

Toner Avenue School - DT Programme of Study Coverage, Skills, Knowledge and End Points for Key Stage One

DFE DT Programme of Study Criteria	Year One Projects			Year Two Projects			KS1 End Points <i>' the knowledge and skills a child should now have as they leave this key stage'</i>
	Playgrounds	Moving Pictures	Fruit Salad	Bread-making Science - Paper bridges	Safari Jeep Chocolate Production and Fair Trade	Glove Puppet PSHE- Healthy Eating	
<p>Design</p> <p>*Design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>*Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p>	<p>*researching real products (playground equipment, moving picture books, fruit salads) in class or in the outdoor environment and looking at products online</p> <p>*communicate ideas for their designs discussing the purpose, function and appeal of the product</p> <p>*making mock ups/templates of playground equipment and moving pictures mechanisms such as card wheel and lever movements</p> <p>*talk about the stages of making the product in pairs/as a class</p> <p>In books-</p> <p>*some form of research will be evident</p> <p>* a drawing of the design that might include some labelling</p> <p>*an indication of tools and materials - written out or high-lighted</p>			<p>*researching real products (bread, safari jeeps, puppets) in class and looking at products online</p> <p>*communicate ideas for their designs discussing the purpose, function and appeal of the product</p> <p>*testing techniques of bread-shaping and experimenting with stitching for puppet project and experimenting with wheels and chassis in preparation for making a safari jeep</p> <p>*talk about the stages of making the product in pairs/as a class and record if able</p> <p>In books-</p> <p>*some form of research will be evident</p> <p>* a drawing of the design with some labelling</p> <p>* recording of tools and materials to be used</p> <p>*simple making steps</p> <p>*evidence of hygiene/safety considerations e.g. hygiene when bread-making</p>			<p>In general children should know the design process of looking at a current product and of what to think about when designing their own.</p> <p>They should be drawing their designs and beginning to add labelling, tools and materials and should be able to break down the making stages of their product. They should be thinking about the intention of the product and reflect on if it met a simple set of design criteria through evaluation of their own and others' products.</p> <p>Y1 Playgrounds Knowledge</p> <p>*how different types of playground equipment moves- pivots and levers</p> <p>*the strength in a triangle and how to make a frame stable and strong</p> <p>Skills</p> <p>*using ball and stick construction kits</p> <p>* using dough and straws and cards and tape and paper clips to make structures</p> <p>Y1 Moving Pictures Knowledge</p> <p>*how wheels, sliders and levers are used in picture books/cards</p> <p>Skills</p> <p>*how to make their own moving lever/slider/wheel moving picture using card and split pins</p> <p>Y1 Fruit Salad Knowledge</p> <p>* which animal/plant some foods come from and how they grow</p> <p>*food groups</p> <p>*healthy food choices</p> <p>*food hygiene</p> <p>*thinking about appearance, taste and presentation</p> <p>Skills</p> <p>*using a table knife to cut fruit safely</p>
<p>Make</p> <p>*Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</p> <p>*Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p>	<p>*using Ball and Stick geometry kits to make practise playground furniture before making a real piece of playground equipment using lolly sticks, tape and paper clips, using scissors and Sellotape dispensers</p> <p>* using card and split pins to make wheel, slider and lever mechanisms in a picture, discussing use of card over paper for strength etc.</p> <p>*using food stuffs and learning how to cut safely with table knives</p> <p>In books-</p> <p>*photos of making process/finished product</p> <p>*note of tools and materials needed</p>			<p>*learning how to knead and shape dough, using spoons, flour shakers, rolling pins, cutters etc to make bread</p> <p>*using a range of materials and needles and a range of stitches and thread to sew puppets together</p> <p>* using a range of wooden, cardboard and plastic resources to make wheels and a cab structure for the safari jeep</p> <p>In books-</p> <p>*photos of making process/finished product</p> <p>*note of tools and materials needed</p>			<p>Y2 Bread-making Knowledge</p> <p>*bread history</p> <p>*bread-making process from farm to shop</p> <p>*different types of bread</p> <p>*the effect of yeast</p> <p>*food hygiene and safety in the kitchen when using the oven</p> <p>Skills</p> <p>*how to knead dough and form different shapes like knots and plaits</p> <p>Y2 Puppet Making Knowledge</p> <p>*different types of puppets and how they are operated</p> <p>Skills</p> <p>*how to stitch an over stitch, running stitch and how to sew a button on to fabric</p> <p>*how to cut fabric</p>
<p>Evaluate</p> <p>*Explore and evaluate a range of existing products</p> <p>*Evaluate their ideas and products against design criteria</p>	<p>*researching real products (playground equipment, moving picture books, fruit salads) in class or in the outdoor environment and looking at products online</p> <p>*reflecting on their design - how did it look? How did it perform (did it do what it was meant to do?) What did you like about it? What would you do differently next time?</p> <p>In books-</p> <p>*simple evaluation questions and answers</p>			<p>*researching real products (bread, safari jeeps, puppets) in class and looking at products online</p> <p>*reflecting on their design - how did it look? How did it perform (did it do what it was meant to?) What did you like about it? What would you do differently next time?</p> <p>In books-</p> <p>*evaluation questions and answers</p>			<p>Y2 Safari Jeep Knowledge</p> <p>*different types of vehicles and their features</p> <p>*how wheels and axles work</p> <p>*how to construct a cab for the vehicle</p> <p>Skills</p> <p>*making wheels and axles for the safari jeep that will move over different terrain</p> <p>*making a sturdy cab for the jeep out of card</p> <p>Science - investigating making strong bridges from paper and card using layers, weight and triangular structures</p> <p>In science - chocolate - understanding process of cocoa bean to shop and finding out about Fair Trade</p>
<p>Technical Knowledge</p> <p>*Build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>*Explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products</p>	<p>*exploring triangles as strong structures for the playground equipment</p> <p>*exploring sliders, wheels and levers in their moving picture project</p>			<p>*making a strong cab and chassis for the safari jeep</p> <p>*Science - investigating making strong bridges from paper and card using layers, weight and triangular structures</p>			<p>*bread-making process from farm to shop</p> <p>*different types of bread and adding ingredients to make it sweet or savoury bread</p> <p>*the effect of yeast - all during bread-making project</p> <p>*talking about hygiene and safety when preparing food</p> <p>*In science - chocolate - understanding process of cocoa bean to shop and finding out about Fair Trade</p> <p>*Talking about healthy foods and drinks and making healthy food promotion pamphlets</p>

			PSHE-Talking about healthy foods and drinks and making healthy food promotion pamphlets
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Toner Avenue School - DT Programme of Study Coverage, Skills, Knowledge and End Points for Lower Key Stage Two

DFE DT Programme of Study Criteria	Year Three Projects Iron Age Moving Scene Iron Age Footwear Pizza-making	Year Four Projects Greek Salad Portable Light Source Egyptian Shadufs Science - looking at electricity circuits with bulbs	Lower KS2 End Points <i>' the knowledge and skills a child should now have as they leave this key stage'</i>
<p>Design</p> <p>*use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</p> <p>*generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	<p>*researching real products (levers and pivots, footwear, pizzas) in class and looking at products online</p> <p>*communicate ideas for their designs discussing the purpose, function and appeal of the product</p> <p>*making mock ups/templates of levers and shoes</p> <p>*talk about the stages of making the product in pairs/as a class and record them</p> <p>In books-</p> <p>*some form of research will be evident</p> <p>* a drawing of the design with labelling</p> <p>* recording of tools and materials to be used</p> <p>* recording of tools and materials to be used</p> <p>* making steps</p> <p>*evidence of hygiene/safety considerations e.g. hygiene when making pizza</p>	<p>*researching real products (salads, portable light source) in class and looking at products online (shaduf videos) and evaluating them as products</p> <p>*communicate ideas for their designs discussing the purpose, function and appeal of the product</p> <p>*talk about the stages of making the product in pairs/as a class and record making stages</p> <p>In books-</p> <p>*some form of research will be evident</p> <p>* a drawing of the design with labelling</p> <p>* recording of tools and materials to be used</p> <p>* making steps</p> <p>*evidence of hygiene/safety considerations e.g. hygiene when making salads</p>	<p>In general children should now be confident with the design process of looking at a current product and of what to think about when designing their own. They should be drawing their designs and add labelling, tools and materials and should be able to break down the making stages of their product. They should be thinking about the intention of the product and reflect on if it met a set of design criteria through evaluation of their own and others' products.</p> <p>Y3 Lever/pivot pictures Knowledge</p> <p>* build on Y1 levers/slider/wheel knowledge and begin to incorporate two of these components into a moving Iron Age scene</p> <p>Skills</p> <p>*making and combining two movements such as wheels, pivots and sliders to make a moving scene scene using card and split pins</p> <p>*Y3 Iron Age footwear Knowledge</p> <p>*finding out about the history of footwear</p>
<p>Make</p> <p>*select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>*select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p>	<p>*using a range of materials to make an iron age item of footwear, cutting and shaping it and using hole punches and laces to thread shoe</p> <p>*choosing ingredients for bread-making</p> <p>*using knives to chop ingredients and recapping on kneading techniques from Y2</p> <p>*using card, hole punches and split pins to make moving souvenirs</p> <p>In books-</p> <p>*photos of making process/finished product</p> <p>*note of tools and materials needed</p> <p>* making steps</p>	<p>*using knives to chop ingredients</p> <p>*making the portable light source from a range of materials</p> <p>*using a range of materials to make a shaduf</p> <p>In books-</p> <p>*photos of making process/finished product</p> <p>*note of tools and materials needed</p> <p>* making steps</p>	<p>Skills</p> <p>*cutting and shaping material and sewing it together</p> <p>*building on sewing skills in Y1 when making footwear</p> <p>Y3 Pizza-making Knowledge</p> <p>*the history of pizza</p> <p>* recalling dough knowledge from Y2 bread-making and applying it to pizzas</p> <p>*thinking about taste and appearance of a product</p> <p>*knowledge of different types of dough e.g. gluten free</p> <p>Skills</p> <p>*kneading and shaping dough</p> <p>*building on knife skills from Y1 and cutting with minimal supervision</p>
<p>Evaluate</p> <p>*investigate and analyse a range of existing products</p> <p>*evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>*understand how key events and individuals in design and technology have helped shape the world</p>	<p>*researching real products (levers and pivots, footwear, pizza) in class and looking at products online</p> <p>*reflecting on their design - how did it look? How did it perform (did it do what it was meant to do?) What did you like about it? What would you do differently next time?</p> <p>In books-</p> <p>*detailed evaluation questions and answers</p> <p>*finding out about how different civilizations have changed footwear through time</p>	<p>*researching real products (salads, portable light source) in class and looking at shadufs online</p> <p>*reflecting on their design - how did it look? How did it perform (did it do what it was meant to?) What did you like about it? What would you do differently next time?</p> <p>In books-</p> <p>*detailed evaluation questions and answers</p> <p>*finding out how the invention of the shaduf changed sourcing water for ancient civilisations</p>	<p>Y4 Greek Salad Knowledge</p> <p>* finding out about the origin of foods in a Greek salad</p> <p>*knowing what seasonality is</p> <p>*thinking about taste and appearance of a product</p> <p>Skills</p> <p>*building on knife skills from Y3 and cutting independently</p> <p>Y 4 Portable light Source Knowledge</p> <p>*knowledge of electrical circuits and how to incorporate them into a design</p> <p>*how different light sources are operated e.g. wind-up torches, solar torches</p> <p>Skills</p> <p>*attaching parts of a circuit together and incorporating it into a product</p>
<p>Technical Knowledge</p> <p>*apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>*understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>*understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p>	<p>*making the Iron Age footwear strong</p> <p>*making levers/pivots strong enough to move repeatedly</p>	<p>*making a strong structure for a shaduf</p> <p>*making a holder for the circuit in the light source</p> <p>*using levers and linkages in their Iron Age moving scenes</p> <p>*Science - finding out about light circuits and the effect of adding more bulbs</p> <p>*Using a circuit with a bulb in a portable light source</p>	<p>Y4 Egyptian Shadufs Knowledge</p> <p>*finding out how the invention of the shaduf changed sourcing water for ancient civilisations to present day</p>

<p>*apply their understanding of computing to program, monitor and control their products.</p>			<p>*building on knowledge of 2D pivots and levers from Y1 and Y3 and progressing to 3D models Skills *making a 3D pivot/lever product</p>
<p>Cooking and Nutrition</p> <p>*understand and apply the principles of a healthy and varied diet</p> <p>*prepare and cook a variety of predominantly savoury dishes using a variety of predominantly dishes using a range of cooking techniques</p> <p>*understands seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>*find out about the history of pizza *find out about different doughs- eg. gluten free dough *try different pizza toppings and evaluate them *talking about hygiene and safety when preparing food</p>	<p>*talking about hygiene and safety when preparing food *finding out about the origin of Greek salad ingredients *knowing what seasonality is</p>	

Toner Avenue School - DT Programme of Study Coverage, Skills, Knowledge and End Points for Upper Key Stage Two

DFE DT Programme of Study Criteria	Year Five Projects Viking Pulley Moon Buggy Bridges Brazilian Stew	Year Six Projects Self-propelled boat Anderson Shelter Spring Rolls PSCHE- Fairtrade	Upper KS2 End Points ‘ the knowledge and skills a child should now have as they leave this key stage’
<p>Design</p> <p>*use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</p> <p>*generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	<p>*researching products/designs (Viking pulley, moon buggy, bridges) online *looking at famous bridges locally and worldwide. *looking at pulleys used by miners, Egyptians, Vikings etc. *communicate ideas for their designs discussing the purpose, function and appeal of the product *making mock ups/templates of pulleys/bridges *talk about the stages of making the product in pairs/as a class and record them In books- *some form of research will be evident * a drawing of the design with labelling * recording of tools and materials to be used * recording of tools and materials to be used * making steps *evidence of hygiene/safety considerations e.g. hygiene when making stew</p>	<p>*researching real products (boats, Anderson shelters, spring rolls) in class and looking at products online and evaluating them as products *communicate ideas for their designs discussing the purpose, function and appeal of the product *talk about the stages of making the product in pairs/as a class and record making stages In books- *some form of research will be evident * a drawing of the design with labelling * recording of tools and materials to be used * making steps *evidence of hygiene/safety considerations e.g. hygiene when making spring rolls</p>	<p>Children should:</p> <p>* be confident with the design process of looking at a current product and of what to think about when designing their own. They will consider function, aesthetics and the needs of the end-user. * be drawing their designs and add labelling, tools and materials and should be able to break down the making stages of their product. * be competent when choosing from and using a wide range of resources and know which tools to use to alter them. * have an understanding of pulleys, levers, linkages, pivots and electrical circuits and computer-aided design and how to strengthen a structure and how to apply them to a design. * know how to make prototypes and mock-ups of designs and should consider safety measures for each project they undertake. *know how food is grown, reared and processed, where it comes from and know about seasonality and healthy choices related to food. * be thinking about the intention of the product and reflect on if it met a set of design criteria through evaluation of their own and others’ products. * be confident in the fact that things not going as expected are normal and part of every design process and that these are not failures but learning opportunities * be aware of the change in designs over time such as footwear and bridges and know some of the designers and civilisations that have influenced these products/designs.</p>
<p>Make</p> <p>*select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>*select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p>	<p>*using a range of materials to make a pulley and and a bridge *looking into identifying shapes used to strengthen bridges and Challenge sticker about structural engineer skills. *choosing ingredients for a Brazilian stew, looking at seasonality and where they grow *using knives to chop ingredients for the stew In books- *photos of making process/finished product *note of tools and materials needed * making steps</p>	<p>*using sharper knives to chop and slice ingredients finely for the spring rolls and precise rolling and folding *using a range of resources to make a moving boat , cutting the styrofoam with craft knives *finding out about strength in curves when making Anderson Shelters using a range of resources In books- *photos of making process/finished product *note of tools and materials needed * making steps</p>	<p>Y5 Viking Pulley Knowledge *know about pulleys through history * know what a pulley is and how to make it Skills *know how to make a pulley that will lift a weight Y5 Moon Buggy Knowledge * how to follow the instructions to build a programmable toy and how to code to control it Skills *fine motor control when assembling parts of buggy</p>
<p>Evaluate</p> <p>*investigate and analyse a range of existing products</p> <p>*evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>*understand how key events and individuals in design and technology have helped shape the world</p>	<p>*researching bridges, Brazilian foods, pulleys and moon buggies online *reflecting on their design - how did it look? How did it perform (did it do what it was meant to do?) What did you like about it? What would you do differently next time? In books- *detailed evaluation questions and answers *finding out about how different civilizations (Vikings, Egyptians, and miners have used pulleys and constructed bridges through time *looking at famous bridges locally and worldwide and their designers *testing bridge strength, moon buggies in different terrains, pulley strength etc.</p>	<p>*researching products/designs (boats, Anderson shelters, spring rolls) online and in class *reflecting on their design - how did it look? How did it perform (did it do what it was meant to do?) What did you like about it? What would you do differently next time? In books- *detailed evaluation questions and answers *finding out how the invention of the Anderson shelter saved lives *finding out about boat making history *testing products such as the boats on water and dropping a weight on the Anderson shelter</p>	<p>Skills *fine motor control when assembling parts of buggy Y5 Bridges Knowledge *history of bridge making and famous engineers Skills * building on Y2 bridge making by making bigger and stronger bridges with shape and tension components Y5 Brazilian Stew Knowledge * know about seasonality and the impact of global food travel *knowledge of how foods are grown and processed</p>

<p>Technical Knowledge</p> <ul style="list-style-type: none"> *apply their understanding of how to strengthen, stiffen and reinforce more complex structures *understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] *understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] *apply their understanding of computing to program, monitor and control their products. 	<ul style="list-style-type: none"> *making strong bridges using triangle frames and tension *making pulleys that can hold weight *making a programmable toy and operating it through computer coding. 	<ul style="list-style-type: none"> *using skills to make a stable boat * making an elastic band or motor powered mechanism for a boat *making a strong curved frame for an Anderson shelter and incorporating a light bulb 	<p>Skills</p> <ul style="list-style-type: none"> *claw cutting technique when chopping ingredients <p>Y6 Propelled Boats</p> <p>Knowledge</p> <ul style="list-style-type: none"> * knowledge of boat building history through time <p>Skills</p> <ul style="list-style-type: none"> *how to make a floating boat that includes self propulsion *using glue guns and craft knives under close supervision <p>Y6 Anderson Shelter</p> <p>Knowledge</p> <ul style="list-style-type: none"> *history of Anderson shelters and other war shelters * strength through curves linked to previous bridge knowledge <p>Skills</p> <ul style="list-style-type: none"> *how to make a strong curved structure and include a light source through previous circuit-making <p>Y6 Spring Rolls</p> <p>Knowledge</p> <ul style="list-style-type: none"> * know about seasonality and apply it to a dish <p>Skills</p> <ul style="list-style-type: none"> *more precise chopping and slicing skills built upon from previous food projects *precise rolling and folding of rice paper
<p>Cooking and Nutrition</p> <ul style="list-style-type: none"> *understand and apply the principles of a healthy and varied diet *prepare and cook a variety of predominantly savoury dishes using a variety of predominantly dishes using a range of cooking techniques *understands seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. 	<ul style="list-style-type: none"> *finding out about seasonality around the world and how foods grow in relation to ingredients in a Brazilian stew and links to British foods *looking at the environmental impact of eating less meat *looking at the advantage and the disadvantages of foods being available from all over the world *looking at a balanced plate of foods and trying to include ingredients from each section into the stew * making a Brazilian feijoada stew *talking about hygiene and safety when preparing food 	<ul style="list-style-type: none"> *talking about hygiene and safety when preparing food *seasonality in the UK and thinking of what is in season to use as ingredients when making spring rolls <p>PSCHE - *understanding the impact of Fairtrade looking at balanced diet and healthy plate portions</p>	

