

|                                       | SYSTEMS<br>MECHANICAL   | COOKING AND NUTRITION<br>SEASONAL AND LOCAL  | TEXTILES  |
|---------------------------------------|---|--|---|
| BIG IDEA                              | AGENTS FOR CHANGE<br>Australia and bushfires  | ANCIENT ANCESTORS<br>The Mayans  | WHERE IN THE WORLD?<br>Europe and rivers  |
| PROJECT ON A PAGE                     | <a href="#">CAMS</a><br>(progression from Y3 levers and linkages)   | <a href="#">Celebrating culture and seasonality</a><br>(cooking/ nutrition progression from Y3/4)  | <a href="#">Combining different fabric shapes/ CAD</a><br>(progression link with textiles Y3)   |
| SUGGESTED ACTIVITIES                  | <ul style="list-style-type: none"> <li>create mechanical systems (cams) to create moving dioramas of Australian wildlife.</li> </ul>  | <ul style="list-style-type: none"> <li>prepare and create dishes following a recipe inspired by the Mayans (including good hygiene practices). To conduct sensory analysis of a range of existing products.</li> </ul>   | <ul style="list-style-type: none"> <li>investigate waterproof properties of materials and use this knowledge to design and develop a product.</li> </ul>  |
| FAMOUS IN THE FIELD                   | Diorama of moving animals   | Mayan Empire   | An understanding of Gore Tex and other innovative materials<br>Walking sandal designs/designers<br>Charles Macintosh FRS inventor of the modern waterproof raincoat. The Mackintosh raincoat is named after him.  |
| DESIGN                                | <ul style="list-style-type: none"> <li>Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and eb-based resources.</li> <li>Develop a simple design specification to guide their thinking.</li> <li>Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.</li> </ul>  | <ul style="list-style-type: none"> <li>Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification.</li> <li>Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose.</li> <li>Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas.</li> </ul>                            | <ul style="list-style-type: none"> <li>Generate innovative ideas by carrying out research including surveys, interviews and questionnaires.</li> <li>Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer- aided design.</li> <li>Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.</li> </ul> |
| MAKE                                  | <ul style="list-style-type: none"> <li>Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team.</li> <li>Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.</li> </ul>  | <ul style="list-style-type: none"> <li>Write a step-by-step recipe, including a list of ingredients, equipment and utensils</li> <li>Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients.</li> <li>Make, decorate and present the food product appropriately for the intended user and purpose.</li> </ul>   | <ul style="list-style-type: none"> <li>Produce detailed lists of equipment and fabrics relevant to their tasks.</li> <li>Formulate step-by-step plans and, if appropriate, allocate tasks within a team.</li> <li>Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.</li> </ul>  |
| EVALUATE                              | <ul style="list-style-type: none"> <li>Compare the final product to the original design specification.</li> <li>Test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>Consider the views of others to improve their work.</li> <li>Investigate famous manufacturing and engineering companies relevant to the project.</li> </ul> | <ul style="list-style-type: none"> <li>Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.</li> <li>Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.</li> <li>Understand how key chefs have influenced eating habits to promote varied and healthy diets.</li> </ul> | <ul style="list-style-type: none"> <li>Investigate and analyse textile products linked to their final product.</li> <li>Compare the final product to the original design specification.</li> <li>Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>Consider the views of others to improve their work.</li> </ul>  |
| TECHNICAL KNOWLEDGE AND UNDERSTANDING | <ul style="list-style-type: none"> <li>Understand that mechanical systems have an input, process and an output.</li> <li>Understand how cams can be used to produce different types of movement and change the direction of movement.</li> <li>Know and use technical vocabulary relevant to the project.</li> </ul>  | <ul style="list-style-type: none"> <li>Know how to use utensils and equipment including heat sources to prepare and cook food.</li> <li>Understand about seasonality in relation to food products and the source of different food products.</li> <li>Know and use relevant technical and sensory vocabulary.</li> </ul>   | <ul style="list-style-type: none"> <li>A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</li> <li>Fabrics can be strengthened, stiffened and reinforced where appropriate.</li> </ul>  |
| PRIOR LEARNING                        | <ul style="list-style-type: none"> <li>Experience of axles, axle holders and wheels that are fixed or free moving.</li> <li>Basic understanding of different types of movement.</li> <li>Experience of cutting and joining techniques with a range of materials including card, plastic and wood.</li> <li>An understanding of how to strengthen and stiffen structures.</li> </ul>   | <ul style="list-style-type: none"> <li>Have knowledge and understanding about food hygiene, nutrition, healthy eating and a varied diet.</li> <li>Be able to use appropriate equipment and utensils, and apply a range of techniques for measuring out, preparing and combining ingredients.</li> </ul>  | <ul style="list-style-type: none"> <li>Experience of basic stitching, joining textiles and finishing techniques.</li> <li>Experience of making and using simple pattern pieces.</li> </ul>  |
| KEY VOCABULARY                        | cam, snail cam, off-centre cam, peg cam, pear shaped cam<br>follower, axle, shaft, crank, handle, housing, framework<br>rotation, rotary motion, oscillating motion, reciprocating motion annotated sketches, exploded diagrams mechanical system, input movement, process, output movement<br>design decisions, functionality, innovation, authentic, user, purpose,   | ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix,<br>rubbing in, whisk, beat, roll out, shape, sprinkle, crumble   | seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up,   |

design specification, design brief

design specification, innovative, research, evaluate, design brief

prototype