


Termly Curriculum Learning Overview 2022-23

Year: Whole School	Term: Autumn	Subject: Design and Technology
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Key Elements	Nursery CONSTRUCTION	UFS CONSTRUCTION	Year 1 CONSTRUCTION: Mechanisms	Year 2 CONSTRUCTION: Shell Structures	Year 3 TEXTILES	Year 4 CONSTRUCTION: Shell structures	Year 5 FOOD TECHNOLOGY	Year 6 CONSTRUCTION: Mechanisms
	<p>Brief: To design and make a diya to help someone celebrate Diwali.</p>	<p>Brief: To design and make a firework decoration for Bonfire night.</p>	<p>Brief: To design and make a moving picture Christmas card to give to a family member.</p>	<p>Brief: To design and make a boat to be used to help people escape from the Great Fire of London.</p> <p>Focus Designer/Case study: Isambard Kingdom Brunel - ship designer</p>	<p>Brief: To design and make a fabric Christmas tree decoration, to be given to a family member as a gift.</p> <p>Focus Designer/Case study: Japanese Kawaii style</p>	<p>Brief: To design and make the packaging for a new confectionary product, to be sold in supermarkets.</p> <p>Focus Designer/Case study: Iconic Food Packaging</p>	<p>Brief: To design and make a Mexican street food dish which could be eaten at a Christmas party.</p> <p>Focus Designer/Case study: Thomasina Miers – chef and restaurant chain owner (Wahaca)</p>	<p>Brief: To design and make a marble run to be played with by primary school-aged children.</p> <p>Focus Designer/Case study: Mechanical Engineers (suggested: Archimedes, Edmund Cartwright, George Stephenson)</p>
EYFS/NC PoS	<p>Birth to three - Babies, toddlers and young children will be learning to:</p> <ul style="list-style-type: none"> • Explore different materials, using all their senses to investigate them. • Manipulate and play with different materials. • Use their imagination as they consider what they can do with different materials. • Make simple models which express their ideas <p>3 and 4 year olds will be learning to:</p> <ul style="list-style-type: none"> • Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Join different materials and explore different textures. 	<p>Physical Development ELG: Fine Motor Skills Children at the expected level of development will:</p> <ul style="list-style-type: none"> - Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases; - Use a range of small tools, including scissors, paint brushes and cutlery; - Begin to show accuracy and care when drawing. <p>Expressive Arts and Design ELG: Creating with Materials Children at the expected level of development will:</p> <ul style="list-style-type: none"> - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; 	<p>Design</p> <ul style="list-style-type: none"> • design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p>	<p>Design</p> <ul style="list-style-type: none"> • design purposeful, functional, appealing products for themselves and other users based on design criteria • generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p>Make</p> <ul style="list-style-type: none"> • select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] • select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p>	<p>Design</p> <ul style="list-style-type: none"> • 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>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, 	<p>Design</p> <ul style="list-style-type: none"> • 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>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according 	<p>Design</p> <ul style="list-style-type: none"> • 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>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional 	<p>Design</p> <ul style="list-style-type: none"> • 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>Make</p> <ul style="list-style-type: none"> • select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately • select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their

	<ul style="list-style-type: none"> • Create closed shapes with continuous lines, and begin to use these shapes to represent objects. <p>The three characteristics of effective teaching and learning are all extremely relevant in the implementation of the DT curriculum:</p> <ul style="list-style-type: none"> • playing and exploring - children investigate and experience things, and 'have a go' • active learning - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements • creating and thinking critically - children have and develop their own ideas, make links between ideas, and develop strategies for doing things 	<p>- Share their creations, explaining the process they have used;</p> <p>The three characteristics of effective teaching and learning are all extremely relevant in the implementation of the DT curriculum:</p> <ul style="list-style-type: none"> • playing and exploring - children investigate and experience things, and 'have a go' • active learning - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements • creating and thinking critically - children have and develop their own ideas, make links between ideas, and develop strategies for doing things 	<ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria <p>Technical Knowledge</p> <ul style="list-style-type: none"> • explore and use mechanisms [for example, levers, sliders, wheels and axels], in their products 	<ul style="list-style-type: none"> • explore and evaluate a range of existing products • evaluate their ideas and products against design criteria <p>Technical Knowledge</p> <ul style="list-style-type: none"> • build structures, explaining how they can be made stronger, stiffer and more stable 	<p>according to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world 	<p>to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world <p>Technical knowledge</p> <ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	<p>properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world 	<p>functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products • evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • understand how key events and individuals in design and technology have helped shape the world <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]
Vocabulary	<p>Subject Specific design</p> <p>Content Specific materials card join</p>	<p>Subject Specific designer</p> <p>Content Specific materials tools join</p>	<p>Subject Specific designer brief product</p> <p>Content Specific moving picture mechanism lever slider pivot</p>	<p>Subject Specific brief product user</p> <p>Content Specific engineer hull float buoyant water-proof</p>	<p>Subject Specific product user technology</p> <p>Content Specific Kawaii pattern piece whip stitch stuffing component</p>	<p>Subject Specific consumer modification</p> <p>(previous subject vocab will also need referencing)</p> <p>Content Specific net score computer-aided design (CAD) graphic design shelf-appeal</p>	<p>Subject Specific technique production</p> <p>(previous subject vocab will also need referencing)</p> <p>Content Specific spices tortillas tacos street food cross-contamination</p>	<p>Subject Specific innovation application of knowledge</p> <p>(previous subject vocab will also need referencing)</p> <p>Content Specific friction gravity mechanical engineer angle gradient</p>
Key questions / knowledge and facts to be recalled	<p><i>What is a design?</i> A design is a drawing of what you are going to make.</p> <p><i>Why is it a good idea to draw a design before making something?</i></p>	<p><i>What is a designer?</i> A designer is someone who decides on something that they want to make, then draws a picture of it, then makes it! Designers use their imagination and have to try and solve problems.</p>	<p><i>What kind of designs are found on Christmas cards?</i> Common designs include Santa, reindeer, angels, Christmas Trees etc. [This question should be posed to children and answered</p>	<p><i>Who was Isambard Kingdom Brunel and what did he design?</i> Brunel was a very talented and famous engineer who lived and worked in Britain 200 years ago. An engineer is a person who designs and builds useful things</p>	<p><i>What is Japanese Kawaii style?</i> Kawaii means 'cute' in Japanese. It has become a popular style in Japan and across the world, and Kawaii characters can be found in cartoons, toys, games</p>	<p><i>What is package design?</i> Package design is the creation of a container or wrapper for a product to be sold in. A package designer needs to think about the material, shape and</p>	<p><i>Who is Thomasina Miers?</i> Thomasina Miers is a chef and restaurant owner from London, she is 45 years old. She became famous after winning a TV cookery programme called Masterchef in 2005.</p>	<p><i>What is a marble run?</i> A marble run is a model consisting of a series of tracks/rails/chutes that allow a marble to roll down them until it reaches the bottom. Marble runs are usually sold as children's toys.</p>

<p>It's a good idea to create a design so that you can plan what you are going to do. Your work might turn out better if you have made a plan.</p> <p><i>What are materials?</i> Materials are the things you will use to make your product, for example paper, string, wood, card.</p> <p><i>How can we join things together?</i> Joining means sticking two things together. You can use things like glue, tape, paper clips and string to join things.</p>	<p>When we do DT we are all designers!</p> <p><i>What are materials and tools?</i> Materials are the things you will use to make you product, such as paper, wood and straws. Tools help you to do something, like scissors help you to cut and a pencil helps you to draw.</p> <p><i>How can we join materials together?</i> We can use different joining materials to join things together, like glue, tape, paper clips and string. You need to think about which joining material will work best for your product, to ensure it is strong and won't come apart.</p>	<p>through their own ideas/after research].</p> <p><i>What is a moving picture?</i> In a moving picture some parts can move, which brings the picture to life and makes it more fun/interesting.</p> <p><i>What is a mechanism?</i> A mechanism is something with moving parts that do something. In a moving picture, the moving parts are fixed to the background, but have a <u>mechanism</u> which lets them move.</p> <p><i>What is a lever/pivot?</i> A <u>lever</u> is a stick or long piece of card, which is fixed to the background with a split pin. The pin lets it turn around - this turning point is called a <u>pivot</u>. A moving part on a lever mechanism will move in a circular or an arch shape.</p> <p><i>What is a slider?</i> A <u>slider</u> is a mechanism which can move up and down or from left to right in a straight line. A slit is cut in the background, then a picture on a stick is inserted, which can slide back and forth along the slit.</p>	<p>like machines or structures. Brunel designed tunnels, bridges and railways. He also designed huge ships which sailed all over the world. His designs helped people and changed Britain.</p> <p><i>What is the hull of a boat?</i> The hull is the main body of a boat – the bottom/sides/deck.</p> <p><i>What are the design features of boats?</i> To be explored/ discussed by children during research – e.g. they need to float, they need to be stable, some have sails, some have oars, they have places for people/cargo etc.</p> <p><i>How can we test if a material is buoyant and waterproof?</i> To be completed as a Science investigation by placing a variety of materials into water e.g. wood, paper, fabric, foil, plastic bottles etc.</p> <p><i>Which materials are most suitable to make a boat?</i> To be determined by outcome of experiment.</p>	<p>and on clothing and accessories.</p> <p><i>How can a textile designer create a Kawaii-style design?</i> Kawaii characters usually have bright colours, simple shapes, large heads, wide-set eyes and button noses/small mouths.</p> <p><i>What is a pattern piece?</i> A pattern piece is a paper template which is used to then cut out fabric pieces.</p> <p><i>What are textile components?</i> Textile components are things which can be added onto textile products. Some are for decoration and some have a function.</p> <p><i>What is whip stitch?</i> Whip stitch is often used for closing up the sides of something. The needle is passed in and out of the fabric in a series of stitches that circle an edge/edges of the fabric</p> 	<p>decoration used on the packaging.</p> <p><i>What is graphic design?</i> Graphic design is the text and pictures found on things such as adverts, labels and packaging.</p> <p><i>What is meant by 'shelf appeal' and why is it important?</i> Shelf appeal means that a product stands out when you see it on the shelf in a shop: it looks appealing so consumers want to buy it, rather than a different product. Designers need to consider shelf appeal when designing the packaging for a product</p> <p><i>How is a box net created?</i> A box net is a flat drawing of the faces of a 3D shape, which can be cut out and folded to make that 3D shape. It will include tabs, which are used to stick it together more easily. Some of the lines of the net will need to be scored. Scoring means scratching a line along the surface of the paper, to allow it to be folded more easily/ accurately.</p> <p><i>What is computer-aided design?</i> Computer-aided design (CAD) is using a computer to help you create a design. For example, you could use drawing software such as Microsoft Paint to help you to draw your</p>	<p>Despite being British, she has a passion for Mexican cuisine, and she owns a chain of Mexican street food restaurants called Wahaca: https://www.wahaca.co.uk/mexican-menu-full/</p> <p><i>What is street food?</i> Street food is food cooked and sold in the streets, for people to eat immediately, on the go. Mexico is famous for its street food, called 'antojitos' in Spanish, which means 'little cravings'. Typical Mexican street foods include tacos, empanadas, tamales, quesadillas and nachos.</p> <p><i>What are tacos?</i> Tacos are a popular Mexican street food dish. They are made of a small wheat or corn tortilla with a variety of fillings. The tortilla is known as a taco 'shell' and can be hard or soft. Fillings include meat, fish, cheese and beans. Tacos are topped with sauces and garnish such as salsa, guacamole, sour cream, salad and fresh coriander.</p> <p><i>What spices are found in Mexican cuisine?</i> A spice is a dried, ground part of a plant that adds flavour to food. The spices used most in Mexican cuisine are coriander, cumin, cayenne pepper, chipotle chilli powder, oregano, garlic powder, onion powder.</p>	<p><i>What is a mechanical engineer?</i> A mechanical engineer designs and makes mechanical systems (a mechanical system is a machine with moving parts that are acted upon by a force and create an output that does something useful) or machines. They need an understanding of the science of mechanics and principles of Mathematics, which is then applied to create useful things. When designing and making your marble run, you will become a mechanical engineer. You will need to think about what you know about friction and gravity, and also apply your knowledge of angles from Maths, in order to create a successful product.</p> <p><i>How have mechanical engineers changed the world we live in throughout history?</i> Innovations in mechanical engineering have impacted hugely on the world we live in and made human tasks and activities easier and more effective. Archimedes (Archimedes screw, weapons, pulley systems) Edmund Cartwright (power loom) George Stephenson (railways)</p> <p><i>What is gravity and why does a mechanical engineer need to consider its action?</i> Gravity is an invisible force that pulls objects toward each other. Earth's gravity</p>
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						design neatly and accurately.	<p><i>What is cross-contamination?</i> Cross contamination is where bacteria are transferred from one substance to another. Bacteria can be transferred from people to food, from equipment to food, or from raw to cooked food. It is very important to keep raw and cooked foods, especially meats, apart. Contaminated foods can cause food poisoning</p>	<p>is what keeps you on the ground and what makes things fall. In a marble run, gravity is what makes the marbles roll downwards. The stronger the force of gravity, the quicker the marble will roll. Applying this scientific knowledge will allow for the creation of a better product.</p> <p><i>What is friction and why does a mechanical engineer need to consider its action?</i> Friction is a force that acts between two objects, when they rub against each other. Friction is the resistance of motion, therefore it can stop an object from moving. In a marble run, the tracks need to be just steep enough, so that the force of gravity is greater than the force of friction, so the ball keeps rolling. If the force of friction is greater, then the ball will stop rolling. Some friction will be helpful, however, to keep the marble on the track and to stop it from rolling too fast. Applying this scientific knowledge will allow for the creation of a better product.</p>
Suggested Lesson Sequence	<p>1. Design Brief and Research</p> <ul style="list-style-type: none"> • Show design brief and discuss what they are going to design and make. • Explore a range of divas (real or pictures) and discuss their shape/features/ construction etc. <p>2. Design</p>	<p>1. Design Brief and Research</p> <ul style="list-style-type: none"> • Show design brief and discuss what the product is and how they will become a designer. • Explore a range of fireworks and discuss their shape/features/ construction etc. • Discuss what materials could be used to make a firework decoration. <p>2. Design</p>	<p>1a. Design Brief and Product Research</p> <ul style="list-style-type: none"> • Show design brief and discuss what the product is and how they will become a designer. • Explore a range of moving pictures in books. • Explore a range of Christmas cards to see what designs are used. <p>1b. Materials/Skills Research</p>	<p>1a. Design Brief and Product Research</p> <ul style="list-style-type: none"> • Show design brief and discuss what the product is and who the user is. • The children will become boat designers for this project. Briefly look at Isambard Kingdom Brunel. Discuss how designers can have a big impact upon the world. 	<p>1a. Design Brief and Product Research</p> <ul style="list-style-type: none"> • Show design brief and discuss the product/ purpose/user. We will be textile designers for this project. • Explore some fabric Christmas decorations to find out what features they have – materials, construction, design etc. 	<p>1a. Design Brief and Product Research</p> <ul style="list-style-type: none"> • Show design brief and discuss the product/ purpose/user or ‘consumer’. • Explore iconic food packaging (mixture of pictures and actual packaging if possible). These products have all become famous in part due to their packaging design - explore what might be appealing/ 	<p>1a. Design Brief and Product Research</p> <ul style="list-style-type: none"> • Show design brief and discuss the product/ purpose/user. • What do children know about Mexican food? Do they know what street food is? • Look at definition of street food – what street foods do we eat in the UK? Show examples of popular Mexican street foods – ‘antojitos’. 	<p>1a. Design Brief and Product Research</p> <ul style="list-style-type: none"> • Show design brief and discuss the product/ purpose/user. • Define mechanisms/ mechanical engineering. Look briefly at famous mechanical engineers and what they invented/how this impacted upon the world. • Look at example marble runs both real-life and Youtube videos. What

<ul style="list-style-type: none"> Recap design brief and what was learned from research. Model drawing a simple picture to show what your diva will look like. Children to draw their designs. <p>3. Make</p> <ul style="list-style-type: none"> Ensure children have their designs in front of them. Demonstrate how to make the diva, using salt dough and card. Children to make their diva with support as required, attempting to wrap and stick the card independently. <p>4. Evaluate</p> <ul style="list-style-type: none"> Children to evaluate verbally. 	<ul style="list-style-type: none"> Recap design brief and what was learned from research. Model drawing a simple picture to show what your firework decoration will look like. Children to draw their design and decide what materials to use – these can be written in a list using a word bank if appropriate, or just discussed verbally. <p>3. Make</p> <ul style="list-style-type: none"> Ensure children have their designs in front of them. Demonstrate any necessary making skills. Children to make their fireworks. <p>4. Evaluate</p> <ul style="list-style-type: none"> Children to evaluate verbally. 	<ul style="list-style-type: none"> Recap design brief and initial product research. Practise making moving pictures using both a lever and a slider mechanism. Use a template so children only need to cut and join. <p>Skills to demonstrate/ practise:</p> <ul style="list-style-type: none"> Using a sharp pencil and eraser to make a hole in paper, in order to insert split pin or to insert scissors to make a slit How to use a split pin. How to cut a slit in paper (without cutting right to the edge of the paper). <p>2. Design</p> <ul style="list-style-type: none"> Recap design brief and what was learned from research. Discuss making informed design decisions based on what they found out about materials. Children will need to decide what Christmas picture will go on the front of their card. They then need to decide which part or parts of the picture will move, and whether they will move using a lever or a slider. GD may choose to have more than one moving part and use both kinds of mechanism. Model drawing a design, including the mechanism, with labels for the lever/pivot/ slider/slit etc. Add arrows to show the direction of movement. Add a list of materials and tools required. 	<ul style="list-style-type: none"> Look at some pictures of boats - discuss materials, features etc. The main body of the boat is called the hull. A boat needs to be <u>stable</u> so it doesn't flip over; it needs to <u>float</u> - be '<u>buoyant</u>'; it needs to be <u>waterproof</u> so it doesn't let water in; it might have sails, or oars; it needs to have space for people to sit, etc. <p>1b. Materials Research (Conducted as a Science lesson as part of Materials topic)</p> <ul style="list-style-type: none"> Children conduct an experiment to find out which construction materials are buoyant (eg paper, card, foil, cotton wool, fabric, string, paperclips, lollysticks, plastic bottles, bluetac sellotape etc). They record their results and then use them to decide which materials would be most appropriate. <p>1c: Materials/Skills Research</p> <ul style="list-style-type: none"> Recap design brief and initial product research. Experiment with joining materials together using different joining materials, such as glue, Sellotape, masking tape, string, blu tac, elastic bands etc – this can be done via a series of mini challenges. <p>2. Design</p>	<p>1b. Materials/Skills Research</p> <ul style="list-style-type: none"> Recap design brief and initial product research. Practise sewing skills: <ul style="list-style-type: none"> threading a needle knitting the thread sewing using running stitch Introduce and demonstrate whip stitch. Children to have a go at stitching two pieces of fabric together using whip stitch. <p>2. Design</p> <ul style="list-style-type: none"> Recap design brief and what was learned from research. Discuss making informed design decisions based on what they found out about materials. Model drawing a design, including labels of materials/ components, type of stitch. Model creating a pattern piece to be used when making. Children to draw their designs and create their pattern pieces. <p>3. Make</p> <ul style="list-style-type: none"> Ensure children have their designs in front of them. Demonstrate sewing skills again and remind about safety when using pins/needles. Demonstrate using pattern piece to cut out a front and back piece. Demonstrate sewing round edge and leaving a gap for stuffing to be added. Children to select their tools and 	<p>memorable about them. (e.g. Campbell's soup, Coca Cola, Toblerone, Pringles, Smarties, Golden Syrup, Quality Street) - unique shape of packaging, logo, use of bold colours, often simple graphic/logo design, use of colour.</p> <ul style="list-style-type: none"> Explore a range of existing confectionary packaging. Look at both the graphic design (colour, pictures, text, logo etc) and its construction – what is it made of and how has it been put together. If possible, take it apart (e.g. flatten a box to see the shape of the net). Consider the shelf-appeal of different products. <p>1b. Materials/Skills Research</p> <ul style="list-style-type: none"> Recap design brief and initial product research. Explore and experiment using box nets to make 3D shapes out of paper. Give some net templates for children to cut out and assemble, and also challenge them to try and draw their own net for different shapes. Note and discuss the use of tabs to join more easily. Demonstrate how to score paper with scissors and discuss which lines need scoring. Note that score lines are often dashed. Demonstrate how to cut neatly and safely using a craft knife, metal ruler and board. 	<p>Children will be making tacos, so look in more detail at what these are.</p> <ul style="list-style-type: none"> Introduce chef Thomasina Miers. Use ipads/laptops to look at menu from Wahaca restaurants -what foods are there? Look at Tacos section – what possible fillings are there? <p>1b. Ingredients Research</p> <ul style="list-style-type: none"> Recap design brief and initial product research. Introduce common spices used in Mexican cuisine. Allow children to look/ smell/taste them. Children to research taco filling ingredients, using online recipes/ Wahaca website. Take feedback from class and perhaps decide upon a recipe that all will use for their taco filling (meat or veg and spice mix). Decide also on which toppings will be available - lettuce, cheese, sour cream, salsa, guacamole etc. Children could be shown an online video of how to make tacos. <p>1c. Food Hygiene</p> <ul style="list-style-type: none"> Cover the basic principles of food hygiene and safe working practices in the kitchen, inc. cross-contamination. Children will complete a quiz (and gain their 'Food Safety Certificate') to demonstrate understanding. <p>2. Design</p>	<p>features do they have? (e.g. loops, tracks, funnels, bends, drops etc.) In what sense is a marble run a mechanism?</p> <p>1b: Materials/Skills Research</p> <ul style="list-style-type: none"> Recap design brief and initial product research. What do children already know about friction/ gravity/angles? Give brief overview of these concepts. How could a mechanical engineer use this knowledge to design a successful marble run? <ul style="list-style-type: none"> Research materials and required making skills. Woodwork - recap safe use of saws and how to join wood to wood. Look at how cardboard can be manipulated/ joined. Experiment with different track types and declinations to see how well the marble rolls - how does the gradient/material used affect the marble's movement? Which materials create more friction? What is the optimum angle of declination for the tracks? Experiment with making other features of marble runs that were identified in product research. <p>Lesson 2: Design</p> <ul style="list-style-type: none"> Recap design brief and discuss what was learnt in the materials and skills research session. Remind children they need to use what they have learnt to inform their design decisions. Recap what tools/ materials they can choose
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			<ul style="list-style-type: none"> • Children to draw their designs. <p>3. Make</p> <ul style="list-style-type: none"> • Ask children to look at their designs and discuss what they are going to make and how. • Recap the key skills such as how to make a hole in paper using a sharp pencil. • Children to select their tools and materials and make their product, testing it as they go and making changes if necessary. <p>4. Evaluate</p> <ul style="list-style-type: none"> • Use evaluation template. 	<ul style="list-style-type: none"> • Recap design brief and what was learned from research. Discuss making informed design decisions based on what they found out about materials. • Model drawing a design, with labels for the parts and materials used, including joining materials. Add a list of materials and tools required. • Children to draw their designs. <p>3. Make</p> <ul style="list-style-type: none"> • Ensure children have their designs in front of them. • Recap any key skills they will require and remind about basic safety e.g. scissor use. • Children to select their tools and materials and make their product. • Have a tank/tray of water available so that children can test their boat to see if it floats. It should be able to hold a little toy/model person. Allow time for modifications if necessary. <p>4. Evaluate</p> <ul style="list-style-type: none"> • Use evaluation template. 	<p>materials and make their product.</p> <p>4. Evaluate</p> <ul style="list-style-type: none"> • Use evaluation template. 	<ul style="list-style-type: none"> • Demonstrate how to fold along the score lines and stick the faces together using the tabs. <p>2. Design</p> <ul style="list-style-type: none"> • Recap design brief and what was learned from research. Discuss making informed design decisions based on what they found out. • Firstly, children will need to decide on what their confectionary product will be, and think of a name for it. Recap shelf-appeal. • Ideally, children should create their design using a computer. • Model drawing a design (using computer if possible, e.g. Microsoft Paint). Draw a side view of the packaging and a box net diagram. Add colours/text/logo and the product's name. Add measurements and labels. Indicating scoring with dashed lines if possible. • Children to create their designs. <p>3. Make</p> <ul style="list-style-type: none"> • Ensure children have their designs in front of them. • Box nets can be drawn or printed out from their design. • Recap cutting and scoring skills and remind about safety when using knives. • Children to select their tools and materials and make their product, making modifications as necessary. 	<ul style="list-style-type: none"> • Recap design brief and what was learned from research, in particular, decisions about ingredients. Children will need to make choices from the agreed ingredients/recipes. • Model how to create a design for their dish, including all ingredients – hard or soft taco shell, meat, spices, condiments/ toppings - all equipment needed, cooking/preparation techniques. Also include some details on working safely and hygienically. • Children to create their designs. They could think of a name for their taco dish (eg Holy Guacamole). • Children could write a method for the recipe, if time allows. <p>3/4. Make and Evaluate</p> <ul style="list-style-type: none"> • Ensure children have their designs in front of them. • Talk through how tacos will be made. • Recap food hygiene and safety. • Demonstrate relevant cooking/preparation techniques. • Children to make their tacos. Can be done in groups. • Children will evaluate their tacos straight away, when they taste them, using evaluation template. 	<p>from when designing their product.</p> <ul style="list-style-type: none"> • Model drawing design, showing marble run from different angles, and adding measurements (both lengths and angles of incline for tracks) and labels. Add arrows to show path of marble. Add list of required tools and materials. • Children to create their designs. <p>Lesson 3: Make</p> <ul style="list-style-type: none"> • Demonstrate safe use of a saw and bench hook again. • Children to make their marble runs, testing as they go using a marble, and making improvements where necessary. <p>Lesson 4: Evaluate</p> <ul style="list-style-type: none"> • Test marble runs in once they are completed and dry. Discuss common features of most successful ones. • Evaluate work using evaluation template.
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						4. Evaluate <ul style="list-style-type: none">• Use evaluation template.		
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