finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge** ● Thought about the user and purpose of products. **Equipment** ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		
10.	**To evaluate how suitable your puppet is for the intended user**	**Pupils will learn** ● the correct technical vocabulary for the projects they are undertaking ● say how they will make their products suitable for their intended users ● suggest how their products could be improved **Lesson vocabulary** ● Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate,		

		finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back **Substantive knowledge** ● Explored and used different fabrics. **Disciplinary knowledge** ● Thought about the user and purpose of products. **Equipment** ● Fabric, thread, pins, needles, stapler, glue stick, scissors items for finishing e.g. buttons, wool **Essential additional subject-specific information** ● Cut and join fabrics with simple techniques. **Guidance warnings** ● Equipment requiring safe usage.		

Additional Information

Contents

Section number & Title

1. Coherence and flexibility
2. Knowledge organisation
3. Knowledge selection

4. Subject structure overview

1. **Coherence and flexibility**

The Design & Technology (D&T) curriculum is designed to offer flexibility in terms of the order in which units are taught whilst offering coherence within units and across year groups. There are two units for each year group each consisting of 10 lessons. Lessons are broken down into smaller parts to aid understanding, given the asynchronous nature of the lessons. For the units to be coherent, the lessons within them must be taught in order. However, the curriculum is flexible in terms of the order in which you teach units within a year group.

In some units, the practical element/nature of the subject will require schools to provide/loan materials or components that cannot realistically be expected to be found in the home context. Whilst units are organised into year groups, lessons may be appropriate for two years above or below the intended age range. For example, a teacher of a Year 3 class may deem Year 2 or indeed a Year 1 class appropriate depending on prior experiences and knowledge of D&T.

2. **Knowledge organisation**

The curriculum organises content into strands that encapsulate the disciplines that are core to D&T and expands upon those that are highlighted in the national curriculum's programme of study. In addition, the increasingly important areas of 'Technology in Society' are included which are currently prevalent in Key Stage 3.
The key themes are:

Designing

- Understanding contexts, users and purposes
- Generating, developing, modelling and communicating ideas

Making

- Planning
- Practical skills and techniques

Evaluating

- Own ideas and products Existing products

- Key events and individuals

Technical knowledge, including making products work

Cooking and nutrition

- Where food comes from
- Food preparation, cooking and nutrition

Technology in society

- Sustainability
- Impact of technologies, including emerging technologies

3. **Knowledge selection**

Decisions about knowledge selection have been guided by:

1. Relevant knowledge which underpins the subject
2. Relevance to pupils' experiences and understanding of the world.
3. The national curriculum, and in addition the D&T Progression Framework
4. High quality resources already available to us
5. Consultation with D&T specialists and examples of best practice
6. Important issues relating to impacts, both good and bad of design, manufacture and products on the world and individuals.

Content has been selected for this curriculum that develops coordination, spatial awareness, creative thinking, problem-solving and incorporates and utilises skills and knowledge from other subject areas. Whilst other subject areas are intrinsically linked, i.e. mathematics, science etc. there is a conscious recognition and understanding that this cannot be a barrier to learning as every pupil is likely to have different experiences and starting points. There is a purposely strong emphasis on encouraging reflection and iteration, with a pupil-led approach. Rather than a 'designing-by-numbers' approach, pupils will be encouraged to creatively explore briefs and opportunities.

The suggested curriculum sequence builds through the key stages so that as pupils move forward in their education, they are equipped with the prior knowledge that they need to succeed in the next phase.

4. **Subject structure overview**

Three kinds of activity are included in the curriculum:

- Investigative and Evaluative Activities (IEA's); with a focus on exploring and research. This will also incorporate opportunities to discuss 'Technology in Society', developing knowledge and skills.
- Focussed Tasks (FT's); with a focus on skill development.
- Design, Make and Evaluate Activities (DMEA's); with a focus on developing knowledge and skills through product development, following an iterative cycle of reflection and development. The briefs / contexts for this are purposely opened out as the years progress. The initial briefs are quite constrained in terms of proposed outcomes, whereas later in Key Stage 2, there is more ownership for the pupil to explore different opportunities with the context.

Making and testing is underplayed in these units compared to the role it usually has in a school-based D&T curriculum, because of the constraints imposed by asynchronous learning. Where there is a focus on making, it is on developing prototypes rather than 'finished' products.

The units have a varied approach to an iterative design cycle with different 'starting points' and order of experience. For example, some units may begin with designing before evaluating and assessing relevant research required to aid further development. Other units may begin with collating research and analysing users before progressing to a design task. This approach is to help develop pupils' decision-making processes and future confidence in navigating an iterative cycle independently.

Credit : Oak Academy