

Design & Technology – Year 3 - Autumn Term – Design & Create Stone Age Recipe

Cooking


Key Vocabulary:

Sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, texture, taste, sweet, sour, mix, stir, chop, hygiene, edible, Stonehenge, prey, species, appearance, fruit, honey, seeds, nuts, berries.

National Curriculum	Week	NC - Coverage	Skills Taught Disciplinary (Why) Procedural (How)	Knowledge Factual	Activity Outline
<p>Key stage 2 Pupils should be taught to:</p> <p><u>Design</u> 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><u>Make</u></p>	1-2	<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>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> <p>Investigate and analyse a range of existing products</p>	<p>I know why it's important to generate ideas, considering the purposes for which I am designing.</p>	<p>I know that in history stone age recipes and food would have been hunted/gathered/farmed.</p> <p>I know that people who lived during the early Stone Age were called hunter-gatherers. This was because they had to hunt animals, fish, and gather wild food that they could find in season.</p> <p>I know that the origins of food types grow in a particular area depending on a range of factors, such</p>	<p>Give children the opportunity to fact find and research various foods that were eaten during the Stone Age. Get children to analyse the overall diet of the Stone Age people.</p> <p>Allow children to create a mind map of the food types they research. Remind children that food is either caught, reared, or grown. Can they sort some of the foods they have found into the three categories?</p> <p>Discuss what is meant by the term seasonality.</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>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>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</p>				<p>as the rainfall, climate and soil type.</p>	<p><i>Seasonality of food refers to the times of the year when a given type of food is at its peak, either in terms of harvest or its flavour. This is usually when the product is cheapest and freshest on the market</i></p> <p>Look at various different fruits etc used within the Stone Age and discuss the seasonality of all. What might the Stone Age individuals have used the most and why? Consider the conditions they are grown in.</p> <p>Explain to children the intended user is an individual who lived in the Stone Age. Can they suggest simple recipe ideas and why those ingredients would be appropriate? Can they suggest ways in which they might cook their meals similar to how they would have in the Stone Age. What is the purpose of the meal? Get them to consider the effect that the meal will</p>
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<p>example, gears, pulleys, cams, levers and linkages</p>					<p>have to have on the individual who hunts etc.</p>
<p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</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>I know why it is important to generate ideas for an item, considering its purpose and the user/s.</p>	<p>I know that the food's appearance is how it looks to the eye.</p>	<p>What is a design criteria? Why is it important when designing? Model creating a design criteria.</p>
<p>Apply their understanding of computing to program, monitor and control their products</p>			<p>I know why it is important to plan the order of my work before starting.</p>	<p>I know that at the centre of fruits are pips or seeds.</p>	<p>Give children the opportunity in pairs to discuss and create their own design criteria. Ensure children know the importance of making the targets measurable and not opinionated.</p>
<p>Cooking Understand and apply the principles of a healthy and varied diet</p>	<p>3-4</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>I know that the food's texture is how the product feels in the mouth.</p>	<p>Discuss with children that they will be using a hob to simmer to boil and heat up their recipe – similar to a fire that would have been used during the Stone Age.</p>
<p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p>				<p>I know that honey starts as flower nectar collected by bees, which gets broken down into simple sugars stored inside the honeycomb.</p>	<p>Explain the various ingredients and finishing elements that the children have to choose from.</p>
<p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>				<p>I know that a recipe is a set of instructions followed to prepare a particular dish.</p>	<p>Remind children that it is important to make the product look appealing – what would look appealing to a Stone Age individual? How is this different to a meal now? Discuss the</p>
				<p>I know that sunflower seeds are largely produced in</p>	

				<p>Ukraine and can be harvested from the stalk of the flower.</p>	<p>importance of creating a balanced diet</p> <p>Allow children to design their meals using an exploded diagram - labelling key ingredients, tools and techniques used and what order they will do things in e.g slicing, simmering, grating.</p> <p>Exploded Diagram Example:</p> 
5	Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques	<p>I know why it is important to work safely and accurately with a range of simple tools.</p> <p>I know how to select appropriate tools and utensils and develop techniques for making my product, preparing and combining foods.</p>	<p>I know that a range of utensils can be used for a range of techniques to prepare ingredients hygienically including the bridge and claw technique, grating, peeling, chopping, slicing, mixing.</p> <p>I know that vegetables can be sliced using a knife within a bridge hold technique, to cut ingredients into smaller, more manageable pieces.</p>	<p>What techniques that we have previously used might we apply during this project? E.g Cutting, slicing, grating, and peeling</p> <p>What technique must we apply when cutting? Re-model the bridge technique. Ask children why this is important.</p> <p>What new techniques might we need to apply? E.g Boiling, Simmering</p> <p>Model using the hob safely and appropriately.</p> <p>Model new techniques – allow children the chance to</p>	

				<p>I know that foods have a variety of tastes – sweet or sour and there are different types of fruit – citrus, tropical, stone fruit and berries.</p>	<p>practise these techniques before applying them to their product.</p>
	<p>6-7</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 range of cooking techniques</p>	<p>I know how to select appropriate tools and techniques for making my product.</p> <p>I know why it is important to work safely and accurately with a range of simple tools.</p> <p>I know why it is important to think about my ideas as I make progress with my product and be willing change things if this helps me to improve my work.</p>	<p>I know that fruit needs to be thoroughly washed to remove harmful bacteria and micro-organisms that could contaminate foods.</p> <p>I know that wooden spoons can be used to stir ingredients and stop the contents from sticking to the saucepan when on heat sources.</p> <p>I know that simmering is a food preparation technique where foods are cooked in hot liquids just below the boiling point of water.</p>	<p>What are the principles of food preparation? How can we stay hygienic within the kitchen?</p> <p>Ask children what they can do with their design if they believe it is not making the progress, they wanted it do. Explain to children that during this process they can change and adapt their product if needed if they believe it will improve their product.</p> <p>Give children the opportunity to select the tools and ingredients they need. Remind children about portion control and the principles of a varied diet</p>

				<p>I know that boiling is the cooking of food by immersion in water that has been heated to near its boiling point</p>	<p>Support children where needed when using the hobs and equipment.</p>
	<p>8-9</p>	<p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p>	<p>I know how to evaluate my product against the original design criteria carrying out appropriate tests <i>e.g. how well it meets its intended purpose.</i></p>	<p>I know that I can use questionnaires to collect data from participants in relation to the taste of my product.</p>	<p>Ask children to look back to their design criteria – has it met the requirements? If not, why not?</p> <p>Allow children to discuss with one another any changes that they had made during the process and why they felt it was beneficial to do so for their product.</p> <p>Give children the opportunity to reflect and review their product based on its purpose – to provide energy for a Stone Age man. How has it done that? How does it support the principles of a varied diet?</p> <p>Children need to collect responses from the individuals around the</p>


					<p>classroom based on their product. Model creating several questions prompts to support. E.g Questions about the aroma, appearance, practicality etc.</p> <p>Children then should review the responses they have collected and reflect on what they might change or develop in the future.</p>

Design & Technology – Year 3 – Spring Term – Design & Create a Controllable Puppet

Sewing/Mechanical


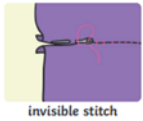
Key Vocabulary:

Cutting, joining, seam, stitches, sewing, product, buttons, needle, thread, fabric, join, pattern, template, running stitch, basting stitch, design criteria, measure, toy, doll, overlay stitch.

National Curriculum	Week	NC - Coverage	Skills Taught Disciplinary (Why) Procedural (How)	Knowledge Factual	Activity Outline
<p>Key stage 2 Pupils should be taught to: <u>Design</u> 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 Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	1-2	<p>Understand how key events and individuals in design and technology have helped shape the world 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 Generate, develop, model and communicate their ideas through discussion,</p>	<p>I know why it is important to generate ideas for an item, considering its purpose and the users. I know how to identify a purpose and establish criteria for a successful product. I know how to disassemble and evaluate familiar products.</p>	<p>I know that sewing by hand dates back to the old Stone Age around 3.3 million years ago. People used to sew with needles made from animal bones and thread made from animal veins and bits of muscle. I know that dolls were common throughout the ancient Mediterranean world. In the 500s B.C., Greek artisans began to produce a distinctive form of terracotta doll with separately-made arms and</p>	<p>Look at the ancient Roman doll/teddy  How has this ancient piece help shape the world of toys? What is similar and what is different to teddies and rag dolls now? Why might it be different? Show children various pictures and physical teddies and rag dolls from different eras. Get</p>

<p><u>Make</u> 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><u>Evaluate</u> 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><u>Technical knowledge</u> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products [for</p>		<p>annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Investigate and analyse a range of existing products</p>		<p>legs, which were attached with string.</p> <p>I know that a puppet is an object, often resembling a human, animal or mythical figure, that is animated or manipulated by a puppeteer. The puppeteer uses movements of their hands, arms, or control devices such as rods or strings to move the body, head, limbs, and in some cases the mouth and eyes of the puppet.</p>	<p>children to analyse what:</p> <ul style="list-style-type: none"> • Construction method has been used to join the materials • Finishing techniques have been applied e.g buttons • Materials have been used <p>Get children to discuss what they like and dislike about each product, what elements may they apply to their product?</p> <p>Explain to the children that they're intended user will be for a child of Reception age. Collect suggestions from children in regards to the purpose of the teddy/rag doll to the child? Comfort or for fun and play?</p> <p>How can we find out what a 5-year-old might want in teddy and rag doll? Encourage children to think about asking children what they like, dislike and appeals to them in a teddy or rag doll.</p>
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<p>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>Let children go down to Reception and collect some user research and ask questions that will support them in their design process.</p>
<p>Apply their understanding of computing to program, monitor and control their products</p> <p>Cooking</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 range of cooking techniques</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>3</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>I know why it is important to plan the order of my work before starting.</p> <p>I know why it is important to explore, develop and communicate design proposals by modelling ideas.</p> <p>I know how to make drawings with labels when designing.</p> <p>I know why it important that my product follows a design criteria and how it can be used to create a product.</p>	<p>I know that Greek puppets were used for processions, religious events and in public theatres for entertainment.</p>	<p>Allow children to develop their own design criteria. Remind them of the importance of it being measurable and not opinionated.</p> <p>Re-discuss the intended purpose (this may vary for each child) and the user.</p> <p>How big are we going to want the teddy/rag doll? Give children the opportunity to create a prototype of their product. Measuring, marking and cutting the body, arms, legs and head of their product. Children to reflect on the size they have chosen. Do they want to adapt it before they design their product?</p>

					<p>Remind children of the stitches that they already know e,g Running and basting</p>  <p>Explain and model to children that they will learn a new stitch which they can apply to their products – An Invisible Stitch.</p> <p>Ask children why this might be appropriate for their product? How might it improve the aesthetic of their product?</p>  <p>Children to design their products – labelling key techniques, materials, stuffing and finishing elements used.</p>
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	<p>4-5</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>I know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.</p> <p>I know how to join and combine materials and components accurately in temporary and permanent ways.</p> <p>I know how to sew using a range of stitches, weave and knit.</p> <p>I know how to successfully use scissors to cut and use measuring tape to measure pieces of fabric accurately to make templates.</p>	<p>I know that I will need to push my thread through the eye of the needle and secure my stitch with a knot at the end of the thread.</p> <p>I know that running stitch is the basic stitch in hand-sewing and embroidery, where the stitch is worked by passing the needle in and out of the fabric at a regular distance.</p> <p>I know that the basting stitch, known as tacking, is just a temporary stitch to hold several pieces in place.</p>	<p>Model measuring and pinning materials together. Why would we pin the materials together? How does it help when you come to sew?</p> <p>Recap previous stitches – running and basting. Give children the chance to practise this on scrap material.</p> <p>Model the new stitch – invisible stitch. Explain to children that to do this they need material that will go on the inside of the teddy/rag doll and therefore the sewing will not be seen.</p> <p>Children to practice the invisible stitch on scrap material – circle the room and support where needed.</p> <p>Remind children that it is ok to adapt their plan/design if it improves my work e.g changing the</p>
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					sewing technique used to better suit the appearance of the end product
	6-7	<p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>Apply their understanding of computing to program, monitor and control their products</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</p>	<p>I know how to make drawings with labels when designing.</p> <p>I know how to securely join two pieces of fabric together using a range of glue and stitch techniques – basting and running stitch.</p>	<p>I know that a labelled diagram is a drawing that visualises a concept with labels of the main features.</p>	<p>Remind children of the intended user and purpose. What do we mean by the aesthetic of the product? How can we ensure that appeals to the user?</p> <p>Give children the opportunity to measure, mark out and cut the materials they need for their rag doll/teddy.</p> <p>Remind children of how to use the tools safely during the process of creating their product.</p> <p>Allow children to make their product – support with sewing and using tools where needed.</p>

		<p>diagrams, prototypes, pattern pieces and computer-aided design</p>			
	<p>8-10</p>	<p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</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</p>	<p>I know how to measure, mark out, cut, score and assemble components with more accuracy.</p> <p>I know why it is important to work safely and accurately with a range of simple tools.</p> <p>I know why it is important to think about my ideas as I make progress with my product and be willing change things if this helps them improve their work.</p>	<p>I know that threading a needle requires a steady hand and patience, as the thread will need to pass through the eye of the needle.</p> <p>I know that I must mark our pieces of material using measuring tape and cut using scissors.</p>	<p>Ask children to reflect back their design criteria – what did they meet, what did they not? Can they identify any reasons as to why they didn't meet certain criterions.</p> <p>Give children the chance to self-evaluate their own product and then go and collect feedback from their group of intended users in regard to their appearance etc.</p> <p>What skills were you good at? What skills did you need to develop? How will you improve next time?</p>

		functional properties and aesthetic qualities	I know how to use a variety of stitches to assemble my chosen material.	I know that finishing techniques strengthen and improve the appearance of their product.	What would you have done differently. Ensure that children can justify their reasons for their answers.
	11-12	Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work	I know how to evaluate my product against the design criteria and suggest improvements.	<p>I know that I am able to use questionnaires to collect data from my peers.</p> <p>I know that to evaluate the effectiveness of my product, I can use the data collected and collate within bar charts to analyse.</p>	<p>Evaluation</p> <p>Questionnaire Feedback</p> <p>Analyse Questionnaire Feedback</p> <p>Self-Evaluation – Skills Development</p>

Design & Technology – Year 3 – Summer Term – Design & Create Light up Picture					
<u>Mechanical/Electrical</u>					
<u>Key Vocabulary:</u>					
Bulb, circuit, switch, battery, prototype, wire, electrical system, safety, LED, input and output device, labelled and annotated diagram, insulator and conductor, cut, tools, join, assemble.					
National Curriculum	Week	NC - Coverage	Skills Taught Disciplinary (Why) Procedural (How)	Knowledge Factual	Activity Outline
<p>Key stage 2 Pupils should be taught to:</p> <p><u>Design</u></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>	1	<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</p>	<p>I know why it is important to generate ideas, considering the purposes for which they are designing.</p> <p>I know how to identify a purpose and establish criteria for a successful product, planning the order of my work before starting.</p> <p>I know why it is important to explore, develop and communicate design</p>	<p>I know that light is a type of energy that makes it possible to see something.</p> <p>I know that a light up picture will need a functioning circuit.</p> <p>I know that an electrical circuit is a complete path which electrical energy can flow through.</p>	<p>Identify Design Criteria</p> <p>Identify Intended User & Purpose</p> <p>Research Different Light Up Pictures</p> <p>Show children a variety of light up pictures. Ask children what they think successful light up pictures need.</p> <p>Explain the children they will be creating a similar light up picture or box to below. They must consider their design and intended user.</p>

<p><u>Make</u> 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><u>Evaluate</u> 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>diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Investigate and analyse a range of existing products</p>	<p>proposals by modelling ideas.</p>	<p>I know that in the 1800s, a man called Alessandro Volta created the first-ever battery which could provide a continuous flow of current. This source for a flow of current made the very first circuits a possibility.</p>	<p>How can they incorporate light to make them appealing?</p> 
<p>Understand how key events and individuals in design and technology have helped shape the world</p> <p>Technical knowledge Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products [for</p>	<p>2-3</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</p>	<p>I know how to identify a purpose and establish criteria for a successful product, planning the order of my work before starting.</p>	<p>I know that there are various components of a working circuit (science – wires, bulbs, crocodile clips, batteries etc).</p> <p>I know that a series circuit is made up of an energy source, such as a battery or cell, wires and a bulb. The circuit must be complete for the electricity to flow.</p>	<p>Investigate how electronic circuits work.</p> <p>Allow Children to identify different ways to create circuits for their light up picture, how will they control the flow of energy? – Explore a variety of switches.</p> <p><u>Electrical System Prototype</u></p> <p>Explain to children that electrical systems need an input, process and an</p>

<p>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>Apply their understanding of computing to program, monitor and control their products</p> <p>Cooking</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 range of cooking techniques</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>		<p>discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p>		<p>I know that an LED output device (LEDs) are able to transform electrical energy directly into light energy.</p>	<p>output. Remind children of basic electrical system knowledge.</p> <div data-bbox="1608 295 2027 438" data-label="Diagram"> <pre> graph LR Input[Input Electrical Energy] --> Motor[Electric Motor] Motor --> Output[Output Mechanical Energy] </pre> </div> <p>Explain to the children that they're system needs to have a switch to turn on the bulb.</p> <p>Allow children to practice putting together different electrical systems that are used to operate a bulb.</p> <div data-bbox="1742 810 1899 965" data-label="Image"> </div>
	<p>4-5</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>I know why it is important to generate ideas, considering the purposes for which they are designing.</p> <p>I know how to make drawings with labels when designing my product.</p>	<p>I know that products are designed for users based on criteria, and what simple criteria for a light up picture could be: the circuit should work successfully with the use of a switch to turn it on/off, the light bulb should be in the correct place, how can I hide the</p>	<p>Remind children of the intended user/s, design criteria and purpose. Why is it important that we continuously consider these when creating our design?</p> <p>Explain to children what the difference between functional and aesthetic is. Would the circuit be a functional or aesthetical element to your design? Would paint be a functional or aesthetical part of your design?</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>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p>		<p>wires and ensure it is safe?</p> <p>I know that a prototype is an early sample, model, or release of a product built to test a concept or process.</p>	<p>Give children the chance to design their product on the computer using Tinker CAD to create a 3D design.</p> <p>Give children the chance to list the different materials and tools they intend to use and whether they are aesthetical or functional use.</p>
	<p>6-8</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,</p>	<p>I know how to select tools and develop techniques for making my product.</p> <p>I know why certain steps are needed to make a light up picture and the equipment needed to support me in doing so.</p>	<p>I know that I will need to use scissors to cut materials, glue to join and use a ruler to effectively measure and combine materials.</p> <p>I know that I will need to include a functioning circuit in order for my picture to successfully</p>	<p>Create light up picture or box.</p> <p>Remind children that before starting to create their product they must measure and mark out the box in which their cam components will sit in. Model how to do this accurately.</p> <p>Gather ideas through class discussions e.g taping to reinforce, using extra cardboard where needed to stiffen.</p>

		<p>textiles and ingredients, according to their functional properties and aesthetic qualities</p>	<p>I know how to measure, mark out, cut, score and assemble components with more accuracy.</p> <p>I know how to work safely and accurately with a range of simple tools.</p> <p>I know why it is important to think about my ideas as I make progress and be willing change things if this helps me to improve my work.</p>	<p>light up and hide it within the materials I have selected.</p>	<p>When circling, remind children to reinforce and stiffen their base structure.</p> <p>Support children where needed when creating their product, reminding them continuously of the design criteria and that their product must be appealing to their intended user.</p>
	<p>9-10</p>	<p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p>	<p>I know how to evaluate products against my original design criteria and identify criteria that can be used for my own design and future products.</p>	<p>I know that I am able to use questionnaires to collect data, which will inform future projects.</p> <p>I know that to evaluate my product I will be judging or calculating the quality, importance, amount, or value of my product, focusing on the positive aspects and areas for improvement.</p>	<p>Get children to evaluate their final piece – did it meet the criteria, was it functional and fit for purpose? What would they improve next time? What affected them in not finishing it to the standard they wanted to e.g time management, skill development etc.</p> <p>Allow children to review other light up toys, what did they like that they might include on their work? Can they evaluate someone else’s product using post it notes to record.</p>

				I know that to evaluate the effectiveness of my product, I can use the data collected and collate within bar charts.	