

Birchwood Design Technology Curriculum Map



Year Group	Substantive Knowledge	Disciplinary Knowledge	Vocabulary	Resources
<p>Reception-autumn</p>	<p>Autumn 1- Cooking and Nutrition – Open Banana Sandwich</p> <p><u>Expressive Art and Design</u> - Know what and idea is.</p> <p><u>Communication and Language</u> -Know how to take turns during a conversation. -Know a range of words to describe taste.</p> <p><u>Physical Development</u> -Understand how to bridge cut bananas.</p> <p><u>Personal, Social and Emotional Development</u> -Know common uses of spoons and knives.</p> <p>Autumn 2 – Structures -Bear Cave</p> <p><u>Expressive Art and Design</u> -Know how to join materials with glue and sticky tape.</p> <p><u>Communication and Language</u> -Know what a question is and that questions can be used to clarify meaning.</p> <p><u>Physical Development</u> -Know the difference between pens, pencils, crayons etc. -Know what the tripod grip is.</p> <p><u>Personal, Social and Emotional Development</u> -Know that following the rules keeps you safe.</p> <p><u>Understanding the World</u> -Know natural materials come from the earth. -Know man made materials are made by humans and machines.</p> <p>Autumn 2 -Cooking and Nutrition – Pumpkin Soup</p>	<p>Autumn 1- Cooking and Nutrition – Open Banana Sandwich</p> <p><u>Expressive Art and Design</u> -Talk about ideas.</p> <p><u>Communication and Language</u> -Follow one-step instructions. -Begin to take part in discussions in circle time, e.g. what their likes and dislikes are, their thoughts and ideas about various topics. -Can talk about their banana sandwich and use a range of vocabulary to describe the taste. -Follow two-step instructions.</p> <p><u>Physical Development</u> -Construct and eat open top banana sandwiches. -Spread with the back of a spoon.</p> <p><u>Personal, Social and Emotional Development</u> -Select tools and resources that they need to complete a task of their own choosing. -Begin to respect each other’s ideas.</p> <p>Autumn 2 – Structures -Bear Cave</p> <p><u>Expressive Art and Design</u> -Experiment and build with a range of construction materials. -With support, can use scissors, tape dispenser, stapler, glue stick, etc. -Use a variety of materials and fabric. -Choose resources and tools with a purpose in mind. -Talk about what they like about their models. -Use junk modelling to create a bear cave for the bear in Bear snoozes on.</p> <p><u>Communication and Language</u> -Understand and can respond appropriately to a variety e.g. Why...? Do you think...? What...? -Ask questions to clarify instructions. -Use talk to help them work out problems and possible solutions.</p> <p><u>Physical Development</u> -Pick up and use a variety of pens, pencils, crayons and paint brushes. -Begin to use pens, pencils and crayons using a tripod grip. -Use pencils to draw. -Begin to transfer skills from other activities to their creative activities.</p> <p><u>Personal, Social and Emotional Development</u> -Begin to remember rules without being prompted.</p> <p><u>Understanding the World</u> -Use a range of materials natural or man mad to construct with. -Explore which materials are best for their models, talking about the properties of the materials.</p> <p>Autumn 2 -Cooking and Nutrition – Pumpkin Soup</p>	<p>Idea, equipment, safely, risk, bridge, healthy, knife, spread, spoon, prepare, sweet, sour, delicious, disgusting.</p> <p>Objects, tools, movement, material, join, construct, join, build, construct, resource, model,</p>	<p>Bread, butter, banana, spoons, knives, cutting board, plates.</p> <p>Range of junk modelling boxes, tubs, fabric, scissors, glue, tape, glue spreaders, paint, crayons, pencils, cut out bears.</p>

	<p><u>Expressive Art and Design</u> -Know what an idea is.</p> <p><u>Communication and Language</u> -Know that instructions can have more than one step. -Know what a recipe is. -Know that ingredients are used to create a recipe.</p> <p><u>Physical Development</u> -Know the difference between pouring, mixing and stirring.</p> <p><u>Personal, Social and Emotional Development</u> -Understand why they need a healthy, balanced diet.</p> <p><u>Understanding the World</u> -Know that when they cook something it warms it up, makes it hotter and the ingredients change.</p>	<p><u>Expressive Art and Design</u> -Talk about ideas.</p> <p><u>Communication and Language</u> -Talk about their Pumpkin Soup and use a range of vocabulary to describe the steps they went through to create the soup. -Understand the meaning of ingredients when working with food. These are the things that when put together make the end result.</p> <p><u>Physical Development</u> -Stir and mix ingredients.</p> <p><u>Personal, Social and Emotional Development</u> -Make batches of pumpkin soup with adult support.</p>	<p>Idea, mix, mixing, stir, stirring, batch, pumpkin, spoon measure, pour, recipe, ingredient</p>	<p>Pumpkin, water, bowl, spoon, measuring jug, chopping board, pan, wooden spoon.</p>
<p>Reception - spring</p>	<p>Spring 1 – Cooking and Nutrition -Ice Lollies</p> <p><u>Expressive Art and Design</u> -Know some techniques and steps involved in food preparation.</p> <p><u>Communication and Language</u> -Know that instructions can have more than 1 step. -Know that recipes must be followed in order.</p> <p><u>Physical Development</u> -Know how to pour into a container.</p> <p><u>Personal, Social and Emotional Development</u> -Know that we must always wash our hands before handling food.</p> <p><u>Understanding the World</u> -Understand that fruit and vegetables can be grown in different areas of the world. -Know that by manipulating fruit and vegetables they can produce a different result (recipes).</p> <p>Spring 2 – Cooking and Nutrition -Fruit Kebabs</p> <p><u>Expressive Art and Design</u> -Know to use scissors, knives and peelers.</p> <p><u>Communication and Language</u> -Know that instructions can have more than 1 step. -Know that recipes must be followed in order.</p> <p><u>Physical Development</u> -Know the bridge technique for using a knife.</p> <p><u>Personal, Social and Emotional Development</u> -Know that to be healthy fruit and vegetables are important factors. -Know the names of some fruit and be able to identify them. -Understand the reason we need a chopping board when chopping food to stay safe.</p> <p><u>Understanding the World</u> -Know that fruit and vegetables can be grown in different areas of the world. -Know that by manipulating fruit and vegetables they can produce a different result (recipes).</p> <p>Spring 2 – Structures - Dinoscape</p>	<p>Spring 1 – Cooking and Nutrition -Ice Lollies</p> <p><u>Expressive Art and Design</u> -Mix and pour into a mould.</p> <p><u>Communication and Language</u> -Follow 2-step instructions. -Ask why questions. -Discuss the process of how to make an ice lolly.</p> <p><u>Physical Development</u> -Have a hand preference. -Pour liquid into a mould.</p> <p><u>Personal, Social and Emotional Development</u> -Follow instructions carefully.</p> <p><u>Understanding the World</u> -identify some fruits grown in the UK (apples, pears, strawberries) and some from abroad (pineapple, kiwi, banana).</p> <p>Spring 2 – Cooking and Nutrition -Fruit Kebabs</p> <p><u>Expressive Art and Design</u> -Use utensils to chop fruit and salad, knives, peeler, scissors.</p> <p><u>Communication and Language</u> -Follow 2-step instructions. -Ask why questions. -Discuss the process of making a fruit kebab.</p> <p><u>Physical Development</u> Children can use utensils to chop and salad safely.</p> <p><u>Personal, Social and Emotional Development</u> -Understand why they need a healthy, balanced diet and can identify more foods which are healthy. -Use knives to chop fruit and salad safely using the bridge technique.</p> <p><u>Understanding the World</u> -identify some fruits grown in the UK (apples, pears, strawberries) and some from abroad (pineapple, kiwi, banana).</p> <p>Spring 2 – Structures - Dinoscape</p>	<p>variety, prepare, fruit, pour, jug, mould, flavour, freeze, ice, liquid, solid.</p> <p>Heathy, risk, vegetable, fork, bridge cutting technique, peel, arrange, ingredients, measure, colander, peeler, chopping boards, sharp knife, kitchen scissors, skewers, pattern</p>	<p>squash, water, moulds, freezer, lolly sticks, jug, spoon</p> <p>Range of fruits, knives, peelers, scissors, skewers, chopping board</p> <p>Range of junk modelling materials, wallpaper</p>

	<p><u>Expressive Art and Design</u> -Know the best ways to join paper together – glue, staples, tape... -Know that paper mâché can be used to make solid structures. -Know about the properties and functions of different materials (sturdy or flexible). <u>Communication and Language</u> -Know the meaning of sturdy and flexible,</p> <p><u>Physical Development</u> -Know how to hold scissors correctly. -Know how to use paper mâché.</p>	<p><u>Expressive Art and Design</u> -Talk about what they like and dislike about their models/constructions. -Create and make a Dinoscape for the class dinosaurs, using papier mâché, junk modelling, tape, paint and PVA glue. -Use different materials and fabrics to collage such as paper, silk, net, cotton wool.</p> <p><u>Communication and Language</u> -Use complete sentences in their everyday talk. -Begin to connect one idea or action to another using connectives: and, because, then, but. -Be confident to try new activities and they can ask for help if they need it.</p> <p><u>Physical Development</u> -Use scissors without the support of an adult. -Construct using paper mâché.</p> <p><u>Personal, Social and Emotional Development</u> -Follow instructions carefully.</p>	collage, fabric, papier mâché, sturdy, flexible	paste, newspaper, PVA glue, paint brushes, paints, fabrics.
Reception-summer	<p>Summer 1 – Structures – African Musical Instruments <u>Expressive Art and Design</u> -Know that a drum is made from a hollow container with a covering over the tops.</p> <p><u>Communication and Language</u> Know the meaning of the word sturdy. Know that improvement means to make something better.</p> <p><u>Physical Development</u> - Know what the pincer grip is.</p> <p><u>Understanding the World</u> - Know that traditional African drums are made with wood and animal skins.</p> <p>Summer 2 – Structures - Minibeasts <u>Expressive Art and Design</u> - Know how to manipulate pipe cleaners to create different shapes and representations.</p> <p><u>Communication and Language</u> -Know that instructions can be visual as well as spoken.</p> <p><u>Personal, Social and Emotional Development</u> -Know that evaluation is an important part of the designing process.</p>	<p>Summer 1 – Structures – African Musical Instruments <u>Expressive Art and Design</u> -Use a variety of joining techniques in their designs such as (tape, fold, stick, tie, split pin) -Say what they like about their own work. -Improve their own work. -Make their own props to use in their role play such as masks of different African animals and drums to be played. -Choose their own resources and tools depending on the task in hand. -Use templates to help them with their designs. Such as animal templates, mask templates, patterns.</p> <p><u>Communication and Language</u> -Talk about how to change their models to make them stronger and sturdier. -Say what they think about their constructions and why. -Offer suggestions for how to improve them. -Discuss their work with an adult.</p> <p><u>Physical Development</u> -Use a pincer grip when writing, drawing and painting. -Show accuracy and care when drawing and painting pictures.</p> <p><u>Understanding the World</u> - Talk about instruments from Africa.</p> <p>Summer 2 – Structures - Minibeasts <u>Expressive Art and Design</u> Create their own designs of mini beasts by using a range of different materials such as pipe cleaners, junk modelling tubs, boxes, tubes. Create artwork which use different textures, using collage materials. Say what they like about work by other children Explore working with paint on different surfaces and in different ways (e.g. different textured, coloured, sized and shaped paper).</p> <p><u>Communication and Language</u> -Follow instructions to cut out and assemble a structure. -Say what they think about their constructions and why. -Offer suggestions for how to improve them.</p> <p><u>Personal, Social and Emotional Development</u> -Evaluate their work with friends discussing the positives and negatives of what they have created/designed. -Know that mistakes are part of the creative process and are an important part of learning. Children identify problems and can discuss them. Know that a problem can be solved with shared thinking and discussion</p>	<p>strong, sturdy, construct, build, assemble, join, plan, design, structure, thick, thin, hard, strong, animal skin, wood, hollow, instrument, traditional</p> <p>Twist, turn, through, on, in, underneath, next to, on top, model, tall, taller, tallest, big, small, smaller, smallest,</p>	<p>Containers, tubes, paper, fabric, elastic bands, glue sticks, decorations, templates, paint, string.</p> <p>Pipe cleaners, junk modelling resources, paints, mini beast construction instructions, eyes.</p>

<p>Y1- autumn</p>	<p>Autumn 1 –Cooking and Nutrition- Pitta Pockets</p> <ul style="list-style-type: none"> -Know that flour comes from wheat and is grown. - Know that wheat is harvested to make flour. - Know that you need to wash your hands. before preparing food for good hygiene. - Know that an oven can be used to cook food. - Know that dough rises as it cooks. 	<p>Autumn 1 –Cooking and Nutrition -Pitta Pockets</p> <ul style="list-style-type: none"> - Use a jug to measure water to a labelled point. - Weigh ingredients on a spring balanced scale to a labelled point. - Mix with hands to form a bread dough with support. - Roll dough into a ball. - Use a rolling pin to roll into a flat, round shape. - Knead and shape with hands to form pittas. - Select fillings based on own preferences. 	<p>Harvested, farmed, grown, hygienically, measuring, spring balanced scale, mixing, kneading, shaping, rise, filling,</p>	<p>See Focus on Food recipe card 11 for ingredients and method</p> <p>Measuring jugs, mixing bowl, table spoon, rolling pin, baking tray, spring balanced scales</p>
<p>Y1- spring</p>	<p>Spring 1 – A New Chair For Baby Bear - Structures</p> <ul style="list-style-type: none"> - Know a structure is a building or other object constructed from several parts. - Know structures can be made stronger, stiffer and more stable using wider bases and buttresses for stability. - Know that glue, blue tac and tape can be used to secure structures. <p>Spring 2 Cooking and Nutrition - Pasta Salad with Roasted Vegetables</p> <ul style="list-style-type: none"> -Know that pasta is made from wheat. -Know that a salad is made from a mixture of different vegetables. -know that onions, courgette and peppers are types of vegetables and that a tomato is a fruit. -Know that we should aim to eat 5 portions of fruit and vegetables a day. -Know that the bridge and claw are safe knife cutting techniques. -Know that you need to wash your hands before preparing food for good hygiene. 	<p>Spring 1 – Structures - A New Chair For Baby Bear</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> - Explore a range of existing chair designs commenting on their stability and comfort. - Test out different support for chairs (buttress and wide base) and assessing which are most stable using art straws and cardboard boxes. - Test different joining methods (glue, blue tac, tape) evaluating their effectiveness. - Generate ideas for a chair based on simple design criteria (must stand up on its own and must hold a teddy bear). - Develop, model and communicate their ideas through talking, mock-ups and drawings. <p><u>Making</u></p> <ul style="list-style-type: none"> -Select and use tools, skills and techniques, explaining their choices. - Select new and reclaimed materials to build their structures. -Use simple finishing techniques to decorate their chair. <p>Evaluating</p> <ul style="list-style-type: none"> -Evaluate their chair by discussing how stable it is, if it supports the teddy bear and its appearance <p>Spring 2 - Cooking and Nutrition- Pasta Salad with Roasted Vegetables –</p> <ul style="list-style-type: none"> -Use the bridge and claw knife techniques to cut soft vegetables (tomatoes, courgettes and peppers). -Place chopped vegetables on a baking tray and add pre-chopped onion and garlic. -Drizzle vegetables with olive oil. -Use oven gloves to safely place the tray into oven and remove once cooked. -Add pre-cooked and cooled pasta to a bowl and mix in cooked vegetables using a spoon. -Add ingredients (mayonnaise and pesto) to the pasta and mix together. 	<p>cut, fold, join, fix ,structure, weak, strong, base, evaluate, user, purpose, design criteria, product</p> <p>Farmed, grown, pasta, vegetable, hygienically, cutting, claw knife technique</p>	<p>Structures – free standing structures- Design and Technology Association Project on a Page.</p> <ul style="list-style-type: none"> -photographs of various different chairs -examples of different chairs -paper, card, paper and plastic straws, pipe cleaners -reclaimed materials including small containers, card boxes, cotton reels, masking tape , PVA glue, Blue tac, left/right handed scissors, felt tip pens and crayons <p>See Focus on Food recipe card 12 for ingredients and method</p> <p>Measuring jugs, mixing bowl, table spoon, rolling pin, baking tray, spring balanced scales</p>

<p>Y1 summer</p>	<p>Summer 1 – Textiles and joining techniques -A Flag for a Carnival</p> <ul style="list-style-type: none"> -Know what a flag is. -Know that a flag is made from textiles. -Know that simple 3-D textile products are made, using a template to create two identical shapes. -Know how to join fabrics using different techniques - running stitch, glue and stapling. -Know there are different finishing techniques (adding buttons, fabric and sequins) <p>Summer 1 - Brigadeiro (traditional Brazilian sweet) – cooking and nutrition</p> <ul style="list-style-type: none"> -Know that food forms a big part of many celebrations around the world -Know that Brigadeiro is a traditional Brazilian Sweet and is eaten at the Rio Carnival -Know that Brigadeiro contains chocolate and that chocolate comes from coco pods -Know that foods can set in the fridge and become firm. -Know that you need to wash your hand before preparing food for good hygiene. <p>Summer 2 -Cooking and Nutrition – Design a sandwich for a picnic -Full Project</p> <ul style="list-style-type: none"> -Know that a sandwich is made with bread and a filling. -Know that bread is made from flour and flour comes from wheat and wheat is grown. -Know that there are different types of bread (white, brown and wholemeal). -Know that there are lots of different sandwich fillings (investigate a selection of these including cheese, jam, ham and tuna) -Know that you need to wash your hands before preparing food for good hygiene. 	<p>Summer 1 Textiles and joining techniques – A Flag for a Carnival</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> - Explore and evaluate a range of existing flags commenting on designs. - Test a range of joining techniques (running stitch, glue and stapling) and evaluate their effectiveness. - Generate ideas for a flag based on a simple design criteria (must be made by joining two pieces of material, must have a bright coloured design) -Develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology. <p><u>Making</u></p> <ul style="list-style-type: none"> --Select and use tools, skills and techniques, explaining their choices. - Select from and use textiles according to their characteristics. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> - Evaluate their flag by assessing if it is securely joined together and if it has a brightly coloured design. <p>Summer 1 – Rio De Vida - Brigadeiros - traditional Brazilian sweet.</p> <ul style="list-style-type: none"> -Use a jug to measure condensed milk to a given point. -Mix melted chocolate with condensed milk using a spoon. -Mix with hands to form a ball. -Roll ball into chocolate sprinkles to finish. -Place into the fridge to set. <p>Summer 2 -Cooking and Nutrition – Design a sandwich for a picnic -Full Project</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> - Explore and evaluate a range of existing sandwiches looking at types of bread and fillings. - Generate ideas for a sandwich based on personal preferences (must be made by joining two pieces of bread, must contain a filling inside, must be easy to pick up and eat) - Develop, model and communicate their ideas as appropriate through talking, drawing and writing. <p><u>Making</u></p> <ul style="list-style-type: none"> -Select and use equipment, skills and techniques, explaining their choices. - Select from and use ingredients based on their preferences. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> -Evaluate their sandwich by assessing if it looked appealing, held together well when picked up and tasted nice. 	<p>Textile, joining, running stitch, fabrics, decorate, finish, features, mock-up, design brief, design criteria, make, evaluate, user,</p> <p>Brigadeiro, traditional, sweet, chocolate, coco, firm, measuring, hygienically</p> <p>Farmed, grown, filling, hygienically, wholemeal</p>	<p>Design and technology association projects on a page – templates and joining.</p> <ul style="list-style-type: none"> -A range of flags, examples of running stitch, thread, pins, needles, staplers, staples, fabric glue, left/right handed scissors -items for finishing buttons, fabric pieces, sequins <p>See link for simple recipe and ingredients.</p> <p>https://www.bbcgoodfood.com/recipes/brazilian-chocolate-truffles-brigadeiro</p> <p>Measuring jugs, mixing bowl, table spoon, plate, baking tray</p> <p>Plate, knife, spoon, bowl</p>
-------------------------	---	---	--	--

<p>Y2 autumn</p>	<p>Autumn 1 – Mechanisms – wheels and axels</p> <ul style="list-style-type: none"> - Know what vehicles are and the vocabulary to describe key parts of them (wheel, axle, axle holder, chassis). - Know what wheels, axles and axle holders are and how they work. - Know how to distinguish between fixed and freely moving axles. - Know that there are different ways of creating an axel and how to. - Know how to use a ruler to measure in cm. - Know how to use a saw to cut doweling. - Know how to join materials together using glue and tape. - Know how to strengthen basic structures. <p>Autumn 1 –Cooking and Nutrition - Baking Bread</p> <ul style="list-style-type: none"> - Know that flour comes from wheat and is grown. - Know that wheat is harvested to make flour. - Know that flour is the main ingredient of bread. - Know that yeast is used to make bread rise. - Know that dough can be moulded into different shapes. - Know that you need to wash your hands before preparing food for good hygiene. - Know that an oven can be used to cook food. - Know that dough rises as it cooks. 	<p>Autumn 1 – Mechanisms – wheels and axels</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> - Explore and evaluate a range of products with wheels and axles. -Generate initial ideas and simple design criteria (vehicle must have moving wheels) through talking and using own experiences. - Develop and communicate ideas through drawings and mock-ups. <p><u>Making</u></p> <ul style="list-style-type: none"> - Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. - Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> - Evaluate their ideas throughout and their products against original criteria. <p>Autumn 1 – Cooking and Nutrition- Baking Bread</p> <ul style="list-style-type: none"> -Use a jug to measure water to a labelled point. -Weigh ingredients on a spring balanced scale to a labelled point. -Mix with hands to form a bread dough. -Roll dough into a ball. -Knead and shape with hands to form desired shape of bread roll. -Use oven gloves to safely place the tray into oven and remove once cooked. 	<p>vehicle, wheel, axle, axle holder, chassis, body, cab, assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism, evaluate, purpose, user, criteria, functional</p> <p>Harvested, farmed, grown, yeast, hygienically, measuring, spring balanced scale, mixing, kneading, shaping, rise.</p>	<p>-Design and Technology Association Projects on a page resource – mechanisms wheels and axels.</p> <p>-selection of toy vehicles with differently fixed axles</p> <p>-card boxes, card, cotton reels, plastic tubing, dowel, clothes pegs, paper sticks/dowel, paper/plastic straws, card discs, MDF wheels, wooden wheels, single hole punch, card drill, cutting mat, masking tape, PVA glue, paint, thin/thick paint brushes, felt tip pens, decorative paper, double sided sticky tape, junior hacksaw, vice, left/right handed scissors</p> <p>See link for simple recipe and ingredients.</p> <p>https://www.bbcgoodfood.com/recipes/easy-white-bread</p> <p>Measuring jugs, mixing bowl, table spoon, rolling pin, baking tray, spring balanced scales, oven gloves.</p>
-----------------------------	--	--	--	--

<p>Y2 summer</p>	<p>Summer 1 – Mechanisms – levers and sliders</p> <ul style="list-style-type: none"> -Know that pictures can have moving parts. -Know that different mechanisms produce different types of movement. -Know how to make a lever and a slider mechanism. -Know how to join materials. -Know how to strengthen materials. <p>Summer 2 – Design fruit ice lollies for the Farmer's Market</p> <ul style="list-style-type: none"> -Know that fruit is grown and that different fruits are grown in different countries and at different times of the year. -Know that fruit juice can be frozen to create an ice lolly. -Know that we should aim to eat 5 portions of fruit and vegetables a day. -Know that the bridge and claw are safe knife cutting techniques. -Know that you need to wash your hands before preparing food for good hygiene. 	<p>Summer 1 – Mechanisms – levers and sliders</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -Explore a range of existing books and everyday products that use simple sliders and levers. -Explore and make mock up sliders and levers to decide which to use in their design -Generate ideas based on simple design criteria (must be a moving picture linked to their pirate story, must move easily, must be sturdy) and their own experiences, explaining what they could make. -Develop, model and communicate their ideas through drawings and mock-ups with card and paper. <p><u>Making</u></p> <ul style="list-style-type: none"> -Plan by suggesting what to do next. -Select and use tools, explaining their choices, to cut, shape and join paper and card. -Use simple finishing techniques suitable for the product they are creating. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> -Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria (does picture link to story? does the picture move? is it sturdy?). <p>Summer 2 – Design fruit ice lollies for the Farmer's Market</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> - Explore and evaluate a range of existing fruit lollies looking at types of fruit used. - Test out different fruits to confirm personal preferences including strawberries picked from the kitchen garden. - Generate ideas for a fruit ice lolly based on personal preferences (must include two different fruits). - Develop, model and communicate their ideas as appropriate through talking, drawing and writing. <p><u>Making</u></p> <ul style="list-style-type: none"> -Select and use equipment, skills and techniques, explaining their choices. - Select from and use ingredients based on their preferences. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> -Evaluate their lolly by assessing if it looked appealing and tasted nice. 	<p>design, make, evaluate, user, purpose, ideas, design criteria, product, function, card, masking tape, paper fastener, slider, lever, pivot, slot, bridge/guide</p> <p>card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards.</p> <p>Farmed, grown, hygienically, cutting, peeling, claw knife technique, bridge knife technique</p>	<p>Design and technology association projects on a page resource mechanisms – sliders and levers.</p> <ul style="list-style-type: none"> -Books and everyday products with levers and slider mechanisms -slider and lever teaching aids -card strips, card rectangles, paper, masking tape, paper fasteners, glue, finishing materials and media -left/right handed scissors, cutting mats, card drills <p>See link for simple ice lolly recipe idea.</p> <p>https://www.bbcgoodfood.com/recipes/collection/ice-lolly-recipes</p> <p>Chopping boards, sharp knives, wooden spoons, measuring jugs, lemon juicer</p>
-------------------------	---	---	---	--

<p>Y3 autumn</p>	<p>Autumn 1 – Structures</p> <p>A bridge for a toy car to cross</p> <p>-Know a structure is a building or other object constructed from several parts.</p> <p>-Know what a bridge is (a structure built to span a physical obstacle without blocking the way underneath).</p> <p>-Know that the Golden Gate Bridge designed by Joseph Strauss in 1917 was significant as it was the first bridge of its type in the world and the precedent for suspension bridge design around the world.</p> <p>-Know structures can be made stronger, stiffer and more stable using wider bases and buttresses for stability.</p> <p>-Know that glue, blue tac and tape can be used to secure structures.</p> <p>-Know how to strengthen, stiffen and reinforce 3-D frameworks using triangulation.</p> <p>-Know how to create paper tubes.</p> <p>-Know the different ways to join paper tubes.</p> <p>Autumn 1 – Brilliant American Burgers</p> <p>- Know that beef is a red meat and is reared from cattle.</p> <p>-Know that raw meat can cause food poisoning and how to avoid cross contamination.</p> <p>- Know that you need to wash your hands before preparing food for good hygiene.</p> <p>- Know how to pound ingredients with a wooden spoon.</p> <p>-Know how to divide a mixture into equal parts.</p> <p>-Know how to shape a mixture with a cutter.</p> <p>-Know that the bridge and claw are safe knife cutting techniques.</p> <p>- Know that an oven can be used to heat food.</p> <p>-Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eatwell Plate'</p> <p>-Know that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>Autumn 1 – Structures</p> <p>A bridge for a toy car to cross</p> <p><u>Designing</u></p> <p>- Explore and analyse a range of existing bridges evaluating strength and stability.</p> <p>-Test out different joining techniques by comparing the strength of square frameworks with triangular frameworks.</p> <p>-Reinforce square frameworks using diagonals to help develop an understanding of using triangulation to add strength to a structure using art straws or lolly sticks.</p> <p>-Test how paper tubes can be made from rolling sheets of newspaper diagonally.</p> <p>-Use these tubes and masking tape or paper straws with pipe cleaners to build 3-D frameworks such as cubes, cuboids and pyramids.</p> <p>-Explore how each of the frameworks could be reinforced and strengthened.</p> <p>-generate ideas for a bridge design that meets the design criteria (Is able to support a toy car to cross between two tables)</p> <p>- Develop, model and communicate their ideas through talking, mock-ups and drawings.</p> <p><u>Making</u></p> <p>-Select and use tools, skills and techniques, explaining their choices.</p> <p>- Select new and reclaimed materials to build their bridges.</p> <p>- Use strengthening techniques to ensure their bridges are strong enough for a toy car to pass over.</p> <p><u>Evaluating</u></p> <p>-Evaluate their bridge by discussing how stable it is, if it supports the toy car to cross and its appearance.</p> <p>Autumn 1 – Brilliant American Burgers</p> <ul style="list-style-type: none"> - Peel and crush garlic using a garlic press. - Use bridge and claw knife techniques to chop an onion. - Snip parsley with scissors. - Use a wooden spoon to pound mice and mix in other ingredients. - Divide mixture into equal parts. - Use a pastry cutter to form burgers. - Use oven gloves to lift into and out of the oven with adult support. - Garnish burger with chosen toppings (bun, lettuce, gherkins, tomatoes, mayonnaise, mustard, ketchup). 	<p>Bridge, join, structure, framework, triangulation, diagonals, reinforce, strengthen</p> <p>Meat, mince, reared, savoury, heat source, energy</p>	<p>Design and technology association projects on a page resource – freestanding structures</p> <p>Photographs of bridges, Building materials such as newspaper, art straws, pipe cleaners, card, masking tape, glue.</p> <p>See Focus on Food recipe card 23 for ingredients and method</p> <p>Mixing bowls, chopping boards, sharp knives, 6cm pastry cutters, pastry brushes, baking trays, fish slices, oven gloves.</p>
-------------------------	--	---	---	---

<p>Y3 - spring</p>	<p>Spring 1 – Breakfast pots</p> <ul style="list-style-type: none"> -Know that cereals are grasses grown for their grains. -Know the different types of cereals grown in the word (wheat, maize, rice, barley, oats, rye and sorghum). -know different cereals are grown in different climates. -know that many shop bought breakfast cereals can contain a lot of added sugar. -Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eatwell Plate’. -Know that to be active and healthy, food and drink are needed to provide energy for the body. 	<p>Spring 1 – Breakfast pots</p> <ul style="list-style-type: none"> -Peel and use the claw technique to slice bananas. -Use bridge technique to halve strawberries. -Use lemon squeezer to squeeze lemons. - Weigh ingredients on an spring balanced scale. -Snip dried apricots with scissors. -use a table spoon to stir ingredients. -Layer ingredients in pots. -Garnish pots with mint leaves and fruit. 	<p>Cereal, wheat, maize, rice, barley, oats, rye, sorghum, climates, layer, garnish</p>	<p>See Focus on Food recipe card 17 for ingredients and method</p> <p>Mixing bowls, chopping boards, sharp knives, spring balance scales, lemon squeezer, scissors, pots.</p>
<p>Year 3- summer</p>	<p>Summer 1 – Mechanisms – Pneumatics A moving mythical monster Toy for a Child</p> <ul style="list-style-type: none"> - Know that different mechanisms produce different types of movement. - Know how pneumatic mechanisms work. - Know how to make a simple pneumatic mechanism. <p>Summer 2 – Shell structures using computer-aided design (CAD)</p> <p>(Packaging for a new box of chocolates)</p> <ul style="list-style-type: none"> -Know what the nets of cubes and cuboids look like. -Know how to create a net. -Know how to measure accurately with a ruler. -Know that there are computer programs that can be used to design a product and that this is called computer assisted design (CAD). -Know how to use a CAD program to create their own design. 	<p>Summer 1 – Mechanisms – Pneumatics A moving Mythical Monster Toy for a Child</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -Explore and analyse products with pneumatic mechanisms. -Test out making a simple pneumatic mechanism. -Generate ideas for a moving monster toy that meets the design criteria (toy is a mythical monster with a mouth that opens and closes). -Use annotated sketches and prototypes to develop, model and communicate ideas. <p><u>Making</u></p> <ul style="list-style-type: none"> -Order the main stages of making. -Select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons. -Select from and use finishing techniques to create their monster toy design. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> -Evaluate their monster toy by discussing if it looks like their mythical monster and does the pneumatic mechanism work to allow the mouth to open and close. <p>Summer 2 – Shell structures using computer-aided design (CAD)</p> <p>(Packaging for a new box of chocolates)</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -Investigate and evaluate a range of existing chocolate box designs (next, structure, strength, appearance). -Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product (must be able to hold chocolates securely, must be clear what the product is, must be aesthetically appealing). -Develop ideas through the analysis of existing shell structures and use computer-aided design to model and communicate ideas. <p><u>Making</u></p> <ul style="list-style-type: none"> -Plan the order of the main stages of making. 	<p>components, fixing, attaching, tubing, syringe, plunger, split pin, paper fastener, pneumatic system, input movement, process, output movement, control, compression, pressure, inflate, deflate, pump, seal, air-tight, linear, rotary, oscillating, reciprocating</p> <p>shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, pyramid, width, breadth, capacity</p> <p>marking out, scoring, shaping, tabs, adhesives,</p>	<p>Design and Technology Association projects on a page – mechanisms – pneumatics</p> <ul style="list-style-type: none"> -examples of products and books, photos and videos showing pneumatic systems -washing-up liquid bottles, 5mm plastic tubing, sterile syringes, T-connectors, balloons -card, plastic sheet, PVA glue, masking tape, parcel tape, sticky pads, pipe cleaners, elastic bands, syringe clips, -left/right handed scissors, snips, card drills, cutting mats, hole punches, finishing media and materials <p>Design and Technology association projects on a page – shell structures using computer aided design (CAD)</p> <ul style="list-style-type: none"> -collection of chocolate boxes

	<p>Summer 2 - Fruit chocolates for the Farmers Market- Full Project (Design a fruit chocolate to sell at the Farmers Market)</p> <p>-Know that chocolate comes from cocoa pods and is grown. -Know that there are different types of chocolate (plain, milk and white) -Know that fruit is grown and that different fruits are grown in different countries and at different times of the year. -Know that the bridge and claw are cutting techniques. -Know that we should aim to eat 5 portions of fruit and vegetables a day. -Know that you need to wash your hands before preparing food for good hygiene.</p>	<p>-Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy. -Explain their choice of materials according to functional properties and aesthetic qualities. -Use computer-generated finishing techniques suitable for the product they are creating.</p> <p><u>Evaluating</u></p> <p>-Test and evaluate their own products against design criteria by discussing if it holds chocolates securely, look appealing and makes clear what the product is.</p> <p>Summer 2 – Fruit chocolates for the Farmers Market- Full Project (Design fruit chocolates to sell at the Farmers Market)</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> - Explore and evaluate a range of existing chocolates and whether there is a gap in the market (fruit chocolates) - Research and test out different fruit and chocolate combinations to find ones that work well together. - Survey people to find out which combinations are most popular. - Generate a chocolate flavour and packaging label to go with it. (flavour must contain one type of chocolate and complementary fruit, label must be aesthetically pleasing and explain what the product is could be produced with CAD) - Develop, model and communicate their ideas as appropriate through talking, drawing and writing. <p><u>Making</u></p> <ul style="list-style-type: none"> -Select and use equipment, skills and techniques, explaining their choices. - Select from and use ingredients based on their designs. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> -Evaluate their chocolates by assessing taste and if it looked appealing. 	<p>joining, assemble, accuracy, font, lettering, text, graphics</p> <p>Farmed, grown, cocoa pod, combination, packaging, hygienically, cutting, peeling, claw knife technique, bridge knife technique</p>	<p>-card, squared paper, coloured paper, adhesive tape, masking tape, PVA glue, glue spreaders, pencils, felt-tip pens, rulers, right/left handed scissors</p> <p>-computer with computer-aided design (CAD) software such as Techsoft 2D Primary, Purple Mash, Tinkercad or Microsoft Word, printer</p> <p>Chopping boards, sharp knives, wooden spoons, ice trays</p> <p>Foil</p> <p>Paper ,labels, pencil, felt tips, crayons,</p> <p>-computer with computer-aided design (CAD) software such as Techsoft 2D Primary, Purple Mash, Tinkercad, or Microsoft Word, printer</p>
--	---	---	---	--

<p>Y4 autumn</p>	<p>Autumn 2 - Electrical systems - Simple circuits and switches</p> <ul style="list-style-type: none"> -Know what an electrical system is. -Know who Thomas Edison was and that he invented the light bulb. -Know how to construct a simple circuit using batteries, wires, crocodile clips, bulbs/buzzers, a switch. -Know there are different types of switches including switches that they can make themselves. -Know what a structure is. -Know that glue, blue tac and tape can be used to secure structures. -Know how to strengthen, stiffen and reinforce 3-D frameworks using triangulation. -Know how to create paper tubes. -Know the different ways to join paper tubes. <p>Autumn 2 – Gingerbread biscuits for the Christmas Fair – Full Project</p> <ul style="list-style-type: none"> -Know what gingerbread is why it has become a Christmas tradition. -Know that a gingerbread mixture makes a dough. - Know that gingerbread dough can be moulded into different shapes. Know that an oven can be used to cook food. -Know that gingerbread can be decorated after it has cooled down. - Know that you need to wash your hands before preparing food for good hygiene. 	<p>Autumn 2 – Electrical systems - Simple circuits and switch</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -Design a product of their choice for themselves or someone else with a clear purpose containing a working electrical system (for example a lamp for my bedroom or a light box with a Christmas message for our stall at the Christmas fair). -Explore and analyse a range of existing battery-powered products. - Develop a design criteria to inform the design of products that are fit for purpose, aimed at a particular individuals or a group. (It must contain an electrical system with a switch to turn on and off.) -Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. <p><u>Making</u></p> <ul style="list-style-type: none"> - Order the main stages of making. - Select from and use tools and equipment to cut, shape, join and finish with some accuracy. - Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> - Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. <p>Autumn 2 – Gingerbread biscuits for the Christmas Fair- Full Project</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -Explore and taste a range of existing gingerbread products including different shapes and ways of decorating. This could include individual larger biscuits in gingerbread men shapes, snowflake designs etc. or cellophane packets containing several smaller biscuits tied with a ribbon, or a boxed gingerbread house. - Develop a design criteria to inform the design of products that are fit for purpose, aimed at a particular individuals or a group. (It must use a basic gingerbread recipe, must be well finished and be packaged so it is able to be sold at the Christmas Fair). -Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches. <p><u>Making</u></p> <ul style="list-style-type: none"> - weigh ingredients on a spring balanced scale. - Heat butter, syrup and sugar together on the hob with adult support. Set aside to cool. - Mix dry ingredients together with a wooden spoon then stir in buttery syrup mixture. - Mix with hands to form a dough. Roll dough into a ball. - Use a rolling pin to roll out flat. Then cut out desired shapes with cutters. - Use oven gloves to safely place the tray into oven and remove once cooked. - Decorate with icing and sweets once cooled down. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> - Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. 	<p>series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, structure, triangulation, framework.</p> <p>Gingerbread, tradition, mixture, dough, product, packaging,</p>	<p>Design and technology association projects on a page resource – electrical systems</p> <ul style="list-style-type: none"> -handling collection of battery-powered electrical products switches including toggle, push-to-make and push-to-break -buzzers, bulbs, bulb holders, zinc carbon or zinc chloride batteries, battery holders, wire, automatic wire strippers. -aluminium foil, paper fasteners, paper clips, card, art straws, reclaimed materials, finishing materials and media. -right/left handed scissors, PVA glue, tape, blue tac. <p>See link for Simple Gingerbread recipe and ingredients.</p> <p>https://www.bbcgoodfood.com/recipes/ultimate-easy-gingerbread</p> <p>Measuring jugs, mixing bowl, table spoon, rolling pin, baking tray, spring balanced scales, oven gloves.</p>
-------------------------	---	--	---	--

<p>Y4 spring</p>	<p>Spring 1 – Ratatouille</p> <ul style="list-style-type: none"> - Know that aubergines, onions, peppers and tomatoes are grown. - Know that different vegetables are grown in different countries and at different times of the year. - Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eatwell Plate’ -Know that to be active and healthy, food and drink are needed to provide energy for the body. -Know that the bridge and claw are cutting techniques. -Know that you need to wash your hands before preparing food for good hygiene. 	<p>Spring 1 – Ratatouille</p> <ul style="list-style-type: none"> - peel and crush garlic using a garlic crusher. - use the claw and bridge techniques to slice aubergines, peppers and onions - heat the onion, garlic and oil in a pan on the hob until soft. - add the peppers and aubergines and cook gently until soft. - add the tomatoes and dried basil and simmer until water has evaporated. 	<p>Farmed, hygienically, cutting, peeling, claw knife technique, bridge knife technique</p>	<p>See Focus on Food recipe 20 for recipe and ingredients.</p> <p>Peeler, sharp knife, chopping board, pan, tablespoon, wooden spoon, bowl, colander.</p>
<p>Y4 summer</p>	<p>Summer 1 - Mechanisms – Levers and Linkages</p> <ul style="list-style-type: none"> -Know that different mechanisms produce different types of movement. -Know how to make a lever mechanism. -Know how to use lever and linkage mechanisms. -Know to distinguish between fixed and loose pivots. Know how to join materials. -Know how to strengthen materials <p>Summer 2 –Leek and Potato soup</p> <ul style="list-style-type: none"> - Know that potatoes and leeks are grown. - Know that vegetables needed to be planted at certain times of the year to grow well. - Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eatwell Plate’ -Know that to be active and healthy, food and drink are needed to provide energy for the body -Know that some vegetables need to be peeled before eating. -Know how to safely use a peeler. -Know that the bridge and claw are cutting techniques. -Know that a blender can be used to make soup and how to use one safely. -Know that you need to wash your hands before preparing food for good hygiene. 	<p>Summer 1 - Mechanisms – Levers and Linkages -</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> - Investigate and analyse books and, where available, other products with lever and linkage mechanisms. - Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user (must include a lever and linkage mechanism.) - Use annotated sketches and prototypes to develop, model and communicate ideas. <p><u>Making</u></p> <ul style="list-style-type: none"> - Order the main stages of making. - Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. - Select from and use finishing techniques suitable for the product they are creating. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> -Evaluate their own products and ideas against criteria and assess if lever and linkage worked and if poster achieved its purpose. <p>Summer 2 - Leek and Potato soup</p> <ul style="list-style-type: none"> - Wash leeks. - Peel potatoes using a peeler -Use the claw and bridge techniques to chop potatoes and slice leeks. - Use combined bridge and claw technique to large dice the onion. - Heat the onion and oil in a pan on the hob with adult support until soft. Add leek and potatoes. - Measure water for stock in a measuring jug and add bouillon powder. - Pour in the vegetable stock. Leave to simmer. Then cool 	<p>mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output, linear, rotary, oscillating, reciprocating, user.</p> <p>Farmed,, soup, blender, hygienically, cutting, peeling, claw knife technique, bridge knife technique.</p>	<p>Design and technology association projects on a page resource – mechanisms – levers and linkages</p> <ul style="list-style-type: none"> -books and other products with lever and linkage mechanisms -lever and linkage teaching aids, card strips, card rectangles, paper, masking tape, paper fasteners, paper binders, stick glue, left/right handed scissors,, finishing media and materials <p>See Focus on Food recipe 18 for recipe and ingredients.</p> <p>Peeler, sharp knife, chopping board, pan, measuring jug, tablespoon, wooden spoon, ladle, blender, bowl</p>

	<p>.Summer 2 – Fantastic Fish Pie</p> <ul style="list-style-type: none"> - Know that fish are caught. - Know that different vegetables are grown in different countries and at different times of the year. - know that recipes can be seasoned with herbs and that herbs can be grown. - Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eatwell Plate’ -Know that to be active and healthy, food and drink are needed to provide energy for the body -Know that some vegetables need to be peeled before eating. -Know how to safely use a peeler. -Know how to safely use a grater. -Know that the bridge and claw are cutting techniques. -Know that recipes can be adapted and changed by removing ingredients or substituting with similar ingredients. (egg, cheese, mustard, spring onions, chives and the types of fish are all examples of this within this recipe) -Know that you need to wash your hands before preparing food for good hygiene. 	<p>Summer 2 – Fantastic Fish Pie</p> <ul style="list-style-type: none"> - Wash herbs. - Peel potatoes using a peeler - Use the claw and bridge techniques to chop potatoes, chives and parsley. - Grate the carrot and cheese and zest a lemon. - Fill a large pan with water and boil potatoes in the pan on the hob with adult support. -Fill a small pan with water and boil the eggs in the pan on the hob with adult support. - Peel and slice eggs using claw technique once cooled. - Place fish, carrot, herbs, and lemon zest in a bowl and season with pepper. -Drain potatoes in a colander, return to pan and add milk and butter then mash with a potato masher. - Measure milk in a measuring jug. Add crème fresh and mustard. Stir in grater cheese. -Pour over fish mixture and mix together with a wooden spoon. -Place fish mixture in an oven proof dish. Add sliced eggs. -Place mashed potato on top of fish mixture and sprinkle with cheese. -Use oven gloves to lift into and out of the oven with adult support. 	<p>Adapted, substituting, farmed, caught, hygienically, cutting, peeling, claw knife technique, bridge knife technique.</p>	<p>See Focus on Food recipe 22 for recipe and ingredients</p> <p>Large saucepan, small saucepan, chopping boards, vegetable peelers, sharp knives, kitchen scissors, mixing bowls, graters, measuring jugs, forks, colanders, potato mashers, wooden spoons, ovenproof dishes, oven gloves.</p>
<p>Y5 -autumn</p>	<p>Autumn 1 – Mechanical Systems – Cams</p> <p>(A moving theme park ride souvenir for a child)</p> <ul style="list-style-type: none"> -Know that a cam mechanism has two main parts: <ul style="list-style-type: none"> - a cam - attached to a crankshaft, which rotates - a follower - touches the cam and follows the shape, moving up and down -Know how cams can be used to produce different types of movement and change the direction of movement. - Know that mechanical systems have an input, process and an output. <p>Know how to use a ruler to measure in cm.</p> <ul style="list-style-type: none"> - Know how to use a saw to cut doweling. - Know how to join materials together using glue and tape. 	<p>Autumn 1 – Mechanical Systems – Cams</p> <p>(A moving theme park ride souvenir for a child)</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. -develop a simple design specification to guide their thinking (toy must contain a cam mechanism which moves.) -develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views including cross sections. <p><u>Making</u></p> <ul style="list-style-type: none"> -produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. -select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> -compare the final product to the original design specification. - test products with the intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. - consider the views of others to improve their work. 	<p>cam, snail cam, off-centre cam, peg cam, pear shaped cam, follower, axle, shaft, crank, handle, housing, framework, rotation, rotary motion, oscillating motion, reciprocating motion, mechanical system, input movement, process, output movement</p>	<p>vide Design and technology association projects on a page resource – mechanical systems – cams</p> <ul style="list-style-type: none"> - photographs of cams, models or toys with different cam mechanisms -MDF, card or wooden wheels, wooden cams, dowel, card boxes, PVA glue, masking tape, double-sided tape, square section wood, card, finishing media -junior hacksaws, glass paper, G-clamps, bench hooks, hand drill

	<p>Autumn 2 – Cup Cake for a Christmas Gift – Full project</p> <ul style="list-style-type: none"> -Know the basic ingredients involved in a cake mixture (flour, butter, eggs and sugar) -Know that a cake mixture can be adapted to incorporate different flavours. -Know that an oven can be used to cook food. -Know that a cup cake can be decorated after it has cooled down. - Know that you need to wash your hands before preparing food for good hygiene. -Know how to create packaging. 	<p>Autumn 2 – Cup Cake for a Christmas Gift – Full project</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -Explore and taste a range of existing cupcakes including different flavours and ways of decorating and packaging. -Develop a design criteria to inform the design of products that are fit for purpose, aimed at a particular individuals or a group. (The flavour or the cupcake and decoration must be well suited to the individual and it must be well packaged) -Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches. <p><u>Making</u></p> <ul style="list-style-type: none"> - weigh ingredients on a digital scale. - Mix ingredients together with a wooden spoon then add in selected flavours. - Use oven gloves to safely place the tray into oven and remove once cooked. - Decorate with icing and sweets once cooled down. - Create packaging for cup-cake. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> - Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. 	<p>Cup-cake, adapt, flavour, mixture, product, packaging,</p>	<p>See link for Simple Cup-cake recipe and ingredients. https://www.bbcgoodfood.com/recipes/cupcake s</p> <p>Measuring jugs, mixing bowl, table spoon, baking tray, spring balanced scales, oven gloves</p>
<p>Y5- spring</p>	<p>Spring 1 – Tomato and Basil Flatbread</p> <ul style="list-style-type: none"> -Know that flour comes from wheat and is grown. - Know that wheat is harvested to make flour. - Know that flour is the main ingredient of bread. - Know that yeast is used to make bread rise. - Know that dough can be moulded into different shapes. -Know that different ingredients can be added to bread to change the appearance, taste, aroma and texture. - Know that you need to wash your hands before preparing food for good hygiene. - Know that an oven can be used to cook food. - Know that dough rises as it cooks. <p>Spring 1 (continuing into Summer 1) Mechanical systems - Pulleys or Gears – A load pulling vehicle for a STEM competition</p> <ul style="list-style-type: none"> -Know who the Engineer and Inventor George Stevenson was and that he designed the first locomotive steam train. -Know how his invention impacted the world at that time. <p>Know what vehicles are and the vocabulary to describe key parts of them (wheel, axle, axle holder, chassis).</p> <ul style="list-style-type: none"> - Know what wheels, axles and axle holders are and how they work. - Know how to distinguish between fixed and freely moving axles. - Know that there are different ways of creating an axel and how to. -Know that mechanical and electrical systems have an input, process and an output. 	<p>Spring 1 – I Tomato and Basil Flatbread</p> <ul style="list-style-type: none"> -Use a jug to measure water. -Weigh ingredients on a digital scale. -Mix with hands to form a bread dough. -Roll dough into a ball. -Knead and shape with hands to form a rectangle then roll out with a rolling pin. -Use bridge and claw cutting techniques to chop sun dried tomatoes and basil (children should select and try adding other fillings too including cheese and chive, leek and mushroom or olive and feta) -Use hands to carefully roll dough and seal in ingredients. -Use a knife to cut dough into halves, quarters and then eighths. -Use oven gloves to safely place the tray into oven and remove once cooked. -Evaluate different fillings and discuss personal preferences. <p>Spring 1 (continuing into Summer 1) Mechanical systems - Pulleys or Gears – A load pulling vehicle for a STEM competition</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -generate ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. - develop a simple design specification to guide their thinking (must design a vehicle that can pull a load up hill with choices made on the size of their vehicle frame, the wheels used and any additional covers to the chassis) -develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. <p><u>Making</u></p> <ul style="list-style-type: none"> - produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. - select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> - compare the final product to the original design specification. - test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. -consider the views of others to improve their work. 	<p>Harvested, farmed, grown, yeast, hygienically, kneading, shaping, bridge and claw, adapt, flavour, aroma, texture</p> <p>pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output, triangulation, design decisions, functionality, innovation,</p>	<p>See Focus on Food recipe 27 for recipe and ingredients</p> <p>Chopping boards, sharp knives, kitchen scissors, measuring jugs, wooden spoons, mixing bowl, baking trays, oven gloves.</p> <p>Design and Technology Association Project on a Page Mechanical systems – pulleys or gears</p> <ul style="list-style-type: none"> -videos, photographs and everyday products or toys with pulleys or gears -batteries, battery holders, wires, crocodile clips, motors, switches, aluminium foil, paper fasteners, paper clips, card, motors, motor stands, dowel, paper sticks -consumable and construction kit pulleys

	<ul style="list-style-type: none"> -Know how gears and pulleys can be used to speed up, slow down or change the direction of movement. -Know how to strengthen, stiffen and reinforce 3-D frameworks using triangulation. -Know how to use a ruler to measure in cm. - Know how to use a saw to cut wood. - Know how to join materials together using glue and tape. 		<p>authentic, user, purpose, design specification, design brief</p>	<p>or gears of different sizes, elastic bands</p> <ul style="list-style-type: none"> -junior hacksaws, glass paper, G-clamps, bench hooks, hand drill, automatic wire strippers -PVA glue, sticky pads, masking tape, dowel, double-sided tape, card triangles, square section wood, card, finishing media
<p>Year 5 - summer</p>	<p>Summer 2 – Spicy Potato Wedges and Dips</p> <ul style="list-style-type: none"> - Know that potatoes, sweet potato and herbs are grown. - Know that different vegetables and herbs are grown in different countries and come into season at different times of the year. - Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eatwell Plate’ -Know that to be active and healthy, food and drink are needed to provide energy for the body -Know that the bridge and claw are cutting techniques. -Know that you need to wash your hands before preparing food for good hygiene. 	<p>Summer 2 – Spicy Potato Wedges & Sweet Potato wedges</p> <ul style="list-style-type: none"> -Wash potatoes - Use the claw and bridge techniques to chop potatoes into wedges - Place wedges into boiling water and simmer - Drain potatoes with a colander. - Mix dry ingredients in a bowl and add oil to create a paste - Pour the mixture over the potato wedges and mix thoroughly. -Spread the potatoes on a baking tray. -Use oven gloves to lift into and out of the oven with adult support. <p>Children could also try different dips and then have a go at creating their own using herbs from the kitchen garden.</p>	<p>Seasons, processed, appearance, taste, texture, aroma, substances, nutrients, seasoning to taste</p>	<p>See Focus on Food recipe 28 for recipe and ingredients</p> <p>Colander, chopping board, sharp knife, mixing bowl, small bowl, tablespoon, teaspoon, non-stick baking trays, fork, saucepan, oven gloves.</p>

<p>Autumn 1 – Fruit crumble</p> <ul style="list-style-type: none"> -Know that a crumble contains cooked fruit and is usually served hot. -Know that apples and pears grow on trees in an orchard and are harvested in the Autumn. -Know that a fruit crumble is a tradition British dessert and that the recipe can be adapted by adding different fruits or changing the topping depending on personal preferences. -Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eatwell Plate' -Know that to be active and healthy, food and drink are needed to provide energy for the body -Know that the bridge and claw are cutting techniques. -Know that you need to wash your hands before preparing food for good hygiene. <p>Autumn 2 – Textiles- Combining different fabric shapes A personalised mobile phone case</p> <ul style="list-style-type: none"> - Know that Hedy Lemarr (Hollywood actress) & George Antheil patented the 'Secret Communication System' which was to block signals from radio controlled missiles during WW2 and that this technology was a precursor to the secure wi-fi, GPS and bluetooth later used in modern mobile phones. -Know that 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. -Know that fabrics can be strengthened, stiffened and reinforced where appropriate. -Know that there are different types of stitches for different purposes (joining and decoration) -Know that running stitch, back stitch and blanket stitch can be used to join two pieces of fabric together. -Know that satin stitch and embroidery can be used to add designs to fabric. -Know how to do a range of different stitches. -Know that applique is a decorative design made by sewing one material over another. -Know that there are different types of fasteners for fabrics including zips, buttons, press studs and Velcro. 	<p>Autumn 1 – Fruit Crumble</p> <ul style="list-style-type: none"> -Collect apples and pears from school orchard, check condition and wash. -Peel apples and/or pears using a peeler. -Core and slice apples and/or pears using bridge and claw cutting technique. -Add fruit to foil tin and press down (pupils may select to add sultanas to their fruit at this point) -Weigh dry ingredients and butter on a digital scale then mix together with fingertips until mixture looks like breadcrumbs. -Pour mixture over fruit and even out with a fork (pupils may select to add a layer of oats at this point) -Use oven gloves to lift into and out of the oven with adult support. -Evaluate different fillings/toppings and discuss personal preferences. <p>Autumn 2 – Textiles- Combining different fabric shapes - Design and Technology Association Project on a Page</p> <p>Children to design and make a mobile phone case</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -Investigate and analyse a range of textile products linked to their final product. These could include mobile phone cases, pencil cases and purses or wallets. -Generate innovative ideas by carrying out research including surveys, interviews and questionnaires. -Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer-aided design. -Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. (Must be able to hold a mobile phone, must fasten securely, and must include a design) <p><u>Making</u></p> <ul style="list-style-type: none"> -Produce detailed lists of equipment and fabrics relevant to their tasks. -Formulate step-by-step plans. -Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> -Compare the final product to the original design specification (Does case hold phone, fasten securely and include a design?) -Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. -consider the views of others to improve their work 	<p>Seasons, processed, appearance, adapted, flavour, orchard, harvested, bridge cutting technique, claw cutting technique</p> <p>seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, design criteria, annotate, functionality, mock-up, prototype</p>	<p>See link for Simple apple crumble recipe and ingredients.</p> <p>https://www.bbcgoodfood.com/recipes/best-apple-crumble</p> <p>Peeler, sharp knife, chopping board, tin foil trays, digital scales, mixing bowls, fork, oven gloves.</p> <p>Design and technology association projects on a page resource – textiles – combining fabric shapes</p> <p>existing textile products for investigation and deconstruction linked to their product</p> <p>-wide selection of textiles including reclaimed and reusable fabrics</p> <p>-pins, needles, thread, measuring tape, left/right handed fabric scissors, pinking shears iron, iron transfer paper, sewing machine</p> <p>-range of fastenings, materials for insulating or strengthening e.g. bubble wrap, wadding, interfacing</p>
---	---	---	---

	<p>Autumn 2 – Smoked Paprika Sausage Hotpot</p> <ul style="list-style-type: none"> - Know that sausages are traditionally made from pork and that pork comes from pigs. -Know that vegetarian sausages do not contain meat and that people sometimes eat these as an alternative to traditional pork sausages - Know that different vegetables are grown in different countries and at different times of the year. - know that recipes can be seasoned with herbs and spices and that herbs can be grown. - Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eatwell Plate’ -Know that to be active and healthy, food and drink are needed to provide energy for the body -Know that some vegetables need to be peeled before eating. -Know that the bridge and claw are cutting techniques. -Know that recipes can be adapted and changed by removing ingredients or substituting with similar ingredients. -Know that you need to wash your hands before preparing food for good hygiene. 	<p>Autumn 2 – Smoked Paprika sausage Hotpot</p> <ul style="list-style-type: none"> - Use the claw and bridge cutting techniques to chop potatoes, onions, carrots and flat leaf parsley - Use a jug to measure water - Place onions in a pan and cook gently with adult support. Add carrots, potatoes, chopped tomatoes, paprika and oregano then pour in water. - Bring vegetables to the boil with adult support and then leave to simmer - Cut pre-cooked sausages into pieces using the bridge cutting technique - Stir sausages and mixed beans into the pan with adult support and simmer - Season to taste with pepper - Serve with parsley and crème fresh to garnish 	<p>Vegetarian, pork, season to taste, bridge and claw cutting technique, adapted, hygienically</p>	<p>See Focus on Food recipe 30 for recipe and ingredients</p> <p>Chopping board, sharp knife, peeler, sieve, tablespoon, saucepan, saucepan, oven gloves.</p>
<p>Y6-spring</p>	<p>Spring 2 - Berry pancakes</p> <ul style="list-style-type: none"> - Know that pancakes are made from flour, eggs and milk -Know that flour comes from wheat and is grown. - Know that wheat is harvested to make flour. - Know that eggs come from hens and that eggs must be cooked before eating. -Know the importance of preventing cross contamination when handling and using raw eggs - Know that milk comes from cows and is pasteurised before being sold. - Know that different toppings can be added to pancakes - Know that you need to wash your hands before preparing food for good hygiene. 	<p>Spring 2 - Berry pancakes</p> <ul style="list-style-type: none"> -Use a jug to measure milk -Crack an egg into a bowl and beat with a fork -Weigh flour on a digital scale. -Make a well in the flour and add the beaten egg and milk -Use a wooden spoon to gradually mix ingredients together into a smooth batter -Heat a non-stick frying pan with oil with adult support -Use a tablespoon to add batter to the pan -Use a spatula to turn the pancake once bubbles appear on the surface with adult support -Place cooked pancake onto a serving plate -Use bridge and claw cutting techniques to chop fruits for the topping -Evaluate different toppings and discuss personal preferences. 	<p>Harvested, farmed, grown, cross contamination, pasteurised, hygienically, kneading, bridge and claw, adapt, flavour</p>	<p>See Focus on Food recipe 25 for recipe and ingredients</p> <p>Chopping board, sharp knife, mixing bowl, small bowl, fork tablespoon, teaspoon, non-stick frying pan.</p>

<p>Y6-summer</p>	<p>Summer 2 – Electrical systems - Monitoring and control - An invention to solve a problem at school or home</p> <ul style="list-style-type: none"> -Know what an electrical system is. -Know how to construct a simple circuit using batteries, wires, crocodile clips, bulbs/buzzers, a switch. -Know there are different types of switches including switches that they can make themselves. -Know how to use electrical systems in their products. -Know that mechanical and electrical systems have an input, process and an output -Know that computer control systems can be used to control products. -Know how to apply their understanding of computing to program, monitor and control their products. -Know what a structure is. -Know that glue, blue tac and tape can be used to secure structures. -Know how to strengthen, stiffen and reinforce 3-D frameworks using triangulation. -Know how to create paper tubes. -Know the different ways to join paper tubes. <p>Summer 2 – Burrito bowls (Full project)</p> <ul style="list-style-type: none"> - Know that Burrito bowls are an adaptation of traditional Mexican Burritos. -Know that the ingredients of a Burrito bowl can be adapted based on personal preferences - Know that different vegetables and herbs are grown in different countries and come into season at different times of the year. -Know that rice is grown and then harvested. - Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eatwell Plate’ -Know that to be active and healthy, food and drink are needed to provide energy for the body -Know that the bridge and claw are cutting techniques. -Know that you need to wash your hands before preparing food for good hygiene. 	<p>Summer 2 – Electrical systems - Monitoring and control - An invention to solve a problem at school or home</p> <p><u>Designing</u></p> <ul style="list-style-type: none"> -Look at existing products which incorporate monitoring and control systems. -Decide on own problem to try and design a solution to. -Develop a design specification for a functional product that responds automatically to changes in the environment. -Generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams. <p><u>Making</u></p> <ul style="list-style-type: none"> -Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. -Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. -Create and modify a computer control program to enable their electrical product to respond to changes in the environment. <p><u>Evaluating</u></p> <ul style="list-style-type: none"> -Continually evaluate and modify the working features of the product to match the initial design specification. -Test the system to demonstrate its effectiveness for the intended user and purpose. <p>Summer 2 – Burrito bowls (Full project)</p> <p>Designing</p> <ul style="list-style-type: none"> -Explore, research and taste a range of existing Burrito bowl ingredients and combinations including different ways of presenting them. -Develop a design criteria to inform the design of products that are fit for purpose, aimed at a particular individuals or a group. (The ingredients must be well suited to the individual or group, must contain foods from different areas of the Eatwell plate in order to provide a balanced meal, must be well presented) -Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches. <p>Making</p> <ul style="list-style-type: none"> - weigh ingredients on a digital scale. - Cook rice, beans and meat (if using) with adult supervision on the hob - Use bridge and claw cutting techniques to chop and prepare selected vegetables and herbs - Arrange ingredients carefully in the bowl <p>Evaluating</p> <ul style="list-style-type: none"> - Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. 	<p>Monitor, control, program, system, input device, output device, series circuit, parallel circuit, function, innovative, design specification,</p> <p>Burrito, Seasons, adapt, appearance, taste, texture, aroma, nutrients</p>	<p>Design and technology association projects on a page resource – monitoring and control</p> <ul style="list-style-type: none"> -micro bit -i-pad or laptop batteries, battery holders, crocodile leads -different output devices including bulbs with bulb holders, buzzers, light emitting diodes (LEDs), motors - input devices including micro switches, reed switches and magnets, light dependent resistors (LDRs) -wire, automatic wire strippers, masking tape, construction materials and tools as required <p>See link for Simple Burrito Bowl recipe and ingredients.</p> <p>https://www.bbc.co.uk/food/recipes/black_bean_burrito_bowls_34530</p> <p>Sharp knives, can openers, sieves or colanders, grater, chopping boards, wooden spoons, bowl, measuring jugs, large pan</p>
-------------------------	--	--	---	---

