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| Year 3 | | |
| KS2 National Curriculum Objectives | | |
| When designing and making, pupils should be taught to:  **Design**   * use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups * generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design   **Make**   * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities   **Evaluate**   * investigate and analyse a range of existing products * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work * understand how key events and individuals in design and technology have helped shape the world   **Technical knowledge**   * apply their understanding of how to strengthen, stiffen and reinforce more complex structures * understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] * understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] * apply their understanding of computing to program, monitor and control their products. | | |
| Year 3 Key Skills | | |
| Autumn Term | Spring Term | Summer Term |
| **Structures** | **Food and Nutrition** | **Mechanisms** |
| **Design**   * Designing a castle with key features to appeal to a specific person/ purpose * Drawing and labelling a castle design using 2D shapes, labelling: - the 3D shapes that will create the features - materials need and colours   **Make**   * Constructing a range of 3D geometric shapes using nets * Creating special features for individual designs Making facades from a range of recycled materials   **Evaluation**   * Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design * Suggesting points for modification of the individual designs   **Technical Knowledge**   * Identifying features of a castle * Identifying suitable materials to be selected and used for a castle, considering weight, compression, tension * Understanding the terminology of strut, tie, span, beam * Understanding the difference between frame and shell structure | **Design**   * Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish   **Make**   * Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination * Following the instructions within a recipe   **Evaluation**   * Establishing and using design criteria to help test and review dishes * Describing the benefits of seasonal fruits and vegetables and the impact on the environment * Suggesting points for improvement when making a seasonal tart   **Technical Knowledge**   * Working with cooking equipment safely and hygienically * Learning that imported foods travel from far away and this can negatively impact the environment * Learning that vegetables and fruit grow in certain seasons * Learning that each fruit and vegetable gives us nutritional benefits * Learning to use, store and clean a knife safely | **Design**   * Designing a popup book which uses a mixture of structures and mechanisms * Naming each mechanism, input and output accurately   **Make**   * Following a design brief to make a pop up book, neatly and with focus on accuracy * Making mechanisms and/ or structures using sliders, pivots and folds to produce movement * Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result   **Evaluation**   * Using the views of others to improve designs * Testing and modifying the outcome, suggesting improvements   **Technical Knowledge**   * Knowing that an input is the motion used to start a mechanism * Knowing that output is the motion that happens as a result of starting the input * Knowing that mechanisms control movement |
| Year 3 Curriculum Enrichment Opportunities | | |
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| Year 3 Vocabulary | | |
| Prototype, Structure, Measure, 2D, 3D, strut, tie, span, beam | Design, Savory, Senses, Ingredients, Products | Pop Up, Lever, Link, V Fold, Annotate, Accuracy |