Design Technology Curriculum Progression Map

Early Years Foundation Stage

Expressive Arts and Design educational programme (taken from the EYFS Statutory Framework):

The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Early Learning Goals that link to Design Technology:

EYFS Expressive Arts and Design – ELG Creating with Materials

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the process they have used.
- Make use of props and materials when role playing characters in narratives and stories.

EYFS Physical Development – ELG Fine Motor Skills

- Use a range of small tools, including scissors, paintbrushes and cutlery.

In the EYFS, children:

- Have daily access to a range of media and materials eg different types of paper, varying thickness/hardness of pencils, thick and thin brushes, paint, paint sticks, pastels etc. in continuous provision.
- Are taught different techniques such as drawing, painting, printing, collage, which they can then practise independently.
- Explore colour-mixing through our 'self-service' paint stations.
- Learn about different artists and explore their techniques.

Cook Build Sew

Design Technology Curriculum Progression Map

Autumn						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Strand	**Cook**	**Cook**	**Sew**	**Sew**	**Build**	**Build**
Aspect	Environment and sustainability	Environment and sustainability	Environment and sustainability	Environment and sustainability	Enterprise and innovation	Environment and sustainability Enterprise and innovation
Product(s)	Dips and Vegetables Jam Tarts / Mince Pies	Pizza Gingerbread	Key Rings / Decorations	Cushions	Cams Toys	Water Walls

Cook Build Sew

Design Technology Curriculum Progression Map

Autumn

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Practical / Disciplinary Knowledge	Skills / Significance	**Introduction to the Recipe – Make – Taste and Evaluate** **Dips and Vegetables:** • Following a simple recipe • Measuring in spoonfuls – tbsp and tsp • Chopping – using a knife and a chopping board (safety knives) • Knife skills – bridge and claw techniques • Cutting with scissors • Mashing • Mixing (stirring) **Jam Tarts / Mince Pies:** • Following a simple recipe • Measuring in spoonfuls • Rubbing fat into flour • Mixing • Making, rolling and cutting pastry • Baking • Cooling	**Introduction to the Recipe – Make – Taste and Evaluate** **Pizza:** • Following a simple recipe • Measuring using spoons (half tbsps) • Mixing (by hand) • Making a dough • Kneading, folding, (making a dough stretchy before we can cook it) • Rolling and shaping Spreading • Cutting/slicing (safety knives – lengthways) • Knife skills – bridge and claw techniques • Tearing • Presentation • Baking **Gingerbread:** • Following a simple recipe • Measuring using spoons (half tbsps and tsps) • Chopping • Mixing (wooden spoon) • Rubbing fat into flour • Cracking an egg • Making a dough, rolling, cutting • Baking, cooling • Decorating	**Research and Investigate:** • Examples of key rings/decorations made from fabric • Different fabrics • Woven fabrics (edges fray) • How to make felt – pressing materials together (edges do not fray) **Design:** • Devising criteria (user, purpose/function, aesthetic appeal) • Appeal – what the user likes e.g. objects/shapes/colours • Function – holding keys, putting on a bookbag, decorating a Christmas tree etc – reasonably thick to hold its shape • Generate/innovate/develop ideas • Drawing – annotated diagrams **Make:** • Selecting tools/materials • Making paper templates and patterns – not too small • Drawing/cutting shapes • Pinning – pin template to fabric, pin back and front together • Threading a needle – length from elbow to tips of fingers and back • Tying a knot – after threading needle, when stitching is complete to secure stitches • Running stitch • Backstitch • Joining – both stitches to join but running stitch is easier, backstitch creates a stronger seam, sew close to the edge • Stuffing – leaving a gap, making sure the opening can close • Gluing – adding details • Sewing/gluing on a loop **Use and Evaluate** • Photograph • Written evaluation • Peer evaluation – against criteria and existing products	**Research and Investigate:** • Appliqué – sewing a piece of fabric onto a background piece (not just cushions) • Cushions • Running stitch • Backstitch • Overcast stitch (whipstitch) **Design:** • Devising criteria (user, purpose, function, aesthetic appeal) • Function – resting on, making a chair more comfortable – soft fabric and squashy filling • Appeal – what the user likes e.g. objects/shapes/colours • Generate/innovate/develop ideas • Drawing – annotated diagrams **Make:** • Selecting tools/materials • Making paper templates/ patterns – not too small but small enough to fit background • Drawing/cutting shapes • Pinning – pin template to fabric, pin decorations to backgrounds, pin back and front together • Threading a needle – length from elbow to tips of fingers and back • Tying a knot – after threading needle, when stitching is complete to secure stitches • Running stitch • Backstitch • Overcast stitch (whipstitch), • Appliqué • Stuffing – leaving a gap, making sure the opening can close • Joining – stitching inside-out, stitching 1cm away from the edge **Use and Evaluate:** • Photograph • Written evaluation • Peer evaluation – against criteria	**Research and Investigate:** • Cams mechanisms – what type of motion is created? What effect does the shape of the cam have on movement? • Examples of what products use cams and followers (mechanical toys, sewing machines, engines, clocks) • History of cams and mechanisms (Ismail al-Jazari in the 13th century) • Structure of a cams toy **Design:** • Devising criteria (user, purpose, function, appeal) • User – toy for KS1 child (carry out consumer research) • Purpose/function – how is the toy designed so that one part will move up and down? Do you need a pivot point? • Generate/innovate/develop ideas • Create annotated drawings • Cross-sectional diagrams – drawing the toy as if viewed from the side **Make:** • Select tools/materials for making a cam toy • Cutting • Different ways of joining • Decorating • Finishing **Use and Evaluate:** • Videoed peer evaluation— against criteria and existing products	**Research and Investigate:** • Investigate water wall and pulleys **Design**: • Devising criteria (user, purpose, function, appeal) • Generate/innovate/develop ideas • Create annotated drawings and prototypes **Make:** • Select tools/materials for making a water wall for Reception with recycled objects • Purpose – for them to play with • Purpose/function – consider height of the wall and how water will travel down • Cutting – snipping, cutting plastic, putting one half of the scissors through the snipped hole to cut an object • Joining – cable ties, string, waterproof duct tape • Tying knots • Sticking • Making holes – placing blu-tac behind the plastic and pushing a sharp pencil or biro through **Use and Evaluate:** • Written evaluation • Verbal evaluation with user (Reception) – against criteria and existing products
	Cross-Curricular Links	Year 1 Science – Animals Including Humans 1 – All About Me (senses – sweet and savoury)	Year 2 History – Romans in Britain (where Italy is) Year 2 History – The Tudors (Elizabeth I)	Year 2 Art – Murals and Tapestries (Weaving)	Year 3 History – Ancient Egypt; (Tutankhamun)	Year 5 History – Baghdad 900C.E. (The Islamic Golden Age)	Year 5 Science – Forces (pulleys) Year 6 Art – Art in the Italian Renaissance (Archimedes in Raphael's School of Athens) Year 6 Geography – British Geographical Issues (climate change, waste and recycling)

Cook Build Sew

Design Technology Curriculum Progression Map

Autumn							
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Theoretical Knowledge	Concepts	**Introduction to the Recipe – Make – Taste and Evaluate** **Dips and Vegetables:** • Nutrition – fruit and vegetables • Sweet v savoury (senses) • Cooked v raw (some fruits and vegetables are more nutritious when raw but some must be cooked so we don't get unwell) • Cooking from different cultures (Greece) **Jam Tarts / Mince Pies:** • What is a recipe? – a set of instructions which tell you how to make food. • Cooking from different cultures (England) • Sweet v savoury • Cooked v raw • A pie can be made with pastry. • Seasonality – preserving fruit for the winter	**Introduction to the Recipe – Make – Taste and Evaluate** **Pizza:** • Processed v home-made food • Preserving food (processed food contains preservatives to keep it fresh for longer) • Cooking from different cultures—Naples, Italy (links to Romans unit in History) • History and cost of food (many people in Naples were poor and needed quick, cheap and easy food to eat) • Savoury **Gingerbread:** • Spices (fresh / powdered) • Spicy/sweet • History of food (ginger first came to Europe from the middle east over 1000 years ago) • Food transport and cost of ingredients (spices were expensive because they had to travel a long way) • Decoration (after cooling) • Cooked v raw • Baking (hard biscuits)	• Process of design – design means planning and drawing what a product will look like and how it will work • Making products with fabric • Types of fabric - natural/synthetic • Properties of fabric—thickness, softness, stretchiness • How fabric is fit for purpose (felt does not fray) • Features of a key ring/decoration – size, materials, shape, joining, stitching, decoration • A stitch is a loop of thread made on a piece of fabric with a needle	• Process of design – design means planning and drawing what a product will look like and how it will work • Making products with fabric – choosing fabric carefully (e.g. holes no good because stuffing will fall out) • Types of fabric - natural/synthetic e.g. cotton and wool/polyester and nylon • Properties of fabric—thickness, softness, stretchiness • Features of a cushion – size, materials, shape, joining, decoration • Decoration—appliqué (ancient technique – the oldest we know about comes from Ancient Egypt) • A stitch is a loop of thread made on a piece of fabric with a needle	• Process of design – designing means planning and drawing what a product will look like and how it will work. When designing a product we need to think carefully about the materials we will use. When designing a product we need to think about who will use it, its function and aesthetic appeal • Mechanical systems: cams, followers, sliders, camshaft, rotary motion, linear motion, cam profiles • A cam is turned in a rotary motion • The stick the cam is attached to is called the camshaft • The cam pushes against another circle which is called a follower • A follower moves in linear motion inside a slider (to keep it steady) • A cam transfers rotary motion into linear motion • Cams can be different shapes – this is called the cam profile (pear, circle, heart and drop) • Different shaped cams cause the follower to move up and down in a different way • An eccentric cam is where the hole if off-centre, which produces rising and falling at a constant rate • Everyday examples and purpose of cams mechanisms • Structures and materials to make products with cams and followers – 3d shapes, strong, stiff and stable • Cams mechanisms are included in a book written by Ismail al-Jazari in 1206 called 'The Book of Knowledge of Ingenious Devices'. He has been described as the 'father of robotics'	• Process of design – designing means planning and drawing what a product will look like and how it will work. When designing a product we need to think carefully about the materials we will use. When designing a product we need to think about who will use it, its function and aesthetic appeal • Mechanisms: pulleys, Archimedes' screw • Pulleys have an axle, a wheel, a groove and a rope or cable • Pulleys help you lift heavy loads more easily • Everyday examples and purpose of pulleys, purpose of Archimedes' screw • Archimedes wrote about a mechanism – a screw that could be used for taking water uphill • The screw sits inside a cylinder and lifts water to the top, where it pours out of a spout • Structures and materials to make products with pulleys in everyday examples – 3d shapes, strong, stiff and stable • Plastics pollution/recycling/reuse • Use of electricity and connection to global warming • Engineering systems to create environmentally friendly solutions – Nav Sawhney and the Washing Machine Project • Manual means operated by hand – it doesn't use electricity • Appropriate use of materials

Cook Build Sew

Design Technology Curriculum Progression Map

Autumn						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Key Vocabulary	nutrients, vegetable, fruit, sweet, savoury, raw, recipe, chop, chopping board cook, bake, raw, pastry, recipe, season, preserve	home-made, processed, savoury, dough, knead, passata, recipe, slice, chopping board spice, ginger, sweet, transport, dough, cook, bake, raw, recipe	needle, thread, sew, fabric, stitch, natural, synthetic, weaving, felt, user, purpose/function, aesthetic, running stitch, backstitch, seam	needle, thread, sew, fabric, stitch, decoration, appliqué, felt, natural, synthetic, woven, user, purpose/function, aesthetic, running stitch, backstitch, overcast stitch (or whipstitch), seam	cam, cam profile, eccentric cam, follower, slider, camshaft, motion, rotary motion, linear motion, user, purpose/function, aesthetic, pivot	mechanism, component, Archimedes' screw, pulley, wheel, axle, load, effort, groove, prototype, engineer, environment, manual, user, purpose/function, aesthetic, materials

Cook Build Sew

Design Technology Curriculum Progression Map

Spring						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Strand	**Sew**	**Sew**	**Build**	**Build**	**Cook**	**Cook**
Aspect	Environment and sustainability	Environment and sustainability	Enterprise and innovation	Enterprise and innovation	Enterprise and innovation	Enterprise and innovation
Product (s)	Animal Sock Puppets	Pencil Cases	Pop-Up Books	Moving Miniature Playgrounds	Pitta Bread Honey Cake	Mezze

Cook Build Sew

Design Technology Curriculum Progression Map

Spring

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Practical / Disciplinary Knowledge	Skills / Significance	**Research and Investigate:** • Existing products (watch a puppet show – how do the puppets move? How do they look different? What materials are they made from?) **Design:** • Understand criteria (user, purpose, function, appeal) • Generate/develop ideas – talking, drawing, labelling **Make:** • Selecting tools/materials • Making paper templates - drawing/cutting shapes • Placing shapes in correct position (animal's features on the "toe end" of the sock) • Gluing and drying – fabric glue • Joining fabric **Use and Evaluate:** • Recording of children using puppets (reading animal poems / creating a puppet show) • Verbal evaluation against criteria (user, function, appearance)	**Research and Investigate:** • Existing products (pencil cases of different shapes, sizes, materials etc.) **Design**: • Understand criteria (user, purpose, function, appeal) • Appeal – what the user likes e.g. objects/shapes/colours • Function – length/width, shape, how it will close so the pens and pencils don't fall out • Generate/develop ideas, talking, drawing, labelling **Make:** • Selecting tools/materials • Using paper templates/patterns • Drawing/cutting shapes • Pinning a template onto fabric • Threading a needle – self-threading needles • Tying a knot • Running stitch • Gluing on decoration **Use and Evaluate**: • Photograph pencil cases • Written evaluation against criteria (user, function, appearance)	**Research and Investigate:** • Linkages: examples of products that use these (clothes horse, lifts, tool box, engines) • Reverse motion linkage – bars move in opposite directions • Parallel motion linkage – as the bar at the top/side moves, so do the parallel bars at the bottom/side • Crank and slider linkage – the slider moves backwards and forwards, the crank rotates (converting linear motion to rotation) **Design:** • Devising criteria (user, purpose, function, appeal) • User – child of own age • Purpose/function – explain the life cycle of a plant with mechanisms illustrating what happens at each stage • Generate/innovate/develop ideas • Annotated drawings • Protoypes • Landscape/portrait **Make:** • Selecting tools/materials for making pop-up book with linkages • Cutting • Making holes (sharp pencil with blu-tac underneath) • Different ways of joining – glue, split pins • Decorating, finishing **Use and Evaluate:** • Photograph • Written evaluation against criteria and existing products • Verbal peer-evaluation	**Research and Investigate:** • Gears: examples of products that use these (tin openers, bicycles; how gears on a bicycle work • History of gears – ancient Greek Antikythera mechanism (used to predict astronomical positions) **Design:** • Devising criteria (user, purpose, function, appeal) • User – research by asking KS1 children (which parts of a playground would you like to spin round? Which parts would you like to light up?) • Purpose – to entertain a KS1 child • Generate/innovate/develop ideas • Create annotated drawings • Exploded diagrams **Make:** • Select tools/materials for making a moving toy with gears and an electrical circuit, cutting • Different ways of joining – cutting (scissors) and split pins, joining horizontal and vertical surfaces • Decorating, finishing – colourful and attractive **Use and Evaluate:** • Written evaluation against criteria and existing products • Verbal peer-evaluation	**Introduction to the Recipe – Make – Taste and Evaluate** **Pitta Bread:** • Following a recipe • Measuring using scales (starting on 0, measuring grams to nearest 50) • Activating yeast • Mixing • Making a dough (water in the dough makes steam, which creates a pocket) • Proving (leaving dough to rise) • Kneading • Rolling and shaping ("knocking back" by squeezing air out) • Baking (250°C – very hot oven) • Cooling **Honey Cake:** • Following a recipe • Measuring using scales (starting on 0, measuring grams to the nearest 10) • Mixing (wooden spoon) • Cracking an egg • Beating (using a whisk) • Pouring (adding honey syrup as topping) • Sprinkling • Baking (greasing and using greaseproof paper, 180°C - medium-hot oven - baking again once topping added) • Cooling	**Introduction to the Recipe – Make – Taste and Evaluate** **Mezze:** • Following a recipe • Weighing ingredients using scales (starting on 0, measuring to nearest 25g) • Using a knife – bridge and claw method (claw for herbs and bridge for lemon) • Chopping • Grating (safely - hold food with preferred hand and stabilising with other hand, grating from top to bottom, keeping fingers away by holding middle-end of food) • Squeezing a lemon • Using a garlic press • Seasoning (salt, pepper and spices) • Soaking • Mixing, mashing • Cracking an egg • Cooking with meat (hygiene, gloves, separate from other food types, not eating raw meat)
	Cross-Curricular Links	Year 1 Science – Exploring Everyday Materials	Year 1 Science – Exploring Everyday Materials Year 2 Science – Uses of Everyday Materials	Year 2 Science – Plants (life cycle of a plant)	Year 4 History – Ancient Greece (Antikythera Mechanism) Year 2 Science: Uses of Everyday Materials	Year 5 Geography – East Anglia, Yorkshire and the Midlands (growing wheat in East Anglia) Year 3 Science – Animals Including Humans (a balanced and healthy diet) Year 4 Geography – Mediterranean Europe (Greece)	Year 3 Science – Animals Including Humans (a balanced and healthy diet)

Cook Build Sew

Design Technology Curriculum Progression Map

Spring

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Theoretical Knowledge	Concepts	• Process of design – design means planning how something is going to look and work • Making products with fabric – fabric is a material, it is another word for cloth • Properties of a range of materials • Using suitable materials - fabric sock because it is soft and flexible, cardboard holds its shape, pipe cleaners are fabric with metal wire inside and they hold their shape • Fixing fabric together – fabric glue • Reusing/recycling materials – socks – we are not wasting them • Features of a puppet – space to put your hand inside • Features of different animals – shape/colour • A designer is someone who designs objects, or products • Designers evaluate to make their products better	• Process of design – design means planning how something is going to look and work • Features of a pencil case – how they work, size, materials, fastenings (zips, buttons poppers, tied ribbons or string), shape, joining, decoration • Using suitable materials – if our thread is the same colour as our fabric, our stitches won't show up- and will be invisible (if we use a different colour of thread, it will be a feature stitch) • Properties of different materials • Making products with fabric • Join fabric together – sewing and gluing (where two pieces of fabric are joined together, it is called a seam) • Creating stiches with a needle and thread	• Process of design – design means planning and drawing what a product will look like and how it will work • Mechanical systems: Linkages: moving pivot, fixed pivot, types of motion • Levers can be joined together to form linkages. • Linkages are used to change direction of motion. • Linkages have fixed and moving pivots. • Linkages – uses and purpose in everyday examples. • Materials to make linkages in moving books – strong, stiff and stable.	• Process of design – design means planning and drawing what a product will look like and how it will work • Mechanical systems: gears, teeth, interlock, motion transfer, drive gear, driven gear, gearing up, gearing down • Mechanisms are systems with component parts working together in a machine • Component means part of a whole • The gear which is turned by the drive gear is called the driven gear • The motion of the drive gear is transferred to the driven gear • A drive gear can have an axle in the centre of it • Gears: user and purpose in everyday examples. • Gears in bikes are called sprockets • Structures and materials to make a product with gears —3d shapes, strong, stiff and stable. • Electrical systems: circuits, batteries, bulbs and buzzers. • Exploded diagrams show how a product is assembled and how it fits together – almost as if the parts are shown separately	**Introduction to the Recipe – Make – Taste and Evaluate** **Pitta Bread:** • Sweet/savoury (e.g. sweet malt loaf vs white, brown, wholemeal) • Bread as part of a balanced, healthy diet • Using yeast – yeast is a living organism which produces carbon dioxide when it feeds on sugar • Leavened (added yeast) v unleavened (no added yeast) • Proving (leaving dough to rise) • Baking • Cooking from different cultures (type of flatbread common in Mediterranean and Middle East) • Wheat production (links to Geography – East Anglia and wheat production) – also Stone Age flour, planting in autumn, harvesting in late summer, 3 parts of wheat – bran/endosperm/germ) **Honey Cake:** • Sweet/Savoury • Honey production and history (natural form of sugar made from nectar by bees, roughly 1000 flowers visited to fill stomach, honeycomb, flapping wings to dry honey out, beekeepers scrape wax off honeycomb before harvesting honey, spinning honeycomb and sieving afterwards, variety of bee kept – not bumblebee, cave paintings of honey approx. 7000 years ago) • Health benefits of honey (antiseptic qualities e.g. honey and lemon for sore throat, healthy form of sugar) • Cooking from different cultures (Arabic – Egypt, Turkey, Iran, Iraq, Saudi Arabia) • Baking	**Introduction to the Recipe – Make – Taste and Evaluate** **Mezze:** • Sweet/savoury • Bread as part of a balanced, healthy diet (Eatwell plate, a little salt) • Fresh/dried herbs (fresh flat leaf parsley, fresh mint – drying herbs can make them last longer) • Using yeast – leavened/unleavened bread • Baking • Cooking from different cultures (Greece, Bulgaria, Turkey, Iran and Iraq) • Social aspect (meals to be shared – calculating cost to feed a group of 6 in pounds and pence) • Wheat production (bulgar wheat – whole grains, parboiled before drying and packing)

Cook Build Sew

Design Technology Curriculum Progression Map

Spring						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Key Vocabulary	materials, suitable, fabric, recycle, reuse, waste, design, user, function, appearance, feature, materials, properties	design, materials, suitable, properties, sew, fastening, fabric, needle, thread, stitch, running stitch, feature stitch, seam, user, function, appearance	mechanism, component, lever, pivot or fulcrum, bar, slider, slot, force/effort, linear motion, oscillating motion, linkage, fixed pivot, moving pivot, reverse, parallel, rotation, prototype, design, materials, stiff, user, purpose/function, aesthetic, bridge	mechanism, component, wheel, axle, gear, teeth, interlock, drive gear, driven gear, motion, motion transfer, gearing up, gearing down, sprocket, design, materials, stiff/stable, vertical, horizontal, electrical circuit, bulb, buzzer, wires, battery, user, purpose/function, aesthetic, exploded diagram	pitta, flatbread, wheat, grain, yeast, leavened/unleavened, bake, recipe sweet, sugar, honey, harvest, beekeeper, hive, bake, recipe	mezze, savoury, seasoning, herbs, spices, tabbouleh, kofta

Cook Build Sew

Design Technology Curriculum Progression Map

Summer						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Strand	Build	Build	Cook	Cook	Sew	Sew
Aspect	Enterprise and innovation	Enterprise and innovation	Environment and sustainability	Environment and sustainability	Environment and sustainability	Environment and sustainability
Product (s)	Vehicles	Moving Pictures	Bread and Butter Pasta	Ratatouille and Couscous Apple Crumble	Bags	Upcycling Fashion

Cook Build Sew

Design Technology Curriculum Progression Map

Summer

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Practical / Disciplinary Knowledge	Skills / Significance	**Research and Investigate:** • Different types of vehicles – car, lorry, bus • Different parts of a vehicle – body, chassis, axle and wheels • Explore wheels and axles in toy cars **Design:** • Understand criteria (user, purpose, function, appeal) • Users – families going on outings, people doing jobs, transporting goods, transport for many people • Generate/innovate/ develop ideas; talking; drawing; labelling • Annotated drawing **Make:** • Select tools/materials for making a toy vehicle with wheels and axles • Cutting – using scissors, cutting cardboard • Different ways of joining – dowel, glue, masking tape • Decorating; finishing – patterns, slogans **Use and Evaluate:** • Car racing in the playground exploring speed - film/photograph children doing this • Evaluation against criteria and existing products	**Research and Investigate:** • Levers and sliders; examples of what products which used these: seesaw, scissors, hammer, wheelbarrow, shaduf (ancient Egyptian water irrigation) • Research examples of moving pictures – pop-up books, greetings cards **Design:** • Understand criteria (user, purpose, function, appeal) • Purpose – to show a plant growing/what it needs to grow • Generate/innovate/ develop ideas; talking • Drawing; labelling – annotated drawing • Creating a mock up **Make:** • Select tools/materials for making a moving picture with levers and sliders (card vs paper) • Cutting – using scissors, cutting cardboard • Different ways of joining – split pins • Decorating; finishing **Use and Evaluate:** • Photograph • Written valuation against criteria and existing products • Verbal peer-evaluation	**Introduction to the Recipe – Make – Taste and Evaluate** **Bread and Butter:** • Following a recipe • Measuring using measuring jugs and scales • Using yeast • Mixing (wooden spoon) • Making a dough • Kneading (a little flour so it doesn't stick to surface, changing texture – soft, elastic, pushing down and folding) • Rising • Churning (shaking in a jar) • Baking (200°C – hot oven) • Cooling • Slicing, spreading **Pasta:** • Following a recipe Weighing using scales (starting at 0, nearest 100g) • Measuring using jugs (100ml) • Using a knife - claw method • Using a chopping board • Chopping (claw technique, quartering lengthways) • Peeling (peeling blade away from fingers to the bottom) • Pressing (spoon and garlic) • Baking (180°C – medium hot oven)	**Introduction to the Recipe – Make – Taste and Evaluate** **Ratatouille and Couscous:** • Following a recipe • Weighing using scales (to intervals of 50g) • Using a knife – bridge and claw method (claw for thick fruits/vegetables) • Using a chopping board (easier than a plate because it's flat) • Chopping (topping and tailing an onion, cutting into quarters) • Peeling an onion (topping and tailing, peeling and cutting into quarters) • Tearing (tearing peppers) • Drizzling (olive oil) • Cooking vegetables • Soaking • "Fluffing up" with a fork • Stewing (adding liquid) **Apple Crumble:** • Following a recipe • Weighing using scales (intervals of 100g) • Peeling (holding thumb at bottom and middle finger at top – "thumb lever" – and peeling downwards) • Coring (steadying with one hand, holding hole of corer over stalk and pushing down with other hand) • Chopping • Using a knife—bridge method • Using a chopping board • Rubbing fat into flour • Sprinkling (crumble topping – flour, butter, sugar) • Baking (180°C) • Cooling • Presentation	**Research and Investigate:** • Methods of decoration: appliqué, embroidery • Bag design • Materials and features – tote bags made of cotton, leather handbags, rucksacks made of canvas etc. Size, shape, length of handles, features e.g. pockets, decoration • Appliqué – sewing a piece of fabric onto a background piece (not just cushions) • Running stitch • Backstitch • Overcast stitch (whipstitch) **Design:** • Devising criteria (user, purpose, function, aesthetic appeal) • Function – putting small items inside • Aesthetic appeal – what the user likes e.g. objects/shapes/colours • Generate/innovate/develop ideas • Drawing – annotated drawings, drawing to scale **Make:** • Selecting tools/materials • Drawing/cutting shapes • Pinning – pin template to fabric, pin decorations to backgrounds, pin back and front together • Threading a needle – length from elbow to tips of fingers and back • Tying a knot – after threading needle, when stitching is complete to secure stitches • Running stitch • Backstitch • Overcast stitch (whipstitch), • Appliqué • Plaiting • Hemming – a hem is where the fabric is folded over to stop it fraying, it makes a neat edge • Joining – stitching inside-out, stitching 1cm away from the edge, a seam is where the fabric is joined together **Use and Evaluate:** • Photograph • Written evaluation • Film peer evaluation – against criteria and existing products	**Research and Investigate:** • Fast fashion • Upcycling - using disused items to make new ones • Recycling • Sustainability **Design:** • Devising criteria (user, purpose, function, aesthetic appeal) • Design – imaginative • Function – will it remain a top or be converted into something else? What style will you create e.g. formal, casual, special occasion? • Aesthetic appeal – what the user likes e.g. objects/shapes/colours • Generate/innovate/develop ideas • Drawing – annotated drawings, pattern pieces **Make:** • Experimentation with upcycling existing garments e.g. sleeve extension • Select tools/materials • Drawing/cutting shapes • Creating pattern pieces • Pinning – pin template to fabric, pin decorations to backgrounds, pin back and front together • Threading a needle – length from elbow to tips of fingers and back • Tying a knot – after threading needle, when stitching is complete to secure stitches • Joining, appliqué, embroidery, running stitch, backstitch, overcast stitch, plaiting, attaching a button • Hemming – a hem is where the fabric is folded over to stop it fraying, it makes a neat edge • Joining – stitching inside-out, stitching 1cm away from the edge, a seam is where the fabric is joined together • Attaching a button **Use and Evaluate:** • Photograph • Written evaluation – against criteria and existing products • Film fashion show

Cook Build Sew

Design Technology Curriculum Progression Map

Summer							
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Cross-Curricular Links	Year 1 Science – Exploring Everyday Materials Year 1 Art – Architecture; (designing for a purpose, model making)	Year 1 Science: Plants	Year 3 Geography: The South West of England (crop and dairy farming in SW England) Year 3 Geography: Western Europe (countries in Western Europe) Year 2 Science: Animals Including Humans 1 (growth, health and survival – our bodies need healthy food) Year 2 Science: Living Things and their Habitats 1 (vegetables come from plants that are grown to eat)	Year 2 Science: Living Things and their Habitats 1 (different parts of plants which we eat) Year 3 Geography: Western Europe (food which France is known for) Year 3 Science: Animals Including Humans (key food groups)	Year 2 Art - Anglo Saxon Art (The Bayeux Tapestry) Year 3 History - Ancient Egypt (Tutankhamun) Year 4 Art – Needlework, Embroidery and Weaving (embroidery)	Year 5 History – The Industrial Revolution (industrialisation: mass produced goods, mechanised cotton spinning, Victorian working conditions for children) Year 6 Art: William Morris (Art and Crafts Movement – rebellion against mechanisation and industrialisation) Year 6 Geography: British Geography (waste and recycling) Year 6 Geography: Globalisation (global trade and cheap goods production, spread of dominant cultures) Year 6 Science: Looking After our Environment

Cook Build Sew

Design Technology Curriculum Progression Map

Summer

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Theoretical Knowledge	Concepts	• Process of design – designing means planning how something is going to look and work • When we label a picture, we call it a diagram • Vehicles: user and purpose – a vehicle is something that transports people or things from one place to another • Mechanical systems: wheels and axles – lots of vehicles have wheels, an axle can join two wheels on a vehicle together • Axles are held in place by axle holders • Wheels and axles in everyday examples • Structures and materials to make vehicles strong, stiff and stable – card vs paper • Materials—properties and functionality – things we can measure, see or feel (they affect how we use materials) • Vehicles and pollution – pollution is when an environment is damaged by waste, vehicles cause pollution, electric vehicles cause less pollution	• Process of design – designing means planning how something is going to look and work • When we design a product we need to think about who will use it, what it is for, and what it will look like • Mechanical systems: Levers and sliders – a lever is a mechanism which uses a bar and pivot to move heavy loads, a slider has a bar but no pivot • Levers and sliders can both have slots • Bridges can be used to keep sliders in place • Sliders move backwards and forwards along a straight line (linear motion) • Levers move around a pivot in a curved back and forth motion (oscillating motion) • Levers and sliders in everyday examples (seesaw, wheelbarrow and shaduf are examples of lever mechanisms) • Structures and materials to make levers and sliders in moving pictures strong, stiff and stable	**Introduction to the Recipe – Make – Taste and Evaluate** **Bread and Butter:** • Sweet/Savoury (making sweet bread with honey and olive oil) • Making bread with flour made from wheat (geography – South West England – crop and dairy farming, grain is crushed to make flour) • Yeast (makes bread rise – air pockets and springy texture) • Wholegrains and health (making wholemeal flour uses the whole grain – white bread only uses part, which is less healthy) • Baking (means cooking in an oven) • Dairy products, milk and butter production (churning – whipped cream then butter and buttermilk separating) **Pasta:** • Sweet/Savoury • Food from different cultures (Italy) • Pasta (shapes and names) • Pasta production (semolina with water, dough, using moulds, hanging to dry) • Vegetables are part of a healthy diet (aubergines, courgettes, spring onions, celery, carrots, tomatoes) • Boiling v baking • Tomatoes – production, preserving	**Introduction to the Recipe – Make – Taste and Evaluate** **Ratatouille and Couscous:** • Sweet/Savoury Ratatouille—food from France • Couscous—food from North Africa (made from wheat – semolina) • Common foods (French Empire – North African countries like Tunisia, Morocco, Algeria) • Vegetables as part of a healthy diet (Eatwell plate – 5 portions a day) • The different parts of a plant which we eat (onion is a root, courgette is a fruit) • Onions (eye watering) **Apple Crumble:** • Sweet/Savoury – bitter and sharp • British cooking (available produce) • Different varieties of apples (some grown for eating raw, others for cooking – Cox/Braeburn/Royal Gala) • Seasonality (varieties are produced at different times) • Apples as part of a healthy diet (natural sugars, water, vitamins, iron, calcium) • Environment • Sustainability (eating British apples – reduces transport and harm to environment) • Affordability (eating British apples – costs less due to lower transport costs)	• Process of design – designing means planning and drawing what a product will look like and how it will work. When designing a product we need to think carefully about the materials we will use. When designing a product we need to think about who will use it, its function and aesthetic appeal • Making products with fabric – choosing fabric carefully (e.g. holes no good because stuffing will fall out) • Types of fabric - natural/synthetic e.g. leather and cotton/nylon and polyester • There are environmental impacts of using manmade materials to make fabric (plastic pollution etc.) • Properties and suitability of fabric—thickness, softness, stretchiness • How fabrics are made – weaving • Features of a bag – size, materials, fastenings, shape, joining, decoration, handles • Decoration – appliqué, embroidery – appliqué is a technique where pictures or patterns made from fabric are sewn onto a background and embroidery is a technique where pictures or patterns are made by stitches • Appliqué is a very old technique (ancient Egypt) • Embroidery is also a very old technique (Bayeux Tapestry, Queen Elizabeth II's coronation dress) • Other stitches can be used for embroidery, like cross stitch	• Process of design – designing means planning and drawing what a product will look like and how it will work. When designing a product we need to think carefully about the materials we will use. When designing a product we need to think about who will use it, its function and aesthetic appeal • Fast fashion and globalisation – industrialisation, mechanisation and mass production began during the Victorian period and continues today. • Mass manufacture of clothes is sometimes critically referred to as "fast fashion" – large quantities, lost cost, thrown away when clothes go out of fashion • Waste and pollution – unwanted items go to landfill, chemical use can harm the environment • Upcycling, recycling, sustainability • Processes for making clothes—seams and hems • Decoration—appliqué, embroidery, buttons, gluing

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Design Technology Curriculum Progression Map

Summer						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Key Vocabulary	vehicle, transport, car, truck, lorry, bus, purpose, user, wheel, axle, axle holder, body, chassis, label, diagram, materials, properties, pollution, design, user, function, appearance, label	mechanism, lever, pivot or fulcrum, bar, force/effort, load, shaduf, slider, slot, bridge, motion, linear motion, oscillating motion, materials, properties, design, user, function, appearance, mock up	bread, wheat, grain, flour, wholemeal, yeast, churn, yogurt, rise, knead, bake, dairy, milk, cream, butter pasta, dough, boil, bake, vegetable, preserve, tinned, chop, chopping board, peel, peeler	France, ratatouille, stew, vegetable, root, stem, leaf, fruit, seed, flower, couscous apple, crumble, dessert, fruit, variety, orchard, eating apples, cooking apples, vitamins, seasonality, local	decoration, appliqué, embroidery, fabric, materials, properties, leather, canvas, cotton, plait, cord, natural, synthetic, woven, fray, hem, seam, backstitch, overcast stitch (or whipstitch), user, purpose/function, aesthetic	upcycle, recycle, waste, pollution, fast fashion, globalisation, sustainable, fray, hem, seam, decoration, appliqué, embroidery, pattern piece, running stitch, backstitch, overcast stitch, pinning, user, purpose/ function, aesthetic

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Design Technology Curriculum Progression Map

Additional Unit – Summer		
		Year 6
Strand		Build
Aspect		Enterprise and innovation
Product(s)		Electrical Toys
Practical / Disciplinary Knowledge	Skills / Significance	**Research and Investigate:** • Examples of products which use electrical circuits (toys, household items, vehicles, greetings cards that make noise/light up) **Design:** • Devising criteria (user, purpose, function, appeal); generate/innovate/develop ideas • User – a friend or family member, consider favourite colours/objects/patterns/hobbies • Purpose/function – is the card for a special celebration or to say a particular message e.g. birthday cards, thank you cards? What is the purpose of the light in the card e.g. birthday candle flame? • Landscape or portrait • Annotated line drawings – front, inside, back **Make:** • Select tools/materials for making a card with an electrical circuit • Connecting components – the shorter, negative arm of the battery should connect with the conductive copper tape (which attaches to the negative side of the battery). The longer, positive arm will connect with the battery once the corner is folded over and the switch closes the circuit. • Cutting • Different ways of joining – tape • Decorating • Finishing **Use and Evaluate:** • Written evaluation against criteria and existing products • Written peer-evaluation

Design Technology Curriculum Progression Map

Additional Unit – Summer		
		Year 6
	Cross-Curricular Links	Year 6 Science – Electricity (electrical circuits)
Theoretical Knowledge	Concepts	• Process of design – designing means planning and drawing what a product will look like and how it will work. When designing a product we need to think carefully about the materials we will use. When designing a product we need to think about who will use it, its function and aesthetic appeal • Electrical Toys: user and purpose in everyday examples • Electrical systems: circuits, batteries (flat so they can sit within the card), bulbs (LED because it is small), buzzers, motors, copper tape (because it is an electrical conductor) • Electricity can be dangerous – safety rules must be adhered to at all times • Structures and materials to make a product with an electrical circuit —strong, stiff and stable
Key Vocabulary		electrical circuit, component parts, bulb, battery, switch, design, materials, stiff/stable, user, purpose/function, aesthetic

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