

YPS D&T	Autumn		Spring	Summer
R	Structures	Cooking & Nutrition	Textiles	Junk Modelling
<p>Boat making – Yonah and the Fish Succah building KAPOW</p> <p><b>Lesson 1: Junk modelling</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Names and uses of tools</li> <li>Build on knowledge of temporary join methods e.g. glue, paper clips and sticky tape</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>Scissor skills</li> <li>Fine motor</li> <li>Develop junk model plan and follow it</li> <li>Temporary join methods</li> <li>Evaluate and present model</li> </ul> <p><b>Vocab:</b> join, stick, cut, bend, slot, smooth, bendy, bumpy, paper clip, rubber band, bottle top</p> <p><b>Lesson 2: Scissor Skills</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to know how easy/difficult it is to cut and shape different materials using a variety of scissor types</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>to use a range of tools competently, safely and confidently</li> </ul> <p><b>Vocab:</b> scissors, blade, handle, snip, cut, squeeze, thumb, fingers, elbow, bubble wrap, cooked pasta, tin foil, playdough, straws</p>	<p>Making soup for the promise between Yaakov and Asav</p> <p><b>Lesson 1: fantastic fruit and vegetables</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Exploring different fruits and vegetables</li> <li>Telling the difference between fruits and vegetables</li> <li>Using adjectives to describe how fruits and vegetables look, feel and taste</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To be able to tell the difference between different fruits and vegetables</li> </ul> <p><b>Vocab:</b> sweet, sour, dry, wet, bitter, chewy, watery, seeds, roots, leaves, plant, stem, flower, bud, juicy</p> <p><b>Lesson 2: pumpkin soup</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to recall elements from the story 'The Best Pumpkin Soup</li> <li>To use the five senses and observe the world around them</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>to use the five senses to explore a pumpkin</li> </ul>	<p>Making bookmark for world book day Decorating and sewing an afikomen bag</p> <p><b>Lesson 1: Explore threading and weaving</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>How to hold beads steady while threading</li> <li>How to push the needle through and pull it out of the other side</li> <li>How to make a pattern</li> <li>To understand to over under pattern for weaving</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>Develop threading and weaving skills</li> <li>Thread beads onto string</li> <li>Thread wool through numicon</li> <li>Threading through card or plastic with a large plastic needle</li> <li>Weaving ribbon through a cooling rack</li> <li>Weaving ribbons through outdoor fence</li> </ul> <p><b>Vocab:</b> thread, weave, pinch, push, pull, through, under, over, up, down, pattern</p> <p><b>Lesson 2: Paper weaving</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>How to control scissors to ensure they cut from the closed edge and stop before the open edge</li> <li>To start at the bottom of the weaving base and weave in, out, over and under from one side to another</li> <li>To know that each strip starts the opposite way from the last (out, in, over and under)</li> <li>How to make a pattern</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>Weaving with paper</li> <li>Cutting across a vertical line with control</li> <li>Weaving with the correct over under, under over technique</li> </ul> <p><b>Vocab:</b> weave, push, pull, through, under, over, pattern</p> <p><b>Lesson 3: Sewing with hessian</b></p>	<p><b>Shavuot vases – What material will hold the water – Colouring sand and flower on top - ART</b></p> <p>Children’s interests – hibernation boxes and animal habitats, boats, houses, cars, masks, kites etc</p> <p>Lesson 1: Waterproof materials</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand that most waterproof means letting in the least amount of water and least waterproof means letting in the most amount of water</li> <li>To know what familiar objects might be waterproof</li> <li>To know how to test to see if a material is waterproof (use same amount of water and material)</li> <li>To know how to make it a fair test</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>To articulate their thoughts, making predictions and observations</li> <li>Pouring with control</li> <li>Working together</li> </ul> <p><b>Vocab:</b> waterproof, material, absorb, leak, wet, dry, prediction, variable, fair test, experiment, investigation</p> <p><b>Lesson 2: Floating and sinking</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand what floating and sinking means</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>Testing and making predictions about which objects float or sink</li> <li>To make a prediction</li> </ul> <p><b>Vocab:</b> prediction, variable, fair test, experiment, investigation, float, sink</p> <p><b>Lesson 3: Boats</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand what boats are used for and to look at different types of boats</li> </ul>	

	<p><b>Lesson 3: Choosing resources</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to know how to plan, select the correct resources needed to make a model</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>to create collaboratively, sharing ideas, resources and skills</li> <li>to experiment with design, form and function</li> <li>creating and thinking critically</li> </ul> <p><b>Vocab:</b> join, stick, cut, bend, slot, lift, open, measure, bigger, shorter, longer, taller, thicker, thinner, rough, smooth, bendy,</p> <p><b>Lesson 4: Making models</b></p> <p><b>Knowledge:</b></p> <p><b>Skill:</b></p> <p><b>Vocab:</b></p> <p><b>Lesson 5: Evaluation and presentation</b></p> <p><b>Knowledge:</b></p> <p><b>Skill:</b></p> <p><b>Vocab:</b></p> <p><b>Lesson 6: Temporary joins</b></p> <p><b>Knowledge:</b></p> <p><b>Skill:</b></p> <p><b>Vocab:</b></p>	<p><b>Vocab:</b> pumpkin, heavy, bumpy, rough, smooth, hard, spiky, big, huge, orange, soft, seedy, squashy, stringy, wet, slimy, squelchy, hollow</p> <p><b>Lesson 3: Designing Soup</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to know about the different factors that support healthy eating</li> <li>to design a vegetable soup recipe</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To design a vegetable soup recipe</li> </ul> <p><b>Vocab:</b> carrot, sweetcorn, garlic, onion, potato, leek, spinach, peas, pumpkin, butternut squash, broccoli</p> <p><b>Lesson 4: Fine Motor Skills</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to practise cutting with a knife</li> <li>to develop motor skills</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To understand how to use a knife safely</li> </ul> <p><b>Vocab:</b> safety, knife, blade, sharp, tool, edge, handle, chop, slice, cut</p> <p><b>Lesson 5: Making Soup</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to observe how to use tools to prepare ingredients</li> <li>to understand what food choices are healthy</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>to describe the finished product and evaluate the process to get there</li> </ul> <p><b>Vocab:</b> saucepan, blender, knife, chopping board, hob, boil, blend, mix, soup, creamy,</p>	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Applying threading knowledge to specific materials</li> <li>Understanding how to make a stitch</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>Threading wool through a large plastic needle</li> <li>Pushing the needle through from the back of the hessian and pulling it all the way until the knot stops it, then pushing it back through to make a stitch</li> </ul> <p><b>Vocab:</b> push, pull, through, back, front, sew, sewing needle, wool, thread, hessian</p> <p><b>Lesson 4: To use threading or sewing to design a product (Afikoman bag or bookmark)</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>What the product is and, since when and why it was used E.g. Victorian book marks</li> <li>How the product was designed and made (pattern drawn on before stitching)</li> </ul> <p>(Presentation on KAPOW)</p> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>Creating a simple pattern</li> <li>Using colour pencils with control to create a simple design on paper</li> </ul> <p><b>Vocabulary:</b> bookmark, embroider, sew, Victorian, design</p> <p><b>Lesson 5: Creating bookmarks</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know which colours they need for their design</li> <li>To know what problems might arise and how to solve them</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To carefully copy their design onto fabric using felt tips (sticking to their design exactly!)</li> <li>Threading the wool through the plastic needle</li> <li>Sewing along their lines in a simple running stitch</li> <li>Bringing their needle back on the correct point in the line</li> </ul> <p><b>Vocab:</b> bookmark, embroider, sew, Victorian, design, push, pull, through, front, back, sew, sewing needle, wool, thread, hessian</p> <p><b>Lesson 6: Evaluating bookmarks</b></p> <p><b>Knowledge:</b></p>	<p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>To be able to identify whether they are looking at a ship or a boat</li> </ul> <p><b>Vocab:</b> boat, cruise ship, fishing boat, kayak, ocean liner, pirate ship, ship, watercraft, waterproof</p> <p><b>Lesson 4: Investigating boats</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand how the shape and structure of boats affects the way they move</li> <li>To know the terminology for some of the different features of a boat</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>To make predictions about which boats will float well and explain their observations</li> </ul> <p><b>Vocab:</b> sail, anchor, hull, mast, rudder, helm, poop deck, deck, crows nest, boat, ship, watercraft, junk, reeds, waterproof, float, sink, types of boat e.g. fishing boat, canoe, cruise ship</p> <p><b>Lesson 5: Designing boats</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand that a boat has to float and be made from a waterproof material</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>To design a boat and label the different parts</li> <li>Planning the components they need to build their boats, ensuring that they are waterproof</li> <li>Thinking about how they will join the different parts together</li> </ul> <p><b>Vocab:</b> sail, anchor, hull, mast, rudder, helm, poop deck, deck, crows nest, boat, ship, watercraft, junk, reeds, waterproof, float, sink, types of boat e.g. fishing boat, canoe, cruise ship</p> <p><b>Lesson 6: Creating and testing boats</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>How to join pieces together to create their design</li> <li>To know whether their boat design is successful (does it float, repel water, and can it carry cargo lego bricks)</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>To create a boat based on their design</li> <li>Safely using a variety of tools and materials</li> <li>Joining components and manipulating materials for desired effect</li> <li>To explain, if there is a problem with the final design, how it could be solved.</li> </ul>
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Yr 1	<p style="text-align: center;"><b>Cooking &amp; Nutrition</b></p> <p>Exploring fruits and vegetables. Smoothie making.</p> <p><b>Lesson 1: Fruit or Vegetable?</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>understanding where food comes from</li> <li>understanding how to determine if something is a fruit</li> <li>understanding some foods that are called vegetables but are actually fruits</li> <li>That a fruit has seeds and a vegetable does not.</li> <li>That fruit grows on trees/vines</li> <li>That vegetables can grow above or below ground</li> <li>That vegetables are any edible part of a plant</li> </ul> <p><b>Skill:</b> To identify if a food is a fruit or a vegetable</p> <p><b>Vocab:</b> fruit, vegetable, seed</p> <p><b>Lesson 2: Where fruit and vegetables grow</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>understanding where and how fruit and vegetables grow</li> </ul>	<p style="text-align: center;"><b>Mechanisms</b></p> <p><b>CHANUKIAH (STRUCTURE)</b> Rolling, cutting and pinching clay</p> <p>Creating vehicles for our explorers</p> <p><b>Lesson 1: How do wheels move</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to identify what mechanism makes a toy/vehicle roll forwards</li> <li>to understand that for a wheel to move it must be attached to an axle</li> <li>to draw and label a diagram of an axle,</li> </ul>	<p style="text-align: center;"><b>Mechanisms</b></p> <p>Making moving parts for a story book – Pesach Haggadah</p> <p><b>Lesson 1: Exploring sliders and movement</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to understand that sliders are mechanisms</li> <li>to know that sliders can make things move</li> </ul> <p><b>Skill:</b> to explore making mechanisms</p> <p><b>vocab:</b> sliders, mechanisms</p> <p><b>Lesson 2: Design</b></p> <p><b>Knowledge:</b></p>	<p style="text-align: center;"><b>Structures</b></p> <p><b>SHAVUOT CHEESECAKE – Preparing food without a heat source</b></p> <p>Creating a home for an animal.</p> <p><b>Lesson 1: Designing the structure</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to understand what an animal habitat is</li> <li>to describe the purpose of structures</li> <li>to understand the importance of a clear design</li> </ul> <p><b>Skill:</b> To understand what criteria is necessary to create an animal habitat</p>	<p style="text-align: center;"><b>Textiles</b></p> <p>Creating a toy.</p> <p><b>Lesson 1: joining fabrics</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>i can remember different techniques may be used to join fabrics for different purposes</li> <li>I can join fabric by pinning, stapling and glueing</li> </ul> <p><b>Skill:</b> To join fabrics together using different methods</p> <p><b>Vocab:</b> design, equipment, toy, glue, safety pin, technique</p>	



<p><b>Skill:</b> To identify where plants grow and which parts we eat</p> <p><b>Vocab:</b> fruit, leaf, root, seed, stem, vegetable,</p> <p><b>Lesson 3: Smoothie ingredients tasting</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to explore and evaluate a range foods</li> <li>● to suggest what fruits/vegetables are in a drink</li> <li>● to describe the smell, taste, appearance and feel of a fruit and vegetable</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>● To make a choice as to what fruit and or vegetables will go into my smoothie and why</li> </ul> <p><b>Vocab:</b> fruit, smoothie, healthy, vegetables</p> <p><b>Lesson 4: Making smoothies</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to use the basic principles of a healthy and varied diet</li> <li>● That a blender is a machine which mixes ingredients together into a smooth liquid.</li> <li>● to use tools and equipment to perform practical tasks</li> <li>● to evaluate ideas</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>● designing smoothie carton packaging by hand</li> <li>● Suggesting information to be included on the packaging</li> <li>● Chopping fruit and vegetables safely</li> <li>● Juicing fruits</li> <li>● To make a fruit and vegetable smoothie</li> </ul> <p><b>Vocab:</b> carton, design, flavour, healthy, peel, slice, smoothie, blend, blender,</p>	<p>wheel and axle holder</p> <p><b>Skill:</b> To understand how wheels move</p> <p><b>Vocab:</b> axle, axle holder, diagram, mechanism, wheel</p> <p><b>Lesson 2: Fixing broken wheels</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To recall that a wheel needs an axle to move</li> <li>● to fix a design so the wheel can move</li> </ul> <p><b>Skill:</b> To identify what stops wheels from turning</p> <p><b>Vocab:</b> axle, axle holder, equipment, mechanism, wheel</p> <p><b>Lesson 3: Designing a vehicle for our explorer</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To recall what makes a wheel and axle work</li> <li>● to design a moving vehicle</li> <li>● to label my design using correct vocabulary</li> </ul> <p><b>Skill:</b> To design a moving vehicle for my explorer</p> <p><b>Vocab:</b> axle, axle holder, chassis, mechanism, wheel</p>	<ul style="list-style-type: none"> <li>● I can design three pages of a moving storybook</li> <li>● I can draw the moving parts and label the movement of different types of sliders</li> </ul> <p><b>Skill:</b> To design a moving storybook</p> <p><b>Vocab:</b> adapt, design, design criteria, input, mechanism, model, sliders, template</p> <p><b>Lesson 3: Construction</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To draw my background</li> <li>● To draw and cut my moving parts</li> <li>● To make sliders for my moving parts</li> <li>● To put all my parts together to create a moving picture</li> </ul> <p><b>Skill:</b> To construct a moving picture</p> <p><b>Vocab:</b> assemble, design, design criteria, input, model, mechanism, sliders, template</p> <p><b>Lesson 4: Test and evaluate</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To review the success of my product my testing it</li> </ul>	<p><b>Vocab:</b> axle, design, design criteria, model, structure, template, habitat, animal</p> <p><b>Lesson 2: Assembling the structure</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To cut and assemble the structure of the animal habitat</li> <li>● To understand that the shape of materials can be changed to improve strength and stiffness of structures</li> <li>● To identify a strong type of structure</li> </ul> <p><b>Skill:</b> To make a stable structure</p> <p><b>Vocab:</b> design criteria, strong, stable, unstable, weak</p> <p><b>Lesson 3: Assembling the animal habitat</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To cut and assemble my habitat correctly</li> <li>● to understand the purpose of a animal habitat</li> </ul> <p><b>Skill:</b> To assemble the components of my structure</p>	<p><b>Lesson 2: Designing my toy</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● I can design a toy using a template</li> <li>● I can use a template to cut out my toy</li> </ul> <p><b>Skill:</b> To use a template to create my design</p> <p><b>Vocab:</b> decorate, fabric, design, inspiration, stencil, model, template</p> <p><b>Lesson 3: Making and joining my toy</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To join fabrics together</li> <li>● To align two pieces of fabric</li> <li>● To use a template</li> </ul> <p><b>Skill:</b> To join two fabrics together accurately</p> <p><b>Vocab:</b> equipment, fabric, glue, safety pin, technique</p> <p><b>Lesson 4: Decorating my toy</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To use joining methods to decorate my toy</li> <li>● To evaluate my own and others' work</li> </ul> <p><b>skill:</b> To embellish my design using joining methods</p> <p><b>Vocab:</b> decorate, equipment, design criteria, inspiration, technique, model</p>
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Yr 2	<b>Mechanism</b>	<b>Textiles</b>	<b>Cooking &amp; Nutrition</b>		<b>Structures</b>	<b>Mechanisms</b>
	Using linkage mechanisms to create a card  <b>Lesson 1: pivots, levers and linkages</b> <b>Knowledge:</b>	Sewing pouches for Chanukah gelt  <b>Lesson 1: running a stitch</b> <b>Knowledge:</b>	<p><b>Wine cup design with patterns - art</b> Exploring different food groups – link to brachot</p> <p><b>Lesson 1: Hidden sugars in drinks</b> <b>Knowledge:</b></p>	<p><b>Making a frame and drawing still life flowers (Y3)</b> Making a plant stand/table – link to Do you have green fingers topic</p>	Wheels and axels – can you make a car for a minibeast? (option to use sticks and twigs)  <b>Lesson 1: designing a car</b>	

<ul style="list-style-type: none"> <li>● to understand that mechanisms are a collection of moving parts that work together</li> <li>● to understand there is always an input and output in a mechanism</li> <li>● to identify mechanisms in everyday objects</li> <li>● to understand that a lever is something that turns a pivot</li> <li>● to understand that a linkage is a system of levers that are connected by pivots</li> <li>● to devise a whole class criteria for what the moving card should look like</li> </ul> <p><b>Skill:</b> To look at objects and understand what parts are necessary for them to move</p> <p><b>Vocab:</b> axle, design criteria, input, linkage, mechanical, output, pivot, wheel</p> <p><b>Lesson 2: Making linkages</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to understand that mechanisms are a collection of moving parts that work together</li> <li>● to understand there is always an input and output in a mechanism</li> <li>● to identify mechanisms in everyday objects</li> </ul>	<ul style="list-style-type: none"> <li>● to thread a needle</li> <li>● to sew a running stitch</li> <li>● to use neat and evenly spaced stitches to join fabric</li> </ul> <p><b>Skill:</b> To sew a running stitch for my chanukah gelt pouch</p> <p><b>Vocab:</b> fabric, knot, needle, needle threader, running stitch, sew, thread</p> <p><b>Lesson 2: using a template</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to remember how to use a template</li> <li>● to cut fabric neatly</li> <li>● to pin fabric</li> <li>● to design a pouch</li> </ul> <p><b>Skill:</b> To sew a running stitch for my chanukah gelt pouch</p> <p><b>Vocab:</b> fabric, knot, needle, needle threader, running stitch, sew, template, thread</p> <p><b>Lesson 3: Making a chanukah gelt pouch</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to sew neat, even stitches</li> <li>● to tie a knot at either end of the thread</li> <li>● to design decorations for my product</li> </ul> <p><b>Skill:</b> To join fabrics using a running stitch</p>	<ul style="list-style-type: none"> <li>● To understand where food comes from</li> <li>● to use the basic principles of a healthy and varied diet to prepare dishes</li> </ul> <p><b>Skill:</b> To know what makes a balanced diet</p> <p><b>Vocab:</b> balanced diet, balance, carbohydrate, dairy, fruit, ingredients, oils, sugar, protein, vegetable</p> <p><b>Lesson 2: Taste testing combinations</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To design purposeful, functional, appealing products for themselves and other uses based on design criteria</li> <li>● to evaluate ideas and products</li> </ul> <p><b>Skill:</b> To taste test food combinations</p> <p><b>Vocab:</b> balanced diet, dairy, fruit, diet, ingredients, sugar, protein, vegetable</p> <p><b>Lesson 3: Designing and making a wrap</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To remember which food combination works well together</li> <li>● to design three possible wraps based on the combinations</li> <li>● to choose one as my 'final design'</li> </ul> <p><b>Skill:</b> To design a healthy wrap</p> <p><b>Vocab:</b> balanced diet, dairy, fruit, diet, ingredients, sugar, protein, vegetable</p> <p><b>Lesson 4: making and evaluating</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to remember how to prepare food safely</li> <li>● to make a healthy wrap</li> <li>● to know how to review my designs</li> </ul> <p><b>Skill:</b> To make a healthy wrap</p> <p><b>Vocab:</b> design criteria, ingredients, fruit, protein, vegetables</p>	<p><b>Lesson 1: Exploring stability</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To identify natural and man-made structures</li> <li>● to understand what is meant by stability and identify when a structure is more or less stable than another</li> <li>● to explain that shapes and structures with wide, flat bases or legs are the most stable</li> </ul> <p><b>Skill:</b> To explore the concept and features of structures and the stability of different shapes</p> <p><b>Vocab:</b> design, man-made, natural, properties, shape, stable, structure</p> <p><b>Lesson 2: Strengthening materials</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To understand the meaning of the words strength, stiffness and stability</li> </ul> <p><b>Skill:</b> To understand that the shape of the structure affects its strength</p> <p><b>Vocab:</b> stable, stiff, strong, test, weak</p>	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to describe how axles help wheels to move a vehicle</li> <li>● to evaluate different designs</li> <li>● to design and label a working wheel</li> </ul> <p><b>Skill:</b> To explore wheel mechanisms and design a car for minibeasts</p> <p><b>Vocab:</b> axle, axle holder, design, design criteria, car, frame, wheel</p> <p><b>Lesson 2: planning the build</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to understand the properties of different materials</li> <li>● to communicate my ideas to someone else</li> <li>● to select appropriate materials for my minibeast car</li> </ul> <p><b>Skill:</b> To select appropriate materials for my minibeast car</p> <p><b>Vocab:</b> stable, strong, waterproof, weak</p> <p><b>Lesson 3: Building the frame and wheels</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To build a stable structure</li> <li>● to test elements of my design</li> </ul>
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	<ul style="list-style-type: none"> <li>● to understand that a lever is something that turns a pivot</li> <li>● to understand that a linkage is a system of levers that are connected by pivots</li> </ul> <p><b>Skill:</b> To look at objects and understand how they move  <b>Vocab:</b> input, linkage, mechanical, output, pivot</p> <p><b>Lesson 3: designing my card</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To understand that linkages use levers and pivots to create motion</li> <li>● to think of two of my own points to add to the class design criteria</li> <li>● to draw two moving card designs that meet all points of my design criteria</li> <li>● to design the linkage that will make the card move</li> </ul> <p><b>Skill:</b> To explore different design options for my moving card  <b>Vocab:</b> design criteria, input, linkage, mechanical, output, pivot, survey</p> <p><b>Lesson 4: Making my card</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to make linkages by connecting levers and pivots</li> <li>● to understand that materials can be selected</li> </ul>	<p><b>Vocab:</b> fabric, knot, needle, needle threader, running stitch, sew, thread</p> <p><b>Lesson 4: decorating my pouch</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to join items using fabric glue or stitching</li> <li>● to decorate fabric using different items</li> <li>● to evaluate my design</li> </ul> <p><b>Skill:</b> To decorate a pouch  <b>Vocab:</b> decorate, fabric glue</p>		<p><b>Lesson 3: Making the plant stand</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to remember that chairs are structures that need to be strong, stiff and stable</li> <li>● to create joins and structures from paper, card and tape</li> </ul> <p><b>Skill:</b> To make a structure according to a design criteria  <b>Vocab:</b> design criteria, model, stable, stiff, strong, structure</p> <p><b>Lesson 4: Fixing and testing plant stand</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to identify that the plant stand needs to be strong, stiff and stable to support the plant</li> <li>● to create joins and structures</li> <li>● to evaluate the structure according to the design criteria</li> </ul> <p><b>Skill:</b> To produce a finished structure and evaluate its strength, stiffness and stability  <b>Vocab:</b> design criteria, model, stable, stiff, structure, test</p>	<ul style="list-style-type: none"> <li>● to adapt my design</li> <li>● to make a wheel rotate</li> </ul> <p><b>Skill:</b> To build and test a moving wheel for my minibeast car  <b>Vocab:</b> mechanism, stable, strong, test</p> <p><b>Lesson 4: adding decoration and structure for the car</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● to evaluate a wheel mechanism</li> <li>● to ensure the box part of the car stays upright when the wheels rotate underneath</li> </ul> <p><b>Skill:</b> To make and evaluate a structure with rotating wheels  <b>Vocab:</b> decorate, evaluation, test</p>
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	<p>according to characteristics</p> <ul style="list-style-type: none"> <li>to design and make features of my card</li> <li>to evaluate how functional my card is and whether it meets the design criteria</li> </ul> <p><b>Skill:</b> To make a moving card</p> <p><b>Vocab:</b> design criteria, evaluation, linkage, mechanical, pivot</p>					
Yr 3	<b>Structure</b>	<b>Mechanical Systems</b>	<b>Cooking &amp; Nutrition</b>	<b>Textiles</b>	<b>Electrical Systems</b>	<b>Digital World</b>
	<p>Constructing a succah</p> <p><b>Lesson 1: features of a Succah</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to identify different features of a succah</li> <li>to design my own succah</li> <li>to label the features of my succah</li> <li>to explain why a succah needs to be strong and stable</li> </ul> <p><b>Skill:</b> To recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure</p>	<p><b>Moving Maccabees – Pneumatic toys for Chanukah</b></p> <p><b>Lesson 1: Exploring pneumatics</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to recall that mechanisms are a system of parts that work together</li> <li>to recall that a pneumatic system can be used as part of a mechanism</li> <li>to recall that pneumatic</li> </ul>	<p>Eating seasonal</p> <p><b>Lesson 1: Where in the world</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know that not all fruits come from the UK</li> <li>to know that each country has its own climate</li> <li>to understand that these climates enable different fruits and vegetables to grow</li> </ul>	<p>Cross Stitch and Applique – Cushions for pesach</p> <p><b>Lesson 1: to cross stitch and applique</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To use cross-stitch</li> <li>to know to how to applique</li> <li>to reflect on the techniques used</li> </ul> <p><b>Skill:</b> To learn how to sew cross-stitch and applique</p> <p><b>Vocab:</b> applique, cross-stitch, design, equipment, fabric,</p>	<p><b>Shavuot light up cards – Har Sinai and light of hashem/torah</b></p> <p>Make an electric poster – Light and shadow topic link - Science</p> <p><b>Lesson 1: information design</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to name examples of information design</li> <li>to explain the purpose of information design</li> <li>to describe or explain the</li> </ul>	<p>Create an electronic charm – programming wearable technology</p> <p><b>Lesson 1: Smart Wearables</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To identify key product developments that occurred as a result of the digital revolution.</li> <li>To analyse and evaluate an existing product</li> <li>To problem solve by suggesting</li> </ul>



	<p><b>Vocab:</b> 2D, 3D, Succah, key features, stable, stiff, strong</p> <p><b>Lesson 2: Designing a Succah Knowledge:</b></p> <ul style="list-style-type: none"> <li>To recall the features of a Succah</li> <li>to add two design points to the design specification to appeal to the person/purpose of my succah</li> <li>to draw the design of my succah using 2D shapes</li> </ul> <p><b>Skill:</b> To draw a design of my Succah and create a design specification</p> <p><b>Vocab:</b> 2D, 3D, succah, shape</p> <p><b>Lesson 3: 3D structures Knowledge:</b></p> <ul style="list-style-type: none"> <li>To construct a range of 3D shapes for the walls of my Succah</li> <li>To cut, fold and construct my geometric shapes</li> </ul> <p><b>Skill:</b>To construct a 3D shape for the walls of my succah</p> <p><b>Vocab:</b> shape, structure, geometric</p>	<p>systems are used in a range of everyday objects</p> <ul style="list-style-type: none"> <li>to recall that pneumatic systems can force air over a distance to create movement</li> </ul> <p><b>Skill:</b> To understand how pneumatic systems work</p> <p><b>Vocab:</b> component, function, input, mechanism, output, pneumatic system</p> <p><b>Lesson 2: Designing a pneumatic toy Knowledge:</b></p> <ul style="list-style-type: none"> <li>To develop design criteria from a design brief</li> <li>To generate suitable ideas using thumbnail sketches and exploded diagrams</li> <li>I can recall there are three different types of pneumatic systems that I can use to design my</li> </ul>	<ul style="list-style-type: none"> <li>to consider hygiene when preparing food</li> </ul> <p><b>Skill:</b> To understand that climate affects food growth</p> <p><b>Vocab:</b> climate, fruits, countries, weather, seasons</p> <p><b>Lesson 2: British Seasonal Foods Knowledge:</b></p> <ul style="list-style-type: none"> <li>to know that imported food will have travelled from far away and has an impact on the environment</li> <li>to know that vegetables and fruit grow in certain seasons and that in the UK we often import food from other countries</li> </ul> <p><b>Skill:</b>To understand the advantages of eating seasonal fruits grown in the UK</p> <p><b>Vocab:</b> climate, seasonal, seasons, sugar, export, import</p>	<p>patch, running stitch, thread</p> <p><b>Lesson 2: cushion design Knowledge:</b></p> <ul style="list-style-type: none"> <li>To design a cushion</li> <li>To use a paper template</li> <li>To cut fabric accurately</li> </ul> <p><b>Skill:</b> To design a product and its template</p> <p><b>Vocab:</b> applique, cross-stitch, design, equipment, fabric, patch, running stitch, sea, thread, texture</p> <p><b>Lesson 3: decorating my cushion Knowledge:</b></p> <ul style="list-style-type: none"> <li>To follow a design criteria</li> <li>To use cross stitch</li> <li>to add applique</li> </ul> <p><b>Skill:</b> To decorate fabric using applique and cross-stitch</p> <p><b>Vocab:</b> applique, cross-stitch, design, equipment, fabric,</p>	<p>importance of information design</p> <p><b>Skill:</b> To understand the purpose of information design</p> <p><b>Vocab:</b> design, information, public</p> <p><b>Lesson 2: Topic research Knowledge:</b></p> <ul style="list-style-type: none"> <li>to research and select a topic to inform my design ideas</li> <li>to write a paragraph about my chosen topic</li> <li>to sketch initial ideas for my electric poster that meet my design criteria</li> </ul> <p><b>Skill:</b> to research a set topic to develop a range of initial ideas</p> <p><b>Vocab</b> bulb, design criteria, information design, initial ideas, research, sketch</p> <p><b>Lesson 3: Design development Knowledge:</b></p>	<p>potential features on the Micro:bit and justifying my ideas</p> <p><b>Skill:</b> To understand the impact of the digital revolution in the world of product design</p> <p><b>Vocab:</b> smart wearables, product design, digital revolution, technology, analogue, digital, feature, function, digital world, Micro:bit</p> <p><b>Lesson 2: Programming an eCharm Knowledge:</b></p> <ul style="list-style-type: none"> <li>To write a program to control (button press) and/or monitor to initiate a flashing LED algorithm</li> <li>To understand what a loop is</li> <li>To explain the basic functionality of my eCharm program</li> </ul> <p><b>Skill:</b> To write a program to initiate a flashing LED panel as</p>
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<p><b>Lesson 4: Building a Succah</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To construct my castle and meeting the requirements of the brief</li> </ul> <p><b>Skill:</b> To construct and evaluate my Succah  <b>Vocab:</b> castle, design, scoring, structure, tab</p>	<p>toy and use recycled household objects to make it</p> <p><b>Skill:</b> To design a toy that uses a pneumatic system  <b>Vocab:</b> adapt, exploded diagram, pneumatic system, thumbnail sketch</p> <p><b>Lesson 3: Making pneumatic toys</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to create a pneumatic system to create desired motion</li> <li>to build secure housing for a pneumatic system</li> <li>to recall that syringes and balloons can be used to create different types of pneumatic systems</li> <li>to recall how to use these components to make a functional and appealing pneumatic toy</li> </ul>	<p><b>Lesson 3: Rainbow food</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know what food are currently in season</li> <li>to be aware that each vegetable and fruit gives us nutritional benefit</li> <li>to design a puff pastry tart using seasonal vegetables and fruit</li> <li>to describe my puff pastry tart and the benefits of its ingredients</li> </ul> <p><b>Skill:</b> To create a recipe that is healthy and nutritious using seasonal vegetables and fruit  <b>Vocab:</b> climate, ingredients, natural, fruit, vegetable, seasonal</p> <p><b>Lesson 4: making tarts</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to know how to prepare a kitchen to cook</li> </ul>	<p>patch, running stitch, sea, thread, texture</p> <p><b>Lesson 4: Assembling my cushion</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to use stitches to join fabric</li> <li>to leave space for a seam</li> <li>to understand why some products are turned inside out after sewing</li> </ul> <p><b>Skill:</b> To assemble and complete a cushion  <b>Vocab:</b> applique, cross-stitch, design, equipment, fabric, patch, running stitch, sea,, thread, texture</p>	<ul style="list-style-type: none"> <li>to review initial ideas against the design criteria</li> <li>to provide and respond to peer feedback</li> <li>to develop an initial idea into a final design</li> <li>to evaluate my final design against the design criteria</li> </ul> <p><b>Skill:</b> To develop an initial idea into a final design  <b>Vocab:</b> develop, feedback, final design, initial ideas, peer-assessment, self-assessment</p> <p><b>Lesson 4: Electric poster assembly</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to mount the final design to make it stronger</li> <li>to build a simple circuit that includes a bulb</li> <li>to test and evaluate my electric display board</li> </ul>	<p>part of an Echarm  <b>Vocab:</b> program, loops, initiate, electronic, simulator, control, monitor, sense</p> <p><b>Lesson 3: eCharm pouches</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To identify the key features of a pouch</li> <li>To develop design ideas for a technology pouch</li> <li>To use a template when cutting and assembling the pouch</li> </ul> <p><b>Skill:</b> To create and decorate a pouch for the Echarm using a template  <b>Vocab:</b> template, develop, fasten, test, user, key features</p> <p><b>Lesson 4: POS displays</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To draw and manipulate 2D shapes using computer aided design</li> </ul>
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Yr 4	Structure	Mechanical Systems	Electrical Systems	Textiles	Cooking & Nutrition	Digital World
	<p>Pavillion – Avraham into our home</p> <p><b>Lesson 1: Exploring frame structures</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To make a variety of different frame structures</li> <li>● To know what the structure (pavillion) is used for</li> </ul> <p><b>Skill:</b> To create a range of different shaped frame structures  <b>Vocab:</b> 3D shapes, aesthetic, innovative, natural, pavilion, reinforce, stable, structure</p> <p><b>Lesson 2: Designing a pavillion</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To understand that different materials can create different effects</li> <li>● to understand how to make a stable structure</li> </ul>	<p>Sling shot cars – with Maccabees</p> <p><b>Lesson 1: Chassis and launch mechanism</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To understand that car designs have developed over many years</li> <li>● to know that a chassis is the frame of a car</li> <li>● to know that all moving things have kinetic energy</li> <li>● to know that kinetic energy is the energy that something has by being in motion</li> </ul> <p><b>Skill:</b> To build a car chassis  <b>Vocab:</b> chassis, energy, kinetic, mechanism</p> <p><b>Lesson 2: Designing the car body</b></p>	<p>Making torches – shadow puppet show of Pesach story?            SPRING 2</p> <p><b>Lesson 1: Electrical products</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To identify electrical products</li> <li>● To know what electrical conductors and insulators are</li> <li>● To know that a battery contains stored electricity and can be used to power products</li> </ul> <p><b>Skill:</b> To learn about electrical items and how they work  <b>Vocab:</b> bulb, battery, buzzer, conductor, circuit, circuit diagram, electricity, insulator, series circuit, switch</p>	<p>Fastening for a matzah holder            SPRING 2</p> <p><b>Lesson 1: Evaluating fastenings</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To know what the main types of fastenings are</li> <li>● to say what the benefits of each type of fastenings are</li> <li>● to say what the advantages and disadvantages of each type of fastening are</li> </ul> <p><b>Skill:</b> To explain the advantages and disadvantages of different types of fastening type  <b>Vocab:</b> fabric, fastening, fix</p> <p><b>Lesson 2: Designing my Matzah holder</b></p>	<p>Adapting a recipe to create biscuits – biscuits in shape of fruits and in basket</p> <p><b>Lesson 1: Following a recipe</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To evaluate a product and consider: taste, smell, texture, appearance, packaging, target audience</li> <li>● To follow a recipe to make a biscuit</li> </ul> <p><b>Skill:</b> To follow a baking recipe  <b>Vocab:</b> design criteria, research, texture, innovative, aesthetic, measure, cross-contamination</p> <p><b>Lesson 2: Testing ingredients</b>  <b>Knowledge:</b></p>	<p>Create a timer</p> <p><b>Lesson 1: Analysing timers</b>  <b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To compare existing mindfulness products</li> <li>● To state the advantages and disadvantages of a product</li> <li>● To make links between a product’s form and its function</li> </ul> <p><b>Skill:</b> To evaluate existing products  <b>Vocab:</b> advantage, aesthetic, disadvantage, ergonomic, mindfulness, product</p> <p><b>Lesson 2: Designing for the user</b>  <b>Knowledge:</b></p>



	<ul style="list-style-type: none"> <li>to design a structure that is stable and aesthetically pleasing</li> </ul> <p><b>Skill:</b> To design a structure</p> <p><b>Vocab</b> aesthetic, design criteria, innovative, inspiration, pavilion, structure, target audience, theme</p> <p><b>Lesson 3: Pavilion frame</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To build a free-standing structure</li> <li>to select appropriate materials to build a strong structure</li> <li>to use my knowledge of how to reinforce corners to strengthen my structure</li> <li>to refer to my design sheet to create my pavilion</li> </ul> <p><b>Skill:</b> To build a frame structure</p> <p><b>Vocab:</b> frame structure, reinforce, stable, structure</p> <p><b>Lesson 4: Pavilion cladding</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To select appropriate materials for my cladding</li> </ul>	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To design a suitable car body to cover my chassis by: drawing a net to create a structure, choosing shapes that increase/decrease the speed of the car, adding graphics to my design.</li> </ul> <p><b>Skill:</b> To design a shape that reduces air resistance</p> <p><b>Vocab</b> air resistance, chassis, design, graphics, model, research, structure, template</p> <p><b>Lesson 3: Making the car body</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To remember that nets are flat shapes that can be turned into 3D structures</li> <li>to measure mark, and cut the panels against the</li> </ul>	<p><b>Lesson 2: Evaluating torches</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To identify the features of a torch</li> <li>To understand how a torch works</li> <li>To say what is good and bad about different torches</li> <li>To understand what is important in torch design</li> </ul> <p><b>Skill:</b> To analyse and evaluate electrical products</p> <p><b>Vocab</b> circuit, component, design, design criteria, digram, evaluation, LED, model, series circuit, shape, target audience</p> <p><b>Lesson 3: Torch design</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To factor in who my product is for in my design criteria</li> <li>to design a torch which satisfies both the design and success criteria</li> </ul>	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To design a product based on a design criteria</li> <li>to write a design criteria</li> <li>my design includes a fastening</li> </ul> <p><b>Skill:</b> To design a product to meet design criteria</p> <p><b>Vocab</b> fabric, fastening, fix</p> <p><b>Lesson 3: Paper mock up and preparing fabric</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To make a paper template</li> <li>to know how to test my paper template</li> </ul> <p><b>Skill:</b> To make and test a paper template of my Matzah holder</p> <p><b>Vocab:</b> fabric, fastening, fix</p> <p><b>Lesson 4: Assembling my Matzah holder</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To join fabric by sewing</li> </ul>	<ul style="list-style-type: none"> <li>To know how to cook food safely, following basic hygiene rules</li> <li>To cook a recipe and adapt it to create a new biscuit prototype</li> <li>To evaluate and compare a range of biscuit prototype</li> </ul> <p><b>Skill:</b> To make and test a prototype</p> <p><b>Vocab</b> design criteria, research, texture, innovative, aesthetic, measure, cross-contamination</p> <p><b>Lesson 3: Final design and budget</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To work as a group to design a biscuit that would sell for £1.99</li> <li>To consider biscuits that I have tasted and the successes of the prototypes I have made</li> <li>To complete a budget to ensure</li> </ul>	<ul style="list-style-type: none"> <li>To write design criteria to fulfil a design brief</li> <li>To use research to make a decision about design criteria</li> <li>To use prior knowledge to make a decision about design criteria</li> </ul> <p><b>Skill:</b> To develop design criteria</p> <p><b>Vocab</b> criteria, form, function, research, user</p> <p><b>Lesson 3: Programming the timer</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To create code that controls a timer</li> <li>To debug my code to ensure it works</li> <li>to identify coding blocks used for loops</li> </ul> <p><b>Skill:</b> To program and control a product</p> <p><b>Vocab:</b> bug, decoding, debug, loop, script, variable</p> <p><b>Lesson 4: Prototypes</b></p>
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	<ul style="list-style-type: none"> <li>to add cladding which reflects my design</li> <li>to create different textual effects with my chosen material</li> </ul> <p><b>Skill:</b> To add cladding to a frame structure</p> <p><b>Vocab:</b> cladding, evaluation, reinforce, texture, structure</p>	<p>dimensions of my chassis</p> <ul style="list-style-type: none"> <li>to include tabs on my net so I can secure them to the panels of my chassis</li> <li>to decorate the panels</li> </ul> <p><b>Skill:</b> To make a model based on a chosen design</p> <p><b>Vocab:</b> air resistance, chassis, design, graphics, model, research, structure, template</p> <p><b>Lesson 4: Assembly and testing</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to assemble the panels of the body to the chassis correctly</li> <li>to remember that smaller shapes create less air resistance and can move faster through the air</li> <li>to evaluate the speed of my design</li> </ul>	<p><b>Skill:</b> To design a product to fit a set of specific user needs</p> <p><b>Vocab:</b> circuit, component, design, design criteria, diagram, input, insulator, recyclable, switch, theme</p> <p><b>Lesson 4: Torch assembly</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To make a working circuit with a switch</li> <li>to use appropriate equipment to cut and attach materials</li> <li>To assemble a torch according to my design criteria</li> <li>to test my torch to evaluate its success</li> </ul> <p><b>Skill:</b> To make and evaluate a torch</p> <p><b>Vocab:</b> aesthetics, assemble, equipment, evaluation, ingredients, model, packaging, properties, shape, sketch, test</p>	<ul style="list-style-type: none"> <li>to stick to my design criteria</li> <li>to create a product that is fit for purpose</li> </ul> <p><b>Skill:</b> To assemble a matzah holder</p> <p><b>Vocab:</b> fabric, fastening, fix, needle, needle eye, thread</p>	<p>we spend within the limit</p> <ul style="list-style-type: none"> <li>To make decisions as part of a team to finalise the recipe we will make</li> <li>to create branding for my group's final product</li> </ul> <p><b>Skill:</b> To design a biscuit to a given budget</p> <p><b>Vocab:</b> design criteria, research, texture, innovative, aesthetic, measure, cross-contamination, diet, processed, packaging</p> <p><b>Lesson 4: Biscuit bake off</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To consider safety and hygiene when baking</li> <li>To use ingredient quantities specified in my budget</li> <li>To make suitable packaging for my product</li> </ul> <p><b>Skill:</b> To make a biscuit that meets a given design brief</p>	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To annotate a product concept drawing</li> <li>To create a 3D model using modelling materials</li> <li>To discuss my design with a partner</li> </ul> <p><b>Skill:</b> To develop and communicate ideas</p> <p><b>Vocab:</b> annotate, assemble, develop, form, function, join, model, prototype</p> <p><b>Lesson 5: Brand identity</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>to select a theme suitable for mindfulness</li> <li>to design a brand that would appeal to a teacher</li> <li>to use the layer tool on CAD software to improve my design</li> </ul> <p><b>Skill:</b> To develop ideas through computer-aided design</p>
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Yr 5	Cooking & Nutrition	Electrical Systems	Structures	Mechanical Systems	Textiles	Digital World
	<p>Modify known recipes for seasonal cooking to make healthier</p> <p><b>Lesson 1:</b> From farm to fork</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand how ingredients are reared and processed</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To be able to identify ingredients in a recipe</li> <li>Create an informative poster</li> <li>To understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul> <p><b>Vocab:</b> abattoir, farm, process, beef, ingredients</p> <p><b>Lesson 2:</b> Different choices</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know where food comes from</li> <li>How to explain my preferences and choices</li> </ul> <p><b>Skill:</b></p>	<p>Chanukah cards with electrical circuits and components – design, make and evaluate</p> <p><b>Lesson 1:</b> Information Design</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Name examples of information design</li> <li>Design criteria</li> <li>How to follow a brief</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To explain the purpose and importance of information design</li> </ul> <p><b>Vocab:</b> design, information, information design, public</p> <p><b>Lesson 2:</b> Topic research</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>The stories and themes of chanukah</li> </ul>	<p><b>AFIKOMEN BAG - Batik</b></p> <p>Long boats – design make and evaluate</p> <p>Viking boats</p> <p>To begin to understand how to reinforce and strengthen a 3d framework</p> <p><b>Lesson 1:</b> Viking boats</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Features, shape and structures of a viking boat</li> <li>History of viking boats</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>identify stronger and weaker structures</li> <li>Find different ways to reinforce structures</li> </ul> <p><b>Vocab:</b> viking boats, corrugation, rigid, strength, lamination, stiff, hard, technique</p> <p><b>Lesson 2:</b> How different shapes can improve the strength of a structure</p> <p><b>Knowledge:</b></p>	<p>Creating a pop-up book for Purim</p> <p><b>Lesson 1:</b> Pop up book page design</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>An input is the motion used to start a mechanism</li> <li>an output is the motion that happens as a result of starting the input</li> <li>Structures use movement of the pages to work</li> <li>Mechanisms control movement</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>Design a book made up of a front cover and four pages and include a mixture of structures and mechanisms within it</li> </ul> <p><b>Vocab:</b> design, input, motion, mechanism,</p>	<p><b>Baked cheesecake</b></p> <p>Making stuffed toys for Camp Simchah</p> <p><b>Lesson 1:</b> Designing a stuffed toy</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>How to thread a needle</li> <li>How to tie a knot for the final stitch</li> <li>How to sew a running stitch with evenly spaced, neat stitches to join the fabric</li> <li>That sewing is a method of joining fabrics using different stitches</li> <li>That applique is a way of mending or decorating a textile by applying smaller pieces of fabric to larger pieces</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To make a paper template</li> </ul>	<p>Animal monitoring device – link to RSE (animals including humans) human body and temperature</p> <p><b>Lesson 1:</b> Monitoring devices</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know and describe key developments in thermometer history.</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To research (books, internet) for a particular animal's needs.</li> <li>To develop design criteria based on research.</li> </ul> <p><b>Vocab:</b> design criteria, development, electronic, inventor, monitoring device research, sensor, thermoscope, design brief, device, historical, monitor, thermometer, vivarium</p> <p><b>Lesson 2:</b> Programming an animal monitor</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Ambient temperature for specific animals</li> </ul>



	<ul style="list-style-type: none"> <li>To make adaptations to design a recipe</li> <li>To compare recipes</li> <li>To research unique ingredients</li> <li>plan an adaptation of a basic recipe</li> </ul> <p><b>Vocab:</b> Adaptation, enhance, ingredients, preference</p> <p><b>Lesson 3:</b> Nutritional value</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To identify and read a nutritional value table</li> <li>To know what the colours mean</li> <li>To know where to find colour codes</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To evaluate nutritional content</li> <li>To use a nutrition calculator</li> <li>To compare nutritional values</li> <li>To make ingredient choices based on nutritional values</li> <li>Modify a recipe to contain different ingredient choices</li> </ul> <p><b>Vocab:</b> adapt, evaluate, justify, nutrient, nutritional value</p>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To research design ideas for Chanukah cards</li> <li>To use research to inform design of innovative and appealing product that is fit for purpose</li> <li>To sketch ideas that meet the design criteria</li> </ul> <p><b>Vocab:</b> bulb, information design, research, design criteria, initial ideas, sketch</p> <p><b>Lesson 3:</b> Design development</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know the story of Chanukah and its impact on the Jewish people</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To review initial ideas against the design criteria.</li> <li>To provide and respond to peer feedback.</li> </ul>	<ul style="list-style-type: none"> <li>What viking ships were used for</li> <li>What viking ships looked like</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>Create the shape of a viking ship out of spaghetti and masking tape/glue guns</li> <li>Test structure to see if it is stable.</li> </ul> <p><b>Vocab:</b> aesthetics, joint, stiffness, viking boat, long boat, factors, stability, strength</p> <p><b>Lesson 3:</b> Building boats</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Health and safety rules</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To measure and mark out accurately on wood</li> <li>To select appropriate tools and equipment for the task</li> <li>To explain why selecting appropriating materials is an</li> </ul>	<p>criteria, research, reinforce, model</p> <p><b>Lesson 2:</b> Making my pop-up book</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>story of Purim</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>Follow a design brief to make a pop up book</li> <li>Create the mechanisms and/or structures they want on each page</li> <li>Label lightly in pencil where they want them to go on each page</li> </ul> <p><b>Vocab:</b> design, input, motion, mechanism, criteria, research, reinforce, model</p> <p><b>Lesson 3:</b> Using layers and spacers</p>	<ul style="list-style-type: none"> <li>To ensure that the template is proportional</li> </ul> <p><b>Vocab:</b> applique, design, model, stuffed toy, template, cross stitch, fabric, running stitch, stuffing</p> <p><b>Lesson 2:</b> Blanket stitch</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>How to do a blanket stitch</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To use a blanket stitch to join two pieces of fabric together</li> <li>To cut neatly and accurately</li> <li>To thread a needle</li> </ul> <p><b>Vocab:</b> accurate, appendage, blanket stitch, sew</p> <p><b>Lesson 3:</b> Details and appendages</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know how to do a blanket, running and cross stitch</li> </ul> <p><b>Skill:</b></p>	<ul style="list-style-type: none"> <li>To explain how the product would be useful for an animal carer.</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>Program to monitor the ambient temperature and code an (audible or visual) alert when the temperature rises above or falls below a specified range.</li> <li>To explain key functions in program (audible alert, visuals).</li> </ul> <p><b>Vocab:</b> alert, boolean, duplicate, programming content, value, ambient, copy, monitor, programming loop, variable</p> <p><b>Lesson 3:</b> Plastic</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Understand how key events and individuals in design and technology have helped shape the world.</li> <li>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</li> </ul>
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	<p><b>Lesson 4:</b> Designing labels</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● Cross contamination - how bacteria spreads between foods</li> <li>● Chopping board colours</li> <li>● How to measure something circular or cylindrical with a piece of string</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>● To measure and cut to fit specific dimensions</li> <li>● To design a label thinking about colours, ingredients and contents of a jar</li> <li>● To evaluate design against criteria</li> </ul> <p><b>Vocab:</b> brand, theme, design, label</p> <p><b>Lesson 6:</b> Making recipe</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● Personal hygiene</li> <li>● Safe chopping methods (Bridge hold/claw hold)</li> <li>● To know which equipment to use for each preparation technique</li> <li>● Beef is reared on a farm</li> </ul>	<ul style="list-style-type: none"> <li>● To develop an initial idea into a final design.</li> <li>● To evaluate their final design against the design criteria.</li> </ul> <p><b>Vocab:</b> develop, feedback, final design, initial ideas, peer-assessment, self-assessment</p> <p><b>Lesson 4:</b> Electric card assembly</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To know what an electrical system is</li> <li>● To name and identify simple circuit components <b>(bulb, battery and wires).</b></li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>● To mount the final design to make it stiffer and stronger.</li> <li>● To build a simple circuit that includes a bulb.</li> </ul>	<p>important part of the design process.</p> <p><b>Vocab:</b> assemble, hardwood, mark out, softwood, viking boat, long boat, bench hook/vice, material properties, sandpaper, tenon saw, coping saw, wood file, rasp</p> <p><b>Lesson 4:</b> Finalising viking boats</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● Techniques to strengthen, stiffen and reinforce more complex</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>● To identify points of weakness and reinforce them as necessary</li> <li>● To evaluate their viking boats against a specification</li> </ul> <p><b>Vocab:</b> accuracy, joints, reinforce, evaluate, quality of finish, wood sourcing</p>	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● Apply understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>● Understand and use mechanical systems in their products E.g. gears, pulleys, cams, levers and linkages</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>● Use layers and spacers to cover the working of mechanisms</li> <li>● cutting,shaping, joining and finishing</li> </ul> <p><b>Vocab:</b> design, input, motion, mechanism, criteria, research, reinforce, model</p> <p><b>Lesson 4:</b> Writing and illustrating</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● Preferences of those who will be reading the book</li> </ul>	<ul style="list-style-type: none"> <li>● To create strong and secure stitches</li> <li>● To use applique to attach pieces of fabric decoration</li> <li>● To use stitches to decorate fabric</li> </ul> <p><b>Vocab:</b> applique, appendage, cross stitch, detail, running stitch</p> <p><b>Lesson 4:</b> Stuffed toy assembly</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● How to thread a needle and tie a knot in string</li> <li>● How to make a blanket stitch</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>● To use a blanket stitch to join two pieces of fabric</li> <li>● To stuff a toy carefully, repairing any holes or gaps</li> <li>● To evaluate the stuffed toy</li> </ul> <p><b>Vocab:</b> design criteria, evaluation, stuffing</p>	<ul style="list-style-type: none"> <li>● Knowledge of facts about the history of plastic over the last 100 years</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>● Explain how plastic affects the earth and how to make better choices</li> <li>● Generate multiple housing ideas using building bricks</li> </ul> <p><b>Vocab:</b> decompose, lightweight, durable, man-made, microplastics, model, molecules, moulded, opaque, plastic, plastic pollution, reformed, strong, sustainability, synthetic, transparent, versatile, water-resistant</p> <p><b>Lesson 4:</b> 3D CAD Skills</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>● To understand what a virtual model is and the pros and cons of traditional and CAD modelling.</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>● To place and manoeuvre 3D objects, using computer-aided design.</li> <li>● To change the properties of, or combine one or more 3D objects,</li> </ul>
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	<ul style="list-style-type: none"> <li>Nutrition information is found on food packaging</li> <li>Coloured chopping boards are used to prevent cross contamination</li> </ul> <p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>To prepare ingredients and cook a variety of predominantly savoury dishes using a range of techniques</li> </ul> <p><b>Vocab:</b> balanced, ingredients, nutrition, cross contamination, measure, recipe</p>	<ul style="list-style-type: none"> <li>To test and evaluate their electric display board.</li> </ul> <p><b>Vocab:</b> battery, circuit, crocodile wire, electrical system, bulb, circuit component, electric product</p>		<ul style="list-style-type: none"> <li>Good quality making should be neat and securely assembled</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>Complete the surface decoration of their pop up book by adding pictures and captions.</li> </ul> <p><b>Vocab:</b> design, input, motion, mechanism, criteria, research, reinforce, model</p>		<p>using computer-aided design.</p> <p><a href="#">Tinkercad   Create 3D digital designs with online CAD</a></p> <p><b>Vocab:</b> 3D model, CAD, consumables, group, manipulate, manoeuvre, opaque, replica, shape properties, Tinkercad, transparent, ungroup, workplane</p>
Yr 6	<b>Cooking &amp; Nutrition (Topic)</b>	<b>Electrical Systems (Science)</b>	<b>Structures (Topic)</b>	<b>Digital World (Topic)</b>	<b>Mechanical Systems (Science)</b>	<b>Textiles (Topic)</b>
	<p>Come dine with me – Baking for Succot. Design, make, taste and evaluate.</p> <p><b>Lesson 1:</b> Complementary flavours (optional)</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>That ‘flavour’ is how a food or drink tastes.</li> </ul>	<p><b>DOUGHNUTS</b></p> <p>Steady hand electrical game – Link with Science topic (Tapestry)</p> <p><b>Lesson 1:</b> Developing through play</p> <p><b>Knowledge:</b></p>	<p><b>HAGGADAH</b></p> <p>Make and evaluate models of Anderson Shelters (Topic books)</p> <p><b>Lesson 1:</b> Design a new Anderson Shelter</p> <p><b>Knowledge:</b></p>	<p>Programming a compass - Geography</p> <p><b>Lesson 1:</b> Navigating the world</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>What a device is</li> <li>The 6 Rs of sustainability</li> </ul>	<p><b>WIRED FLOWERS</b></p> <p>Create a theme park themed around human circulatory system</p> <p><b>Lesson 1:</b> Automatas</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know and follow health and safety</li> </ul>	<p>Creating costumes and props for the Year 6 play ‘/[[;</p> <p><b>Lesson 1:</b> Costume design</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Sewing is a method of joining fabric, and different stitches can</li> </ul>



	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To identify five basic tastes</li> <li>To match complementary flavours</li> <li>Explain why certain flavours work well together</li> </ul> <p><b>Vocab:</b> balance, bitter, pairing, complement, enhance, salty, sour, sweet, umami</p> <p><b>Lesson 2:</b> Three ingredients, three courses</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Not all courses compliment one another</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To research a recipe by ingredient</li> <li>To list ingredients needed for chosen recipe</li> <li>Read the method and list the equipment required</li> </ul> <p><b>Vocab:</b> equipment, ingredients, research, flavour, method, recipe</p> <p><b>Lesson 3:</b> Ingredients and skills (optional)</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>How to seek guidance if something is unfamiliar</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To identify and use preparation techniques needed for recipes</li> </ul>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To research and analyse a range of children's toys</li> <li>To apply their knowledge of form and function</li> </ul> <p><b>Vocab:</b> benefit, fit for purpose, function, research, fine motor skills, form, gross motor skills, user</p> <p><b>Lesson 2:</b> Game Plan</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>What makes the buzzer sound</li> <li>What components to use</li> <li>How to make the game easier/more difficult</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To identify and name components in the steady hand game</li> <li>To decide on clear design criteria for their game</li> <li>To design a game and draw it from three different perspectives</li> <li>To create a design that reflects design criteria</li> </ul> <p><b>Vocab:</b> buzzer, copper, electricity, circuit, design criteria, net, sky view drawing, top view drawing</p>	<ul style="list-style-type: none"> <li>Anderson Shelters were designed by Sir John Anderson and used during WW2</li> <li>Anderson shelters were small and cheap and could be put up in people's gardens and could fit up to 6 people</li> <li>Shelters were made out of 6 steel sheets and half buried in gardens to keep people secure</li> <li>Some people grew flowers over their shelter!</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>Consider what characteristics a shelter would need to have and how it will be used</li> <li>To design, draw and label an Anderson shelter</li> <li>To improve my design based on peer evaluation</li> </ul> <p><b>Vocab:</b> Anderson shelter, design criteria, equipment, landscape features, plan view</p> <p><b>Lesson 2:</b> Building structures</p> <p><b>Knowledge:</b></p>	<ul style="list-style-type: none"> <li>That Tinkercad is a piece of computer aided design software</li> <li>How to place, manoeuvre and combine 3D objects using CAD</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To write a design brief from information submitted by a client</li> <li>To develop design criteria to meet the client's request</li> <li>To consider and suggest additional functions for my navigation tool</li> </ul> <p><b>Vocab:</b> application (app), client, compass, design criteria, equipment, GPS tracker, navigation, pedometer, smart, smartphone, tablet</p> <p><b>Lesson 2:</b> Programming a navigation tool</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Understanding of computing to program, monitor and control their products</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To write a program to include multiple functions as part of a navigation device</li> </ul>	<p>rules E.g. how to carry and use a saw safely.</p> <ul style="list-style-type: none"> <li>Mechanisms control movement and can change one kind of motion into another.</li> <li>What a frame structure is.</li> <li>How to independently measure and mark wood accurately.</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To suggest appropriate design criteria points to fulfil the design brief.</li> <li>To prepare wood for assembly by measuring, marking and cutting each piece.</li> <li>To measure, mark and check the accuracy of the wood and card automata components.</li> </ul> <p><b>Vocab:</b> accurate, bench hook, design brief, mark out, tenon saw, automata, component, design criteria, sandpaper, woodwork</p> <p><b>Lesson 2:</b> Frame assembly</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand that the components must be cut</li> </ul>	<p>be used when sewing.</p> <ul style="list-style-type: none"> <li>Tying a knot after sewing the final stitch is important.</li> <li>When two edges of the fabric have been joined together, it is called a seam.</li> <li>It is important to leave space on the fabric for the seam.</li> <li>A fastening holds two pieces of material together (e.g., zipper, toggle, button, press stud and velcro), and different fastenings are useful for different purposes.</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To design a waistcoat.</li> <li>To annotate designs.</li> <li>To design clothing to a set of design criteria.</li> </ul> <p><b>Vocab:</b> annotate, decorate, design criteria, fabric, properties, target audiences, target customer, costume, waterproof</p> <p><b>Lesson 2:</b> Preparing fabric</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand that it is important to</li> </ul>
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<ul style="list-style-type: none"> <li>To explain the combination of ingredients in a recipe</li> </ul> <p><b>Vocab:</b> balance, enhance, preparation, complement, pairing</p> <p><b>Lesson 4:</b> To start</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know how to follow a recipe</li> <li>Basic food hygiene and safety</li> <li>Farm to fork process</li> <li>Why certain combinations of food work</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To prepare ingredients and follow a recipe safely and sensibly</li> <li>To describe the farm to fork process for a given ingredient using a storyboard</li> <li>To contribute a recipe to a class cookbook using imperative verbs, adjectives and illustrations</li> </ul> <p><b>Vocab:</b> Farm to fork, ingredients, preparation, storyboard, flavour, method, recipe</p> <p><b>Lesson 5:</b> The main course</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know how to follow a recipe</li> <li>Basic food hygiene and safety</li> <li>Farm to fork process</li> </ul>	<p><b>Lesson 3:</b> Base building</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>How to assemble 3D shapes</li> <li>What a good quality base should look like</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To accurately cut and assemble a net</li> <li>To decorate the base ensuring a high quality finish</li> <li>To ensure the sides of the base are aligned when glued</li> <li>To use tabs to secure pieces of the net in place</li> </ul> <p><b>Vocab:</b> assemble, net, tabs, design criteria, stable</p> <p><b>Lesson 4:</b> Electronics and assembly</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To name and be able to describe the electrical components</li> <li>How to make a buzzer sound or a bulb light up</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To make a test circuit</li> <li>To incorporate the circuit into the base</li> <li>To name the electrical components</li> </ul>	<ul style="list-style-type: none"> <li>Understanding of how to strengthen, stiffen and reinforce complex structures</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To build an Anderson structure using the techniques demonstrated as well as prior knowledge of structures</li> <li>To explain how structures can be strengthened by manipulating materials and shapes</li> <li>I can measure, mark, cut and shape wood to create a range of structures</li> </ul> <p><b>Vocab:</b> bench hook, modify, reinforce, user, mark out, prototype, tenon saw</p> <p><b>Lesson 3:</b> Perfecting structures</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>What makes a successful structure</li> <li>Understanding of how to strengthen, stiffen and reinforce complex structures</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>Testing and adapting design to improve it</li> </ul>	<ul style="list-style-type: none"> <li>To program a n, e, s and w cardinal compass</li> <li>To explain the key functions in my program, including any additions</li> <li>Cross with ICT: to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.</li> <li>To explain how their program fits the design criteria and how it would be useful as part of a navigation tool</li> </ul> <p><b>Vocab:</b> boolean, duplicate, if statement, program, variable, copy, function, loop, value</p> <p><b>Lesson 3:</b> Product concept</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand the need for sustainable design</li> <li>Understanding of computing to program, monitor</li> </ul>	<p>accurately for the frame to function.</p> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To assemble the automata frame components and supports with the help of an exploded diagram.</li> <li>To assemble a product with the support of an exploded diagram.</li> <li>To secure the joints of my frame at right angles.</li> <li>To use a glue gun safely.</li> </ul> <p><b>Vocab:</b> assembly diagram, communication, designer, verbal, client, customer, exploded diagram, visual</p> <p><b>Lesson 3:</b> Experimenting with cams</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand that the cam profile causes a follower to rise, fall or remain static at different points depending on its shape.</li> <li>To know what a cross-sectional diagram is</li> <li>To know what a cam/cam profile, follower is</li> </ul>	<p>design clothing with the client/target customer in mind.</p> <ul style="list-style-type: none"> <li>To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric.</li> <li>To understand the importance of consistently sized stitches.</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To mark and cut fabric according to a design.</li> <li>To explain the differences between my design and the template.</li> <li>To accurately mark out the outline of the panels for my costume.</li> <li>To cut neatly and accurately.</li> </ul> <p><b>Vocab:</b> adapt, fastening, template, fabric, shape, costume</p> <p><b>Lesson 3:</b> Assembling a costume</p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand that it is important to design clothing with the client/target customer in mind.</li> </ul>
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	<ul style="list-style-type: none"> <li>Why certain combinations of food work</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To prepare ingredients and follow a recipe safely and sensibly</li> <li>To describe the farm to fork process for a given ingredient using a storyboard</li> <li>To contribute an attractive and easily understood recipe page to the class cookbook using imperative verbs, adjectives and illustrations</li> </ul> <p><b>Vocab:</b> Farm to fork, ingredients, preparation, method, flavour, storyboard, recipe</p> <p><b>Lesson 6: Dessert</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know how to follow a recipe</li> <li>Basic food hygiene and safety</li> <li>Farm to fork process</li> <li>Why certain combinations of food work</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To prepare ingredients and follow a recipe safely and sensibly</li> <li>To describe the farm to fork process for a given ingredient using a storyboard</li> </ul>	<p><b>Vocab:</b> assemble, bulb, circuit, switch, battery, buzzer, pliers, test</p>	<ul style="list-style-type: none"> <li>To use a range of materials to reinforce and add decoration to their structures</li> </ul> <p><b>Vocab:</b> cladding, jelutong, structure, dowel, reinforce</p> <p><b>Lesson 4: Anderson shelter landscape</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Importance of landscape design for outdoor spaces</li> <li>Positive and negative impacts on users</li> <li>Landscape features they like/do not like</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To attach structures to the base, reinforcing the join where necessary</li> <li>Consider the surrounding environment of their Anderson shelter</li> <li>To create landscape features and features for indoor environment of shelter using a range of materials</li> </ul> <p><b>Vocab:</b> design criteria, natural materials, prototype, user</p>	<p>and control their products</p> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To develop a sustainable product concept</li> <li>To consider materials and their functional properties</li> <li>To develop a product idea through annotated sketches</li> </ul> <p><b>Vocab:</b> biodegradable, corrode, finite, infinite, materials, non-recyclable, product lifespan, sustainable, unsustainable design, concept, environmentally friendly, functional properties, lightweight, mouldable, product lifecycle, recyclable, sustainable design</p> <p><b>Lesson 4: 3D CAD models</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Key industries that utilise 3D CAD modelling and why</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To develop 3D CAD skills to produce a virtual model</li> <li>Place and manoeuvre 3D objects using computer aided design</li> </ul>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To explore the relationship between cam profiles and follower movement to inform a design decision.</li> <li>To make informed design decisions based on my exploration of cam profiles.</li> <li>To complete an automata mechanism, including a cam, follower and axle.</li> </ul> <p><b>Vocab:</b> cam, cam profile, cross-sectional diagram, follower, follower base, follower topper, inner workings, mechanism</p> <p><b>Lesson 4: Finishing touches</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].</li> <li>To understand what a cross sectional diagram is</li> <li>To understand what a cam, cam profiler and follower is</li> </ul>	<ul style="list-style-type: none"> <li>To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric.</li> <li>To understand the importance of consistently sized stitches.</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To assemble a waistcoat.</li> <li>To sew a strong running stitch.</li> <li>To ensure their stitches are small, neat and follow the edge.</li> <li>To tie strong knots to secure the thread in place.</li> </ul> <p><b>Vocab:</b> fabric, running stitch, sew, knot, seam, thread</p> <p><b>Lesson 4: Decorating my costume</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>What patterns are included in their design</li> <li>How they will replicate it</li> <li>What materials are on their design</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To decorate their costume.</li> </ul>
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	<ul style="list-style-type: none"> <li>To contribute an attractive and easily understood recipe page to the class cookbook using imperative verbs, adjectives and illustrations</li> </ul> <p><b>Vocab:</b> Farm to fork, ingredients, preparation, method, flavour, storyboard, recipe</p>			<ul style="list-style-type: none"> <li>To change the properties of or combine one or more 3D objects using computer aided design to produce a 3D CAD model</li> </ul> <p><b>Vocab:</b> 3D models, CGI, group, opaque, shape properties, transparent, virtual, CAD, consumables, manoeuvre, replica, Tinkercad, ungroup, workplane</p> <p><b>Lesson 5: Product Pitch</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>A product pitch and its purpose</li> <li>What key information should be included in the product pitch</li> </ul> <p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To present a pitch to 'sell' the product to a specified client</li> <li>To explain the key functions and features of their navigation tool.</li> <li>To explain material choices and why they were chosen.</li> <li>To describe how the product fits the client's request and</li> </ul>	<p><b>Skill:</b></p> <ul style="list-style-type: none"> <li>To explore the relationship between cam profiles and follower movement to inform a design decision.</li> <li>To understand that the cam profile causes a follower to rise, fall or remain static at different points depending on its shape.</li> <li>To make informed design decisions based on their exploration of cam profiles.</li> <li>To complete an automata mechanism, including a cam, follower and axle.</li> </ul> <p><b>Vocab:</b> cam, cross sectional diagram, follower base, inner workings, cam profile, follower, follower topper, mechanism</p> <p><b>Lesson 4: Finishing touches</b></p> <p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>To understand that good quality products should be neat, accurate and securely assembled.</li> </ul>	<ul style="list-style-type: none"> <li>To secure a fastening.</li> <li>To attach objects for decoration using thread.</li> <li>To evaluate their work according to the design criteria.</li> </ul> <p><b>Vocab:</b> adapt, decorate, design criteria, annotate, detail</p>
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				<p>how it will benefit the customers.</p> <p><b>Vocab:</b> convince, functional, manufacture, pitch, feature, investment, model, stock</p>	<p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>• To apply the housing and finishing touches to the automata frame.</li> <li>• To measure and apply panels to the automata to conceal the inner workings.</li> <li>• To evaluate my automata against a list of criteria.</li> </ul> <p><b>Vocab:</b> evaluation, housing, measure, storefront, flat-pack, inner workings, mechanism</p>	
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