# DESIGN AND TECHNOLOGY LONG TERM PLAN

LABURNUM PRIMARY SCHOOL & NURSERY
CHALLENGE • ACHIEVE • RESPECT • EFFORT

## KS1 & KS2 ANNUAL OVERVIEW

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| Year 1 | Fire & Ice | Fire & Ice | Hospital Heroes | Hospital Heroes | Australia | Australia |
| Year 2 | Journeys | Journeys | Where are We? | Where are We? | Victorian Seaside | Victorian Seaside |
| Year 3 | Stone Age | Stone Age | Egypt | Egypt | Amazon Adventure | Amazon Adventure |
| Year 4 | Romans | Romans | Weather Around the World | Weather Around the World | Our Planet | Our Planet |
| Year 5 | Mayans | Mayans | Anglo Saxons | Anglo Saxons | Space | Space |
| Year 6 | Ancient Greece | Ancient Greece | WW2 | WW2 | N. America | Transition |

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In Key Stage 1 the emphasis is on designing through a range of creative and practical activities. It should be based on imagination and own experience through story books, home and school, parks and gardens, local and wider community. They should explore and evaluate existing products before thinking of their own designs and products. They should talk about their designs and the intention of use.

Design – Design purposeful and appealing products for themselves and others based on own design criteria.

Make – Select and use a RANGE of tools for cutting, shaping, joining and finishing.

Evaluate – Evaluate their own products against their design criteria.

## YEAR 1 – Skills to introduce: Wheels and axels, Healthy Food, Structures

| Unit Title | Knowledge & Key Questions | Specific Resources |
|---|---|---|
| **Autumn Term (Fire & Ice)**<br>**Mechanics**<br>(Wheels and Axels)<br><br>**Fire Engines**<br>**(Projects on a Page – Wheels and Axels)** | Fire Engines – Children to look at how vehicles move through exploration of toy cars/vehicles.<br>**Design:**<br>▪ Following on from learning about the houses (materials) from the era, children to design their own house using drawing and labelling.<br>▪ State what their products are for.<br>**Make:**<br>▪ Select from and use a range of materials and tools for constructing.<br>▪ Explore how their model can be made stronger, if need be.<br>▪ Measure, mark out and cut materials with support.<br>▪ Assemble, join and combine materials with different components.<br>**Evaluate:**<br>▪ Talk about their design ideas and evaluate against design criteria<br>**Technical Processes:**<br>▪ To know about the movement of simple mechanisms | ▪ Card, wooden lollipop sticks, glue, sticking tape, scissors, rulers, card, paint<br>▪ Wooden wheels and axels, food boxes<br><br>Vocabulary<br>Wheel<br>Axel<br>Construct<br>Mechanism<br>3D/2D<br>Model<br>Materials<br>Cardboard<br>Wood<br>Design<br>Plan<br>Evaluate<br>Measure<br>Ruler<br>Equipment<br>Tools |
| **Spring Term (Superheroes)**<br>**Cooking**<br><br>**Vegetable Soup** - (DT based on Superheroes book SUPERTATO)<br>**See Projects on a Page – Preparing Healthy Fruit and Veg** | **Vegetable Soup** – Children to investigate and try different types of vegetable soup (e.g. carrot, leek/potato, tomato). To 'design' their own soup using preferred vegetables.<br>The focus to be on preparing vegetables safely and hygienically and then EVALUATE their soup.<br>**Design:**<br>▪ Children to explore different products (eg. vegetable soups)<br>▪ To know where the food product comes from<br>▪ Introduce that vegetables are grown and are full of nutrients<br>**Make:**<br>▪ To prepare food using hygienic and safe procedures<br>▪ Use techniques such as cutting, peeling, grating<br>**Evaluate:**<br>▪ To make comments about their product and ask questions | Vocabulary<br>Knife<br>Saucepan<br>Measuring jug<br>Chopping board<br>Amount<br>Method<br>Recipe<br>Instructions<br>Peeler<br>Wooden spoon<br>Mix<br>Stir<br>Boil<br>Blend/Blender<br>Puree<br>Liquid<br>Equipment |

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| Unit Title | Knowledge & Key Questions | Specific Resources |
|---|---|---|
| **Summer Term (Australia)**<br><br>**Structures**<br>Making bridges<br>**Projects on a Page – Freestanding Structures**<br><br>**Target Tracker Coverage**<br>**Build structures, exploring how they can be made stronger**<br><br>**Create simple designs for a product**<br>**Use words/pictures to describe what you want to do**<br>**Select from a range of tools to perform practical tasks**<br>**Use a range of simple tools to cut/join**<br>**Ask simple questions about existing products** | **Designing a bridge (Australian Sydney Harbour Bridge)**<br>In connection with the Famous Physical Features of Australia – children to look at the famous bridge and consider the strength and structures of what makes a bridge secure.<br><br>**Design:**<br>▪ Building on making stronger free standing structures, children to design their own bench using drawing and labelling.<br>▪ State what their products are for.<br>**Make:**<br>▪ Use a range of materials and tools for constructing.<br>▪ Explore how their model can be made stronger, if need be.<br>▪ Measure, mark out and cut materials with support.<br>▪ Assemble, join and combine materials with different components.<br>**Evaluate:**<br>▪ Discuss their design ideas and evaluate against design criteria<br>**Technical Processes:**<br>▪ How free standing structures can be made stronger | Vocabulary<br>Cut<br>Fold<br>Join<br>Fix<br>Assemble<br>Equipment<br>Tools<br>Construct<br>Plastic/Wood/Cardboard/Paper<br>Wire<br>Pipe cleaner |

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Design – Design purposeful and appealing products for themselves and others based on own design criteria.

Make – Select and use a RANGE of tools for cutting, shaping, joining and finishing.

Evaluate – Evaluate their own products against their design criteria.

## YEAR 2 – Progression of skills: Strengthening Structures, Sliders and Levers, Cooking skills

| Unit Title | Knowledge & Key Questions | Specific Resources |
|---|---|---|
| **Autumn 1**<br><br>**Mechanics**<br>(Sliders and Levers)<br><br>**Moving pictures (sliders and levers)** based on vehicles (boats, planes, cars, trains etc)<br>Journeys<br>**Projects on a Page – Sliders and Levers**<br><br>**Target Tracker Coverage** | **Moving Pictures –** Children to investigate pop up books and other moving cards/pictures. They will need to make some mock ups using levers, split pins (pivots) and then design their own moving picture, using a form of transport.<br>This could result in a Christmas Card – suggestions Santa's sleigh, The Snowman, A flying robin<br>**Design:**<br>▪ Children to investigate pop up books and moving books to develop an understanding of their mechanics<br>▪ Children to learn about pivots and levers<br>▪ To plan mock ups as part of their design and understanding (Twinkl have a good powerpoint and planning ideas)<br>▪ Explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products<br>▪ Design purposeful, functional, appealing products for themselves and other users based on design criteria<br>**Make:**<br>▪ Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]<br>▪ Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics<br>**Evaluate:**<br>▪ Evaluate their ideas and products against design criteria<br>**Technical Processes:**<br>▪ Begin to measure, cut, mark out safely and accurately<br>▪ To know about the movement of simple mechanisms such as levers and sliders. | Vocabulary<br>Movement<br>Pop Up<br>Slider<br>Lever<br>Pivot<br>Split Pin<br>Function<br>Product<br>Assemble<br>Materials<br>Design |

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|---|---|---|
| **Spring (Where Are We?)**<br><br>**Cooking**<br><br>**(Bedfordshire Clanger in relation to local topic of Sandy)**<br>**Projects on a Page for Preparing Healthy Fruit and Vegetables** | Cooking – Children to investigate different fillings in both sweet and savoury pies. To explore different food groups when considering designing their pie/clanger. A visit from Gunns Bakery would enhance this learning.<br>**Design and Knowledge:**<br>▪ Children to explore different products related to their design<br>▪ To know where the food product comes from<br>▪ To know that food is farmed, grown or caught<br>▪ Children to know that they should eat 5 fruit and vegetable portions a day and begin to learn about the 'Eat well' plate.<br>**Make:**<br>▪ To prepare food using hygienic and safe procedures<br>▪ Use techniques such as cutting, peeling, grating<br>**Evaluate:**<br>▪ To evaluate against their own design criteria | **Vocabulary**<br>Ingredients<br>Amount<br>Chopping Board<br>Grater (?)<br>Peeler<br>Weigh<br>Scales<br>Fry<br>Baking Tray<br><br>**If making own pastry**<br>Weigh<br>Knead<br>Mix<br>Rolling Pin<br>Baking tray |
| **Summer** (Victorian Seaside)<br>**Textiles**<br>Joining 2 pieces of fabric together<br><br>**Design and make a puppet, flag or simple bag based** by joining 2 pieces of material<br><br>Templates, mock ups and pattern pieces<br><br>**Projects on a Page – Templates and Joining** | **Puppet, Flag or Beach Bag** – Children to be taught sewing stitches to join 2 pieces of material together. They need to design their product to make it appealing for the user.<br><br>**Design:**<br>▪ Use simple design criteria -drawing and labelling<br>**Make/Technical Processes:**<br>▪ Joining 2 pieces of identical fabrics together to make a 3D textiles product (eg. bag or puppet) | Vocabulary<br>Fabric/Material/Textile<br>Needles<br>Thread/wool/Cotton<br>Pattern<br>Design<br>Pin<br>Tape Measure<br>Stitch<br>Sew<br>Fold<br>Join<br>Centimetre |

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In Lower KS2 we follow on from KS1 but begin to design with more purpose and intent. They should gather information about the needs and wants of a product and generate ideas focusing on the needs of the user. Children should be beginning to be more accurate in our measuring, cutting, joining and finishing. When evaluating, children should refer to their design.

**YEAR 3 – Progression of skills :** Mechanical Systems (Pneumatic, Levers, Linkages), cross sectional diagrams, Cooking, Strengthening Structures using diagonal struts (3D nets),

| Unit Title | Knowledge & Key Questions | Specific Resources |
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| **Autumn** (Stone Age)<br><br>**Textiles – making a 3D object from 2D materials**<br><br>**Woolly Mammoths or a Christmas Tree decoration if you want to do it later in the term**<br>**Sew/Attach decorations (eg buttons, felt shapes etc)**<br>(fabric toy)<br><br>**See DT Projects on a Page for Planning ideas**<br>**2D shape into a 3D product** | **3D fabric item –** Children to progress from sewing 2 pieces of fabric together (year 2) into creating a 3D object that is purposeful. They need to design their own product (a toy mammoth or a Christmas Tree decoration). Using fabric and other decorations (buttons, ribbons) to decorate their product.<br>**Design:**<br>▪ Children progress to focus on the needs and intended use/users of their product.<br>▪ Share and clarify ideas through discussion<br>▪ Create designs using annotated sketches<br>▪ Generate realistic ideas, focusing on the needs of the user<br>**Make:**<br>▪ Select tools and materials with intent – suitable for the model<br>▪ Explain the choice of materials for the model<br>▪ Begin to measure, mark out and cut with increasing accuracy<br>▪ Assemble, join and combine materials with increasing accuracy.<br>▪ Apply a range of finishing techniques with some accuracy and intent<br>**Evaluate:**<br>▪ Refer to their design as they make<br>▪ Use their design criteria to evaluate against design criteria and with the user in mind. | Vocabulary<br>2D/3D<br>attach<br>Running Stitch<br>Functional<br>Aesthetic<br>Stiffen<br>Strengthen<br>Stuff<br>Investigate<br>Pattern<br>Prototype<br>evaluate |
| **Spring** (Egypt)<br><br>**Cooking**<br>Egyptian Breads<br>(See twinkl on bread making with different ingredients)<br><br>**Projects on a Page Healthy and Varied Diet** | Children to investigate different breads with a variety of flavours and fillings.<br><br>**Design:**<br>▪ Children to use their learning of Egyptian diet and food items when designing their product.<br>▪ Children to look at and taste the different ingredients that could be used in their bread (eg. raisins, dates, honey)<br>▪ Children to understand where the foods come from in the wider world (grown, caught, farmed etc)<br>**Make:**<br>▪ To use a wider range of techniques including grating, chopping, slicing, baking, kneading<br>▪ To prepare hygienically and ideally use a heat source (eg. oven)<br>**Evaluate:**<br>▪ Refer to their design criteria to evaluate their own products. | Vocabulary<br>Investigate<br>Research<br>Hygiene<br>Grams/kilograms<br>Knead<br>Grate<br>Bake<br>Knead<br>Rise (as in bread)<br>Yeast<br>Scales<br>Temperature (Centigrade)<br>Golden Brown |

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|---|---|---|
| **Summer (**Rainforest/Amazon)<br><br>**Mechanics (pneumatic movement)**<br>**Moving Frogs**<br>**See DT slides on K-Drive on Pneumatics for planning** | **Design**:<br>▪ Children progress to focus on the needs and intended use/users of their product.<br>▪ Share and clarify ideas through discussion<br>▪ Develop their own design criteria and use these to inform their ideas<br>▪ Create designs using annotated sketches or cross sectional drawings<br>▪ Use computer aided design to develop and communicate their ideas<br>▪ Generate realistic ideas, focusing on the needs of the user<br>**Make**:<br>▪ Select tools and materials with intent – suitable for the model<br>▪ Explain the choice of materials and tools for the model<br>▪ Begin to Measure, mark out and cut with accuracy<br>▪ Assemble, join and combine materials with increasing accuracy.<br>▪ Apply a range of finishing techniques with some accuracy and intent<br>**Evaluate**:<br>▪ Refer to their design as they make<br>▪ Use their design criteria to evaluate with increasing intent.<br>**Technical Knowledge** –<br>▪ How to apply knowledge from Science and maths to help design and make products that work<br>▪ How mechanical systems such as levers, linkages and pneumatic systems create movement. | <u>Vocabulary</u><br>Components<br>Pipe/tubing<br>Syringe<br>Pump/Plunger<br>Pressure<br>Pneumatic<br>Movement<br>Inflate deflate<br>Seal |

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**YEAR 4 – Progression of skills.** Electrical Circuits, Strengthening Structures based on previous, exploded diagrams, learning, cooking – seasonal foods, healthy eating and following a recipe.

| Unit Title | Knowledge & Key Questions | Specific Resources |
|---|---|---|
| **Autumn (Romans)**<br><br>**Cooking**<br>**Honey, Oat and Spice Cakes**<br>Focus on healthy eating, learn about how honey can be used a substitute for sugar.<br>http://cookit.e2bn.org/historycookbook/958-honey-oat-and-spiced-cakes.html<br><br>**Projects on a Page Healthy and Varied Diet** | **Design:**<br>▪ Children to use their learning of Roman diet and food items when designing their product.<br>▪ Children to look at and taste the different ingredients that could be used in their design<br>▪ Children to understand where the foods come from in the wider world (grown, caught, farmed etc)<br>**Make:**<br>▪ To use a wider range of techniques including grating, chopping, slicing, baking, kneading<br>▪ To prepare hygienically and ideally use a heat source (eg. oven)<br>▪ To read and follow recipes<br>**Evaluate:**<br>▪ Refer to their design criteria to evaluate their own products. | Vocabulary<br>Grate<br>Slice<br>Rub in<br>Mould<br>Spoon (as in verb)<br>Spice<br>Sweetener<br>Bake<br>Golden brown<br>Temperature (Centigrade)<br>Recipe<br>Method |
| **Spring (Weather)**<br><br>**Electrical (Circuits)**<br>**Windmill/Lighthouse/ Torch**<br>Electrical Circuits based on light and dark or movement<br>https://www.twinkl.co.uk/resource/design-and-make-an-electrical-model-activity-t2-d-156<br><br>**See DT Projects on a Page for Electrical Circuits and Programming and Controls for planning ideas – link to Science**<br><br>**Exploded diagrams** | **Design**:<br>▪ Children progress to focus on the needs and intended use/users of their product<br>▪ Share and clarify ideas through discussion<br>▪ Design with both functional and aesthetic qualities in mind.<br>▪ Create designs using exploded diagrams.<br>▪ Use computer aided design to develop and communicate their ideas<br>▪ Generate realistic ideas, focusing on the needs of the user<br>**Make**:<br>▪ Select suitable tools and materials for the model<br>▪ Explain the choice of materials and tools for the model<br>▪ Begin to Measure, mark out and cut with accuracy<br>▪ Assemble, join and combine materials with more accuracy<br>▪ Apply a range of finishing techniques with increased accuracy and intent<br>**Evaluate**:<br>▪ How well have products been designed?<br>▪ How well have they been made?<br>▪ How well did the product achieve their purposes?<br>▪ How well did the product work?<br>▪ What went right/wrong?<br>**Technical Knowledge:**<br>▪ How simple electrical circuits and components can be used to make a functional product<br>▪ How scientific and mathematical knowledge can help to design products | Vocabulary<br>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<br><br>control, program, system, input device, output device<br><br>user, purpose, function, prototype, design criteria, innovative, appealing, design brief |

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|---|---|---|
| **Summer (Our Planet)**<br><br>**Structures (shell)**<br><br>**(Recycling projects) make a container from recyclable materials**<br>Shell structures using computer aided design<br><br>**Projects on a page Shell structures (computer aided)** | Children will focus on recyclable materials in packaging. They will investigate how boxes (packaging and gift boxes) are assembled to keep strong and keep items secure. Children can research what containers they would like to make (jewellery box, pencil box, gift box, picnic box, treasure box, Game holder etc) with focus on using recycled materials. They can decorate it with natural materials or oddments of second hand materials, or just paints and colours. Children will design a shell structure (3D net) using a computer program and then create it using their template.<br><br>**Design:**<br>▪ To look at a range of existing products when designing (eg. gift boxes)<br>▪ Design your product through pattern pieces, mock ups or ICT<br>▪ Design with an aim to please the user.<br><br>**Make:**<br>▪ Select appropriate tools from a wider choice<br>▪ Measure, cut and join with accuracy in mind.<br><br>**Evaluate:**<br>▪ Evaluate existing products as well as your own.<br>▪ Evaluate against your own design and suggest improvements | <u>Vocabulary</u><br>shell structure,<br>net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity<br>marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating<br>font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype |

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**YEAR 5 –** In Upper KS2, the progression focuses on carrying out research at a wider level when designing products through (surveys, interviews, questionnaires and web based resources). Identify the needs of the user when thinking of your design and generate innovative ideas based on this research. Children should begin to compile a list of equipment and materials needed and formulate step by step plans. Focus on accuracy should be key when measuring, marking, cutting, assembling, joining etc. Children should learn how to evaluate critically – and look at the cost of making their products, how innovative they are and what impact the products have beyond their purpose.

| Unit Title | Knowledge & Key Questions | Specific Resources |
|---|---|---|
| **Autumn (Mayans)**<br><br>**Cooking**<br>**dips and bread**<br>(BBC recipe quick flatbreads)<br>**Projects on a Page**<br>**Healthy and Varied Diet** | **Dips and bread –** Children to follow a recipe, focus on savoury and healthy dishes. They need to learn rubbing, kneading technique.<br>**Design:**<br>▪ Explore existing 'dips' what can be used as a base? (fruit, veg, beans) What things are added? (herbs, spices, yoghurt, cream, mayonnaise)<br>▪ Evaluate simple flatbread<br>▪ How would the Mayans have cooked it? What would they have had?<br>▪ That different food and drink contain different substances that are needed for health<br>▪ Understand how food is grown, farmed etc to make it safe to eat<br>▪ To create own design criteria<br>▪ To explore combinations of different flavours and ingredients (in small groups)<br>**Make:**<br>▪ To make a basic flatbread and add appropriate flavourings<br>▪ To make a 'dip' of choice using chosen ingredients<br>▪ To apply techniques taught-cutting, slicing, measuring, kneading, mixing, grating.<br>▪ To combine different ingredients in different ways to produce an end product | **Vocabulary**<br>Flavour<br>Herb<br>Spice<br>Combine<br>Mix<br>Stir<br>Cut<br>Grate<br>Slice<br>Knead<br>Bake/cook |
| **Spring (**Anglo Saxons)<br><br>**Textiles**<br>Pouches<br>Dying skills<br><br>**Make a bag**<br><br>**Projects on a Page – using computer aided design in Textiles** | **Anglo-Saxon Bag –** Children to look at what can be used to dye materials. To design a pattern to make a bag. Extend to sew on ornamental adornments like buttons.<br>As above, children to explore weaving and dying and to produce their own Anglo Saxon style bag/pouch based on research.<br>**Design:**<br>▪ Research products of time to inform planning (including web based resources)<br>▪ Create Prototypes to show ideas<br>**Make:**<br>▪ Accurate and Precise measurements so that joins and fastening are in the right place (eg. hole in pendant, button on bag)<br>▪ Produce own step by step instructions of making the design – including tools and materials<br>▪ Accurately apply a range of finishing techniques (eg, fastenings, patterns on jewellery pendant)<br>**Evaluate:**<br>▪ Detailed evaluation of existing products (during designing) as well as critically evaluating your own and each other's' work<br>**Technical Processes:**<br>▪ Strengthening 3D products using prior knowledge | Vocabulary<br>Dye<br>Permanent<br>Dip<br>Rinse<br>Aesthetic<br>Purpose<br>Functional<br>Fastening<br>Hook and eye<br>Zip<br>Press stud<br>punch<br>Pinking shears<br>Pattern /prototype<br>Tacking<br>Sewing machine (if used)<br>Loom<br>Weave |

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| **Summer (space)**<br><br>**Electrics**<br>Moon Buggy<br>Electrical products that the user needs to programme and control<br><br>**Projects on a Page**<br>**Monitoring and Controlling** | To design and make a moon buggy that would need to be able to move across a rugged surface.<br>**Design:**<br>▪ To research structures of existing buggies<br>▪ To identify appropriate materials<br>▪ To make mock ups<br>▪ To use exploded diagrams<br>**Make:**<br>▪ To measure, mark and cut accurately<br>▪ To choose appropriate materials to strengthen<br>▪ To apply finishing techniques<br>▪ To join materials securely<br>**Technical Processes:**<br>▪ To use more complex mechanical and electrical systems.<br>▪ To programme and control electrical products. | <u>Vocabulary</u><br>series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart |

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## YEAR 6

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| **Autumn (Ancient Greece)**<br><br>**Electrical Systems (link with science)**<br><br>**Projects on a Page More complex switches** | **Traffic lights –** Children will work alongside their science to design an electrical system that they can control such as an alarm or a traffic light system<br>**Design:**<br>▪ To link to science knowledge<br>▪ To explore existing systems<br>▪ To make mock ups<br>▪ To use exploded drawing<br>▪ To produce own design criteria<br>**Make:**<br>▪ To join materials safely and securely<br>▪ To identify ways to disguise mechanisms<br>▪ To apply knowledge of electricity to create the system<br>**Evaluate:**<br>▪ To evaluate effectiveness based on design criteria | Vocabulary<br>reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch<br><br>light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip<br><br>control, program, system, input device, output device, series circuit, parallel circuit |
| **Spring (WW2)**<br><br>**Structures/CAMS/ levers/linkages/pulleys**<br><br>To use structures to design and make a structure that could lift people from under the ground<br><br>**Projects on a Page Frame Structures and pulleys and gears**<br>WW2<br><br>Famous Designs | **Frame Structure –** Children to solve 'The great escape' problem<br>**Design:**<br>▪ Research famous designers and inventors to inform the design of your own product (Morse/Anderson)<br>▪ Generate designs through annotated sketches, cross sectional and exploded diagrams, prototypes/pattern pieces and ICT<br>▪ Use previous technical knowledge to problem solve when designing and making<br>▪ Use knowledge of famous designs and research to explain the effectiveness of the product<br>**Make:**<br>▪ Use a wide range of methods to strengthen, stiffen and reinforce complex structures<br>▪ To use knowledge of pulleys, cams, levers and linkages to influence the finished product<br>▪ Apply knowledge of computing to program, monitor and control the product<br>**Evaluate:**<br>▪ Evaluate the effectiveness of the product based on the design criteria | Vocabulary **Frame Structures**<br>frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional<br>vice, hack saw, clamp, sand paper<br><br>**Pulleys and Gears**<br>pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor<br><br>circuit, switch, circuit diagram<br><br>annotated drawings, exploded diagrams<br><br>mechanical system, electrical system, input, process, output<br><br>design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief |

# DESIGN AND TECHNOLOGY LONG TERM PLAN

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|---|---|---|
| **Summer**<br><br>**Transition preparation**<br><br>**To design a party snack suitable for the end of year leavers' party.** | **Savoury Meals –** In KS2, children are taught how to read and follow a recipe. They need to make a 'snack' (sweet or savoury) that incorporate a range of techniques such as blending, chopping, slicing, kneading, rubbing in. Children in Year 3-5 will be kneading, rubbing in, blending, chopping so should have met these skills. In year 6, children can use these skills to design a party 'snack'.<br>**Design**<br>▪ To research popular party snacks. What makes them popular? (size, ease of eating, finger food, popular flavour combinations etc)<br>▪ Research flavour combinations (apple and cinnamon, pork and apple, cheese and pineapple etc)<br>▪ What could the 'base' of the snack be? (bread, pastry etc)<br>▪ Consider allergies<br>▪ Use information on food labels to inform choices<br>▪ Consider costings and being able to produce them 'en masse'<br>▪ To use previous skills and knowledge to inform their design<br>▪ To produce own design criteria<br>**Make:**<br>▪ To use previous skills of food preparation to prepare ingredients<br>▪ To mix ingredients based on research and planning<br>▪ To safely and hygienically prepare their chosen snack<br>**Evaluate:**<br>▪ Whole class to feedback and evaluate products (use of questionnaires?)<br>▪ To evaluate based on design criteria | Chop, slice, blend, knead, rub in, grate<br><br>Ingredients, healthy, product, consumer, |