



***“Be Brave, Be Bright and Be YOU!”***



# Monkswray Junior School Design Technology Progression

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| <p>Prior expectations from Key Stage 1</p> <p><b>Cooking and Nutrition</b></p> <ul style="list-style-type: none"><li>• Cut, peel, grate, chop a range of ingredients</li><li>• Work safely and hygienically</li><li>• Know about the Eatwell plate</li><li>• Understand where food comes from</li></ul> <p><b>Structure</b></p> <ul style="list-style-type: none"><li>• Join materials in a variety of ways</li><li>• Know some ways of making structures stronger</li><li>• Show how to stiffen some materials</li><li>• Know how to make a simple structure more stable</li></ul> <p><b>Mechanical Systems</b></p> <ul style="list-style-type: none"><li>• Attach wheels to a chassis using an axle</li><li>• Know some different ways of making things move in a 2D plane</li></ul> <p><b>Textiles</b></p> <ul style="list-style-type: none"><li>• Cut out shapes which have been created by drawing round a template</li><li>• Decorate using a variety of techniques</li></ul> |                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                 |                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                 | Links to real life successful people in the field. |
| Year 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Cooking and Nutrition</b><br>Can I design, make and evaluate a healthy snack for Mrs Hatch to serve at breaktime?                                                                                      | <b>Structure</b><br>Can I design and make a bridge, using stable joins, that is fit for purpose?                                                                                                                                                                                                                                           | <b>Mechanical Systems</b><br>Can I work in a group to design, make and evaluate a pop-up book for a toddler?                                                                    | <b>Brunel – building bridges</b>                   |
| Suggested strand specific vocabulary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | name of products, names of equipment, utensils, ingredients, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, fresh, savoury, hygienic, edible, healthy/varied diet | shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision, | mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating                                                 |                                                    |
| Key DT technical knowledge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"><li>• Follow recipes</li><li>• Join and combine ingredients</li><li>• Begin to understand the food groups – Use Eatwell plate</li></ul>                                 | <ul style="list-style-type: none"><li>• Use an increasingly appropriate technical vocabulary for tools, materials and their properties.</li><li>• Strengthen frames with diagonal struts</li></ul>                                                                                                                                         | <ul style="list-style-type: none"><li>• Use an increasingly appropriate technical vocabulary for tools, materials and their properties.</li><li>• Prototype a product</li></ul> |                                                    |



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|                                                              |                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"><li>Measure and mark square section, strip and dowel accurately to 1cm</li></ul>                                                     | <ul style="list-style-type: none"><li>Use appropriate finishing techniques</li><li>Use linkages to make movement larger or more varied</li></ul>                                                                                                  |                                                                     |
| Key Vocab for technical knowledge                            | user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing                                                                                                                                                                                  |                                                                                                                                                                        |                                                                                                                                                                                                                                                   |                                                                     |
| Year 4                                                       | <u>Cooking and Nutrition</u><br>Can I design, make and evaluate a new bread product that could be served alongside a healthy meal?                                                                                                                                                                                                                                          | <u>Textiles</u><br>Can I design, make and evaluate a bag for my individually chosen person?                                                                            | <u>Electrical Systems</u><br>Can I design, make and evaluate a light up picture?                                                                                                                                                                  | Paul Hollywood – Bread<br><br>Thomas Edison – Inventor of lightbulb |
| Suggested strand specific vocabulary – new vocabulary in red | name of products, names of equipment, utensils, techniques and ingredients, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, <b>cook</b> , fresh, savoury, hygienic, edible, <b>grown</b> , <b>reared</b> , <b>caught</b> , <b>frozen</b> , <b>tinned</b> , <b>processed</b> , <b>seasonal</b> , <b>harvested</b> healthy/varied diet | fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance | <b>series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device</b> |                                                                     |
| Key DT technical knowledge                                   | <ul style="list-style-type: none"><li>Make healthy eating choices from Eatwell plate</li><li>Understand seasonality</li><li>Know where and how ingredients are reared and caught</li><li>Prepare and cook using different cooking techniques</li></ul>                                                                                                                      | <ul style="list-style-type: none"><li>Understand seam allowance</li><li>Sew on buttons and make loops</li></ul>                                                        | <ul style="list-style-type: none"><li>Incorporate a circuit in to a model</li><li>Use electrical systems such as switches, bulbs and buzzers</li><li>Use ICT to program and control products</li></ul>                                            |                                                                     |



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| Key Vocab for Technical Vocabulary -<br><i>new vocabulary in red</i>   | evaluating, design brief, design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, <i>sensory evaluations</i>                                                                                                                   |                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                           |                                     |
| Year 5                                                                 | <i>Cooking and Nutrition</i><br>Can I design, make and evaluate a pizza that could be served in an Italian restaurant?                                                                                                                                                                                                               | <i>Structure</i><br>Can I design, make and evaluate a wooden flower box for a keen gardener?                                                                                                                                                 | <i>Mechanical systems</i><br>Can I design, make and evaluate a moving toy for a toddler?                                                                                                                                                  | <i>Gino Di Campo – Italian chef</i> |
| Suggested strand specific vocabulary –<br><i>New vocabulary in red</i> | ingredients, <i>yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs</i> fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, savoury, source, seasonality utensils, <i>combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble</i> | <i>frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent</i>                                                                                                                          | <i>pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output</i> |                                     |
| Key DT technical knowledge                                             | <ul style="list-style-type: none"> <li>Join and combine a widening range of ingredients</li> <li>Select and prepare foods for a particular purpose</li> <li>Know where and how ingredients are grown and processed</li> </ul>                                                                                                        | <ul style="list-style-type: none"> <li>Build frameworks</li> <li>Join materials using appropriate methods</li> <li>Stiffen and reinforce complex structures</li> <li>Cut strip wood, dowel, square section wood accurately to 1mm</li> </ul> | <ul style="list-style-type: none"> <li>Build frameworks to support mechanisms</li> <li>Join materials using appropriate techniques</li> <li>Use mechanical systems</li> </ul>                                                             |                                     |
| Key Vocab –<br><i>new vocabulary in red</i>                            | <i>design decisions, functionality, authentic</i> , user, purpose, <i>design specification</i> , design brief, innovative, <i>research</i> , evaluate, design criteria, annotate, evaluate, mock-up, prototype                                                                                                                       |                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                           |                                     |
| Year 6                                                                 | <i>Cooking and Nutrition</i><br>Can I design, make and evaluate a three course meal for a market need?                                                                                                                                                                                                                               | <i>Textiles</i><br>Can I design, make and evaluate a teddy bear for an evacuee child?                                                                                                                                                        | <i>Electrical systems/programming and control</i><br>Can I design, make and evaluate a toy car for an 8-10 year old, that can be controlled using a CAD system?                                                                           | <i>Mary Berry – Baking</i>          |



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|                                                                     |                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                   | Nadiya Hussain – Savoury dishes |
| Suggested strand specific vocabulary – <b>New vocabulary in red</b> | ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs<br>fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, <b>gluten, dairy, allergy, intolerance</b> , savoury, source, seasonality<br>utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble | seam, seam allowance, <b>wadding, reinforce, right side, wrong side, hem</b> , template, <b>pattern pieces</b> , name of textiles and fastenings used, <b>pins, needles, thread, pinking shears</b> , fastenings, | reed switch, toggle switch, push-to-make switch, push-to-break switch, <b>light dependent resistor (LDR)</b> , tilt switch, <b>light emitting diode (LED)</b> , bulb, bulb holder, battery, battery holder, <b>USB cable</b> , wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit                                 |                                 |
| Key DT technical knowledge                                          | <ul style="list-style-type: none"> <li>Understand and apply the principles of a healthy varied diet</li> <li>Choose ingredients to support healthy eating choices when designing their products</li> <li>Prepare and cook</li> </ul>                                                                                                                                      | <ul style="list-style-type: none"> <li>Join materials using appropriate methods</li> <li>Create 3D textile products using pattern pieces</li> <li>Understand pattern layout with textiles</li> </ul>              | <ul style="list-style-type: none"> <li>Join materials using appropriate techniques</li> <li>Cut strip wood, dowel, square section wood accurately to 1mm</li> <li>Build frameworks to support mechanisms</li> <li>Use mechanical systems such as cams, pulleys and gears</li> <li>Use electrical systems such as motors and switches</li> <li>Programme, monitor and control using ICT</li> </ul> |                                 |
| Key Vocab                                                           | function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype                                                                                                                                                              |                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |