|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Design** | *Objectives (children will learn to…)* |
| *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* | Create design criteria for a new type of bread (The Great Bread Bake Off) | Develop design criteria for a light (Battery Operated Lights) | Explore how different materials affect the movement and control of floor robots; plan an adventure map (Programming Adventures) | Research ideas about different animals to inform their design; develop design criteria for their automata animal (Automata Animals) |
| *generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design* | Design a new bread product (The Great Bread Bake Off)Design a circus themed juggling ball (Juggling Balls) | Develop and communicate a design for a light (Battery Operated Lights) | Design an adventure map (Programming Adventures) | Take feedback and improve their designs for a healthy seasonal meal (Super Seasonal Cooking) |
| **Make** |  |
| *select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately* | Shape salt dough; select ingredients and kitchen equipment to help them follow a bread making recipe (The Great Bread Bake Off)Perform tie-dye as a technique for decorating my fabric; research and trial different fillings for their juggling ball and decide upon the most functional one; cut around a template and a running stitch to create a hem; join their juggling ball using an appropriate stitch to create their finished shape (Juggling Balls) | Use kitchen tools correctly to prepare and make a tasty and nutritious drink (Edible Garden) | Create an adventure map using materials selected for their properties (Programming Adventures) Use a range of tools and equipment to join cardboard tubes accurately together; develop a range of practical skills to help make bends in marble runs (Marbulous Structures) | Use tools and equipment to perform the job of cutting, joining and finishing wood to make a frame (Automata Animals) |
| *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* | Use a functional technique to carefully decorate their fabric (Juggling Balls) | Select materials and components to make a light (Battery Operated Lights) | Select from and use materials and components to make a marble run (Marbulous Structures) | Select materials to make a simple cam mechanism (Automata Animals)Select ingredients for a seasonal meal (Super Seasonal Cooking) |
| **Evaluate** |  |
| *investigate and analyse a range of existing products* | Investigate and analyse different breads made by Warburtons (The Great Bread Bake Off)Investigate and evaluate juggling balls (Juggling Balls) |  | Investigate free standing structures; investigate commercially bought marble runs (Marbulous Structures) |  |
| *evaluate their ideas and products against their own design criteria and consider the views of others to improve their work* | Evaluate their product (The Great Bread Bake Off)Evaluate their product (Juggling balls) | Complete a detailed evaluation of their battery operated light (Battery Operated Lights) | Evaluate their marble run against previously set design criteria (Marbulous Structures) | Evaluate their product (Automata Animals)Work as a group to generate, evaluate and refine recipe ideas; prepare, cook and evaluate a healthy seasonal meal (Super Seasonal Cooking) |
| *understand how key events and individuals in design and technology have helped shape the world* | Find out about people and events in the past that have shaped the way bread is made and sold today (The Great Bread Bake Off) | Explain how key events and individuals have helped shape technological developments in the way we light our homes (Battery Operated Lights) |  |  |
| **Technical Knowledge** |  |
| *apply their understanding of how to strengthen, stiffen and reinforce more complex structures* |  |  | Apply their understanding of structures to strengthen, reinforce and stabilise a cardboard tube (Marbulous Structures) |  |
| *understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]* |  |  |  | Understand how cams can be used to make a model move; understand how changing the shape of the cam changes the movement of the follower; use a cam mechanism to make a model of an animal move (Automata Animals) |
| *understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]* |  | Make and represent different types of circuits; make and use switches (Battery Operated Lights) |  |  |
| *apply their understanding of computing to program, monitor and control their products* |  |  | Programme and control floor robots (Programming Adventures) |  |
| **Cooking and Nutrition** |  |
| *understand and apply the principles of a healthy and varied diet* |  | Make a balanced meal made from herbs (Edible Garden) |  | Explain the importance of protein as a proportion of a healthy varied diet (Super Seasonal Cooking) |
| *prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques* | Knead and bake bread (The Great Bread Bake Off) | Cook a pesto and pasta dish; make a strawberry smoothie; prepare and cook/ assemble a healthy and tasty meal using tomatoes as the main ingredient (Edible Garden) |  | Prepare, cook and evaluate a healthy seasonal meal; explain how to correctly store and handle meat and fish (Super Seasonal Cooking) |
| *understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed* |  | Name some herbs and know how to grow them; explain where, when and how strawberries are grown in the UK; explain when tomatoes are in season in the UK and say where and how they are grown (Edible Garden) |  | Explain what seasonality means and know when different fruit and vegetables are in season in the United Kingdom; explain where, when and how a variety of ingredients are reared, caught and processed; taste and evaluate seasonal foods and recognise that sometimes we need to try a new food a few times to find out if we like it (Super Seasonal Cooking) |