

Year 1

Topic/themes	Moving pictures	Healthy sandwiches	Freestanding Structures: Bridges
Key texts			
Steps to Success	<p>What are the stages of a DT project? What moving pictures already exist? What is a slider mechanism? What is a lever mechanism? Design a moving picture using a slider and lever mechanism What tools will I need and how do I use them safely? What materials will I need? Make a moving picture following your design. Evaluate - How does my design fit the criteria? Does my project work? What could I have done differently? How do I clean up and tidy up safely?</p>	<p>What are the stages of a DT project? What kinds of sandwiches are there? Design a healthy sandwich. How can I be safe and clean when working with food? What tools will I need and how do I use them safely? What materials (ingredients) will I need and where do they come from? What is the method for making a sandwich? Make a sandwich following your design. Evaluate - How does my design fit the criteria? Does my project work? What could I have done differently? How do I clean up and tidy up after using food and cooking equipment?</p>	<p>What are the stages of a DT project? What is a structure? What structures do we know about? That we can see out and about? How can I make a structure stronger, stiffer and more stable? What tools will I need and how do I use them safely? What materials will I need? How can I combine materials together? Design a free standing bridge Make a free standing bridge by assembling, joining and combining materials and components. How do I clean up and tidy up safely? Evaluate - How does my design fit the criteria? Does my project work? What could I have done differently?</p>
Knowledge	<p>-To recognise the stages of a DT project: Design, Make, Evaluate -To know about the movement of levers and slider mechanisms and how they work. -To know how to use a labelled drawing when designing -To know how to transport and use tool safely and effectively eg. scissors, split pins - To understand that a template can be used when making -To understand that 3D textile products can be assembled from 2 identical shapes - To understand the simple characteristics of materials and components eg. Fabrics -To know appropriate ways to tidy up and clear away after DT activities.</p>	<p>-To recognise the stages of a DT project: Design, Make, Evaluate - -To know where food comes from -To understand about food safety and food hygiene. -To know how to use a labelled drawing when designing -To know how to transport and use tool safely and effectively eg. blunt knife - To understand the simple characteristics of materials and components eg. vegetables, butter -Know appropriate ways to tidy up and clear away after DT activities.</p>	<p>-To recognise the stages of a DT project: Design, Make, Evaluate - -To know that existing products are available -To know how freestanding structures can be made stronger, stiffer and more stable -To know how to produce a design based on design criteria - -To know how to transport and use tool safely and effectively eg. scissors -To understand that the ways materials are combined and manipulated effects the produced item - To understand the simple characteristics of materials and components eg. -To know appropriate ways to tidy up and clear away after DT activities.</p>
Skills	<p>- Join a variety of materials (including fabric) accurately, e.g. using glue or tape. (KPI) - Create and use levers and sliders. - Draw a simple picture of an intended design with basic labelling. (KPI) - With help put ideas into practice - Describe how an existing product works (e.g. the toy moves when I turn the handle')</p>	<p>- Select and explain why they have chosen a particular tool for the task. - Select and explain their choices of materials, sometimes with help (KPI) - Explain how to keep safe during a practical task. - Draw a simple picture of an intended design with basic labelling. -With help put ideas into practice - Describe how an existing product works)</p>	<p>- Join a variety of materials (including fabric) accurately, e.g. using glue or tape. (KPI) - Create and use levers and sliders. - Draw a simple picture of an intended design with basic labelling. (KPI) - With help put ideas into practice - Describe how an existing product works (e.g. the toy moves when I turn the handle')</p>

	<ul style="list-style-type: none"> -Talk about their own and others' work identifying strengths and/or weaknesses - Order products or designs chronologically and begin to explain reasons why they are ordered in that way. - Select and explain why they have chosen a particular tool for the task. - Select and explain their choices of materials, sometimes with help (KPI) - Explain how to keep safe 	<ul style="list-style-type: none"> -Talk about their own and others' work identifying strengths and/or weaknesses - Cut accurately and safely with blunt knife - Measure and weigh food items using nonstandard measures (e.g. spoons and cups) to produce a dish safely. (KPI) - Identify the main food groups, including fruit and vegetables - Identify the source for common foods. 	<ul style="list-style-type: none"> -Talk about their own and others' work identifying strengths and/or weaknesses - Order products or designs chronologically and begin to explain reasons why they are ordered in that way. - Select and explain why they have chosen a particular tool for the task. - Select and explain their choices of materials, sometimes with help (KPI) - Explain how to keep safe - Produce detailed, labelled drawings or models of products based on design criteria (KPI) - Use ICT packages to create a labelled design or plan - Think of ideas and plan what to do next, based on experience of working with materials and components. - Compare and contrast great bridge/tower designs, explaining why a particular design is significant in engineering history. - Understanding of different mechanisms - Explain how closely finished products meet their design criteria and say what they could do better in the future. - Understanding of different designers (e.g. Isambard Brunel) - Use tools safely for cutting and joining <ul style="list-style-type: none"> - With support choose appropriate materials and suggest ways of manipulating them to achieve a desired effect. (KPI) - know how to cut and join safely -cutting materials - Attach features and join appropriately, with glue and/or tape, for different materials and situations. (KPI) - Build simple structures & Understanding of language stiffer, stronger, more stable
Vocabulary	<ul style="list-style-type: none"> ● Levers ● Sliders ● Push Pull ● Directional Language 	<ul style="list-style-type: none"> ● Cutting ● Gratin ● Slicing ● Names of tools 	<ul style="list-style-type: none"> ● Stiffer ● Stronger ● More stable ● Names of resource e.g. Glue types
Key assessments			

Year 2

	Textiles: Templates & joining techniques- Puppets <i>(at end of History Topic)</i>	Cookery- Prepare and serve rock cakes/muffins with inclusions-	Wheels and Axles
Key Texts			
Steps to Success	<p>What are the stages of a DT project? What puppets are out there? How are they used? What is a textile? What materials will I need? What tools will I need and how do I use them safely? What different joining techniques are there? What different stitches can we learn? Design a puppet using different joining and stitching techniques How can I join/combine materials together? Make a puppet following your design How do I clean up and tidy up safely? Evaluate - How does my design fit the criteria? Does my project work? What could I have done differently?</p>	<p>What are the stages of a DT project? What healthy options are there for sweet snacks? Where does some of the food we eat come from? Design rock cakes/ muffins What tools will I need and how do I use them safely? What materials (ingredients) will I need? How can I join/combine food materials together? What happens when they get mixed together? What does it mean to have a healthy balance of food? Make rock cakes/muffins following a recipe and your design How can I be safe and clean when working with food? How do I clean up and tidy up after using food and cooking equipment? Evaluate - How does my design fit the criteria? Does my project work? What could I have done differently?</p>	<p>What are the stages of a DT project? What is a wheel? What is an axle? How does the wheel and axle mechanism work? Why are they important and where would we find them? Design a moving vehicle with a wheel and axle What tools will I need and how do I use them safely? What materials will I need? How can I join/combine materials together? Make a moving vehicle following their design How do I clean up and tidy up safely? Evaluate - How does my design fit the criteria? Does my project work? What could I have done differently?</p>
Knowledge	<ul style="list-style-type: none"> -To recognise the stages of a DT project: Design, Make, Evaluate -To know how to use a labelled drawing when designing -To know how to transport and use tool safely and effectively eg. scissors, needles - To understand that a template can be used when making -To understand that 3D textile products can be assembled from 2 identical shapes - To understand the simple characteristics of materials and components eg. Fabrics -To know appropriate ways to tidy up and clear away after DT activities. 	<ul style="list-style-type: none"> - To recognise the stages of a DT project: Design, Make, Evaluate - To know that existing products are available - To know where food comes from - To understand about food safety and food hygiene. - To know how to produce a design based on design criteria - To know how to transport and use tool safely & effectively eg. table knife, grater To understand that the ways materials are combined and manipulated effects the produced item - To understand the simple characteristics of materials and components eg. basic and combined ingredient - To know appropriate ways to tidy up and clear away after DT activities. - To recognise the need for a healthy balance of foods in a meal 	<ul style="list-style-type: none"> -To recognise the stages of a DT project: Design, Make, Evaluate - To know that existing products are available - To know about the movement of wheel and axle mechanisms and how they work - To know how to produce a design based on design criteria - To know how to transport and use tool safely and effectively eg. Scissors - To understand that the ways materials are combined and manipulated effects the produced item - To understand the simple characteristics of materials and components eg. - To know appropriate ways to tidy up and clear away after DT activities.

Skills	<ul style="list-style-type: none"> - Draw a simple picture of an intended design with basic labelling. (KPI) - With help put ideas into practice - Talk about their own & others' work identifying strengths and/or weaknesses - Order products or designs chronologically and begin to explain reasons why they are ordered in that way. - Cut out shapes from a range of fabrics & papers. Join fabrics using running stitch, glue, staples, oversewing & tape. - Cut accurately & safely with scissors - Join a variety of materials (including fabric) accurately, e.g. using glue or tape. (KPI) - Select & explain why they have chosen a particular tool for the task. - Select and explain their choices of materials, sometimes with help (KPI) - Explain how to keep safe during a practical task 	<p>Produce detailed, labelled drawings or models of products based on design criteria (KPI)</p> <ul style="list-style-type: none"> - Think of ideas and plan what to do next, based on experience of working with materials/ tools. - Investigate a range of existing products and talk about them - Explain how closely finished products meet their design criteria and say what they could do better in the future. - Use equipment safely for cutting components. - With support choose appropriate materials and suggest ways of manipulating them to achieve a desired effect. (KPI) - Work safely & hygienically. - Begin to cut, peel, grate and chop a range of ingredients. Measure ingredients with increased independence to make healthy dishes. (KPI) - Recognise the need for a variety of foods in a diet. - Explain where the food they eat comes from (e.g. by referring to countries, counties, animals & plants) 	<p>D1- Produce detailed, labelled drawings or models of products based on design criteria (KPI) D2- Use ICT packages to create a labelled design or plan D3- Think of ideas and plan what to do next, based on experience of working with materials and components. D4- Compare and contrast great designs, explaining why a particular design is significant in engineering history. M1- Use tools safely for cutting and joining materials and components. M2 - With support choose appropriate materials and suggest ways of manipulating them to achieve a desired effect. (KPI) M3- know how to cut and join safely E1 -Understanding of different mechanisms E2- Explain how closely finished products meet their design criteria & say what they could do better in the future. E3- Describe why a design, or a designer is important. T2 -cutting materials T3- Attach features to a vehicle (e.g.an axle and wheels). Join appropriately, with glue and/or tape, for different materials and situations. (KPI) T4- Understanding of language stiffer, stronger, more stable. T4 Evaluate and improve structure using criteria. - T5 knowledge of different wheels.</p>
Vocabulary	<ul style="list-style-type: none"> • Names of equipment • Felt • running stitch • Needle • Thread • fabric 	<ul style="list-style-type: none"> • Bridge cut hold • Names of equipment • Names of fruits • Equal portions • Balanced diet 	<ul style="list-style-type: none"> • Wheels • Axels • 'stopper' • Chassis • Stiffer • Stronger • More stable • Balances • Straight
Key Assessments			

Year 3

	Mechanisms: Levers/linkages pneumatics	Structures: framed and shell structure (Science link)	Cookery- Prepare and cook a simple nutritional dish (PSHE link) Kebabs using medium resistance foods
Key Texts			
Steps to success	<p>What are the stages of a DT project? What is a lever? What is an pneumatic? How does the lever and pneumatic system work to create movement? Where can you find levers and linkages? What tools will I need and how do I use them safely? What materials will I need and what are their functional properties? How can I join/combine the materials together? Design a history booklet with moving parts Make a history booklet following your design Evaluate - How does my design fit the criteria? Does my project work? What could I have done differently? How do I clean up and tidy up safely?</p>	<p>What are the stages of a DT project? What is a shell structure? What is the difference between a shell and framed structure? Where will I find a shell structure? How can I make a shell structure? Design a shelter for seeds to germinate in using a shell structure What tools will I need and how do I use them safely? What materials will I need and what are their functional properties? How can I join/combine the materials together? Make a shell structure using your design Evaluate - How does my design fit the criteria? Does my project work? What could I have done differently? How do I clean up and tidy up safely?</p>	<p>What are the stages of a DT project? How can I be safe and clean when working with food? Where does some of the food we eat come from? What food comes from the UK? What food comes from other countries? What is a kebab? What foods are used in a kebab? Design both a sweet and savoury kebab What materials are best suited to your design? Why? What properties do they have that make them suited for your design? What cooking techniques are there? Make a savoury and sweet kebab What tools will I need and how do I use them safely? How do I clean up and tidy up after using food and cooking equipment? Evaluate - How does my design fit the criteria? Does my project work? What could I have done differently?</p>
Knowledge	<ul style="list-style-type: none"> - To recognise the stages of a DT project: Research, Design, Make, Evaluate - To know how levers, levers and pneumatic systems create movement - To understand about safety and preparing/ clearing up from activity - To know how to produce a design based on design criteria to meet a range of needs and be fit for purpose - To recognise that materials have functional properties which makes them better suited to different designs - To know how to select, transport and use tool safely and effectively eg 	<ul style="list-style-type: none"> - To recognise the stages of a DT project: Research, Design, Make, Evaluate - To know how to make strong, stiff shell structures - To understand about safety and preparing/ clearing up from activity - To know how to produce a design based on design criteria to meet a range of needs and be fit for purpose - To recognise that materials have functional properties which makes them better suited to different designs - To know how to select, transport and use tool safely and effectively eg hack saws - To understand the simple characteristics of materials and components eg cool melt glue 	<ul style="list-style-type: none"> -To recognise the stages of a DT project: Research, Design, Make, Evaluate - To know where food comes from (UK and other countries) -To understand about food safety, hygiene & preparing/ clearing up from activity - To know how to produce a design based on design criteria to meet a range of needs and be fit for purpose - To recognise that materials have functional properties which makes them better suited to different designs - To understand that there is a range of cooking techniques - To know how to select, transport and use tool safely and effectively eg. veg knife, grater, skewer - To understand that the ways materials are combined and manipulated effects the produced item - To know what a balanced diet is.
Skills	<ul style="list-style-type: none"> - Share ideas through words, labelled sketches and models, recognising that designs have to meet a range of needs, including being fit for purpose (KPI) - Make realistic plans, identifying processes, equipment and materials needed. -Investigate the design features of familiar existing products. - Suggest improvements to products made and describe how to implement them (taking the views of others into account) - Explain the impact of a design or designer on design history and how this has helped to shape the world. 	<ul style="list-style-type: none"> - Share ideas through words, labelled sketches and models, recognising that designs have to meet a range of needs, including being fit for purpose (KPI) -Use ICT packages to create a labelled design or plan, in detail - Make realistic plans, identifying processes, equipment & materials needed. -Investigate the design features of familiar existing products. - Suggest improvements to products made & describe how to implement them (taking the views of others into account) M1-Select the appropriate tools & explain choices. 	<ul style="list-style-type: none"> - Share ideas through words, labelled sketches and models, recognising that designs have to meet a range of needs, including being fit for purpose (KPI) - Make realistic plans, identifying processes, equipment and materials needed. -Investigate the design features (including identifying ingredients) of familiar existing products. - Suggest improvements to products made and describe how to implement them (taking the views of others into account) - Select the appropriate tools and explain choices.

	<ul style="list-style-type: none"> - Select the appropriate tools/ explain choices. - Use an understanding of different materials to choose which materials will be needed for a task and explain why. (KPI) - Follow health and safety rules activities. T2- Measure & mark wood/dowel - Attach features to a design using appropriate joining techniques. Being to use a glue gun with close supervision (KPI) - Create & use levers and/or pneumatics in their products 	<ul style="list-style-type: none"> - Use an understanding of different materials to choose which materials will be needed for a task and explain why. (KPI) - Follow health & safety rules. - Measure & mark wood /dowel - Attach features to a design using appropriate joining techniques. Being to use a glue gun with close supervision (KPI) - Create a shell structure using diagonal struts to strengthen 	<ul style="list-style-type: none"> - Use an understanding of different materials to choose which materials will be needed for a task and explain why. (KPI) - Follow health and safety rules for cooking activities. - Begin to understand different cooking techniques and use one to combine a variety of ingredients to cook a nutritious meal. (KPI) - Describe what a balanced diet is. - Identify food which comes from the UK and other countries
Vocabulary	<ul style="list-style-type: none"> • Lever • Linkage • Cogs • Dowel • Pneumatics • Adhesives • Mechanism 	<ul style="list-style-type: none"> • Glue gun • Junior hacksaw • G clamp • Bench hook • Joint • Attaching • Joining • Strengthen • Jinks corner • Prototype • Modify • Design brief/purpose 	<ul style="list-style-type: none"> • Peeling • Thread • Claw grip • Bridge hold • Vegetable knife • Assemble • Combine • Serve • Portion • Garnish • Assemble • Visually appealing
Key assessments			