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| **Disciplinary knowledge Design & Technology Curriculum**  Kensington Junior Academy |

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| **Autumn** | | | |
| **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Pneumatics** | **Pivots and levers** | **Levers and pulleys** | **Electrics** |
| **Investigate and research** | | | |
| Investigate how pneumatic systems involve air moving objects under pressure.  De-construct a simple pneumatic system to understand how it works.  Demonstrate knowledge of a range of pneumatic mechanisms. |  | Investigate, analyse and evaluate existing everyday products and existing or pre-made toys that incorporate levers or pulley systems  Use videos and photographs of products that cannot be explored through first-hand experience.  Use observational drawings and questions to develop understanding of products  Know familiar objects that incorporate pulleys and levers and investigate how they are positioned.  Link scientific knowledge of the transference of forces to design by using pulleys | Deconstruct simple electrical systems to understand how they work.  Know how to use different components to control a bulb in a simple circuit.  Be able to link scientific knowledge by using lights, switches or buzzers. |
| **Design** | | | |
| Use known techniques to create detailed and accurate annotated designs with labels.  Show they have considered both the purpose and audience for their product.  Create a design that effectively meets the specification.  Design a product that looks attractive.  Draw annotated designs with labels that detail their material choices and suitability of the given materials. |  | Produce a detailed, step-by-step plan.  Explain how a product will appeal to a specific audience and how it meets the purpose  Create annotated 3D designs | Draw in a technical way such as through exploded diagrams or cross-sectional drawing to display finer details |
| **Make modify** | | | |
|  | Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Use tools safely and accurately to get the best results  Mark measure and cut accurately and safely |  |  |
| **Evaluate** | | | |
|  | Be able to evaluate products for both their purpose and appearance.  Know how to explain improvements and present a product in an interesting way.  Know how to evaluate their ideas and begin to consider the views of others to improve their work. |  |  |
| **Spring** | | | |
| **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Food technology** | **Food technology** | **Textiles** | **Cams** |
| **Investigate and research** | | | |
| Prepare ingredients hygienically. | know and use hygienic and safe practices when making food.  Experience different bread types from around the world. |  |  |
| **Design** | | | |
| To make healthy and tasty fajita’s | To make Roman style bread using sour dough | Design, make and evaluate a belt for garden tools | Design make and evaluate a moving toy for a nursery child. |
| Select from a range of vegetables according to their characteristics e.g. colour, texture and taste to create a tasty fajita mixture. | Be able to plan the main stages of a recipe, listing ingredients, utensils and equipment.  Be able to bring a creative element to the design of their bread. |  |  |
| **Make modify** | | | |
| Know how to chop and slice food carefully using a knife.  Follow a recipe with developing accuracy measuring with care.  Cook ingredients controlling the temperature of the hob.  Be able to select the most appropriate tools. | Follow a recipe accurately measuring ingredients to the nearest gram.  Cook ingredients controlling the temperature of the oven. | Be able to sew using a range of stitches to join including running, back, chain and stem stitch.  Know the equipment and fabric that’s needed and are relevant to their tasks.  Follow a step-by-step plan.  Know 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  Make products through stages of prototypes | Know how to produce detailed lists of tools, equipment and materials.  Know how to follow a step-by-step plan accurately and, if appropriate, allocate tasks within a team.  Know 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 |
| **Evaluate** | | | |
| Know what they do and do not like.  Be able to compare their product to others. | Evaluate their bread and suggest improvements to their recipe and method.  Evaluate their bread based on the design criteria, taste, look, size and structure. | know which material has produced the best outcome and why.  Know if final product is faithful to the original design specification.  Test products with the intended user and critically  evaluate the quality of the design, manufacture, for  functionality and fitness for purpose.  Consider the views of others to improve their work. | Compare the final product to the original design specification.  Test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.  Canvas the views of others to improve their work. |

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| **Summer** | | | |
| **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Packaging shell structures** | **Textiles** | **Food technology** | **Food technology** |
| **Investigate and research** | | | |
|  | Make drawings of existing products, stating the user and purpose.  Deconstruct existing products.  Identify and label the fabrics, fastenings and techniques used.  Begin to use stitches and techniques from researched materials. | Know that a terrine is formed in layers and the techniques used to create them.  Know the different in ingredients used in terrines. | Know how to canvas the opinions of others.  Know what you can confidently cook well. |
| **Design** | | | |
| **Making and evaluate packaging for a gift for a family member.** | **Investigate and design a prototype for an embroidered fabric case.** | **To make and evaluate a seasonal terrine.** | **To prepare and cook a meal for others for under £5.** |
| Use annotated sketches, prototypes, final product sketches and pattern pieces. | Know how to produce a plan and explain the use of materials, equipment and processes needed.  Use annotated sketches show the different viewpoints of the product they are creating.  Produce annotated sketches, prototypes, final product sketches and pattern pieces.  Use annotated sketches and prototypes to develop and model ideas. | Know how to write a step-by-step recipe, including a list of ingredients, equipment and utensils needed to fulfil their design brief.  Understand the importance of correct storage and handling of ingredients. | Create a refine recipes including ingredients, methods, coking times and temperatures.  Know how food ingredients should be stored and give reasons.  Know how to work within a budget to create a meal. |
| **Make and modify** | | | |
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| Know how to select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy.  Be able to explain their choice of materials according to functional and aesthetic qualities.  Know how to draw, cut and fold nets to create shapes.  Generate an appealing, functional product fit for purpose and specific users.  Know how to apply simple design ideas to a shell structure.  Know the importance of measuring accurately to create a complete shell. | Be able to sew running, back, chain and stem stich.  Begin to sew French knots.  Make simple prototype designs using patterned stitches. | Know how to make, decorate and present the food product appropriately for the intended user and purpose.  Know how to follow a step-by-step recipe.  Know how to chill ingredients to form a shape. | Know how to make, decorate and present the food product appropriately for the intended user and purpose.  Measure accurately calculating ratios of ingredients to scale up or down from a recipe.  Use knowledge of micro-organisms to prepare food safely.  Demonstrate a range of cooking techniques for example frying, baking and roasting |
| **Evaluate** | | | |
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| Know why a model has or has not been successful |  | Know how to critique their own and someone else’s terrine based on the design criteria.  Know what made their terrine successful and what needed improving. | Know how to ask others to evaluate their meal.  Know how they would improve their meal if they had to cook it again. |