**New Design and Technology including Cooking and Nutrition Linked to Kapow – Progression - Skills and Depth MTP**

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|  | Year 1 and Year 2 | | Year 3 and Year 4 | | Year 5 and Year 6 | |
| Cycle A  Cycle B  *Itallics are suggestions only .*  **FS**  Children safely use and explore a variety of materials , tools and techniques, experimenting with colour, design, texture, form and function.  Children use what they have learnt about media and materials in original ways, thinking about uses and purposes.  They represent their own ideas, thoughts and feelings through design and technology.  Selects appropriate resources and adapts work where necessary. | Autumn – UP and AWAY!  **Kapow Windmills**  Build Structures   * Design purposeful, functional, appealing products for other users based on design criteria * Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups * Use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] * Explore and evaluate a range of existing products * Evaluate their ideas and products against design criteria * Build structures, exploring how they can be made stronger, stiffer and more stable   Summer – Roots, shoots and Juicy Fruits  **Kapow Food unit Fruit and Vegetables Smoothies/ Balanced Diet**  Cooking and nutrition-   * Select from and use a wide range of ingredients, according to their characteristics * Explore and evaluate a range of existing products * To use the basic principles of healthy and varied diet to prepare dishes. * Understand where food comes from. | Autumn- Heroes and Villains  **Kapow- Puppets**  Textiles and other materials-   * Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups. * Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] * Select from and use a wide range of materials and components, including textiles according to their characteristics * Evaluate their ideas and products against design criteria   Autumn- Heroes and Villains  ***Kapow -Making a moving story book/Making a Moving Monster***  Mechanisms   * Explore and use mechanisms (for example leavers and sliders) in their products. * Design purposeful, functional, appealing products for themselves and other users based on design criteria * Evaluate their ideas and products against design criteria | Autumn- Egypt  **Kapow-Pneumatic Toys**  Mechanisms   * Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] * Apply their understanding of computing to program, monitor and control their products * Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work   Summer- It’s a Kind of Magic!  **Kapow-Torches**  Electrical Systems   * Apply their understanding of computing to program, monitor and control their products * Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] * Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular people.   Electronic charms | Spring- Friends, Romans and Countrymen  **Kapow-Eating Seasonally**  Cooking and Nutrition-   * Understand and apply the principles of a healthy and varied diet * Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed   Summer- Change  **Kapow Pavilions**  Structures   * Generate, develop, model and communicate their ideas through prototypes * Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately * Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. * Select from and use a wide range of tools and equipment to perform practical tasks (eg cutting, shaping and joining) * Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work   Mindful momwents | Autumn- Greece  **Kapow -Eating Seasonally** *(mousakka)/* **Come Dine With Me**  Cooking and Nutrition   * Understand and apply the principles of a healthy and varied diet * Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques * Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed * Select from and use a wider range of ingredients, according to their functional properties and aesthetic qualities   Spring- Out of This World  **Kapow-Steady Hands/ Greetings Cards**  Electrical Systems   * Apply their understanding of computing to program, monitor and control their products * Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] * 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   Monitoring devices | Autumn- At War  **Kapow- Waistcoats**  Textiles   * Design purposeful, functional, appealing products for themselves and other users based on design criteria * Generate, develop, model and communicate their ideas through discussion, annotated sketches, pattern pieces and computer-aided design * Select from and use a wider range of materials and components, including, textiles according to their functional properties and aesthetic qualities * 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 * 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   3D model- Computing to program, monitor and control products  Control a model using an ICT program  Navigating the world |
| Skills | Build Structures-   * Fold and cut paper/card. * Roll paper to create tubes. * Cut along lines curved and straight. * Strengthening sheet materials. * Understand what a net is. * Follow instructions to cut and assemble. * Understand what stable means and make a stable structure. * Know that cylinders are a strong type of structure. * Alter parts that do not work. * Test whether the structure is strong and stable and reinforce if necessary.   Cooking and Nutrition   * Cut, peel, grate and chop ingredients. * Work safely and hygienically. * Understand a balanced diet. * Prepare food safely (using the bridge or claw grip when chopping). | Textiles and other materials-   * Colour fabrics using fabric paints, printing, painting etc. * Cut out shapes using a template. * Join fabrics using running stitch, glue, staples, over sewing and tape. * Decorate fabrics with buttons, beads, sequins, braids and ribbons. * Join fabrics using different methods (pinning, stapling, gluing depending upon purpose). * Use a template to create a design. * Join two pieces of fabric together accurately. * Align two pieces of fabric. * Embellish a design using joining methods.   Using Mechanisms   * Look at objects and understand how they move. * Explore making mechanisms. * Understand that leavers and sliders are mechanisms. * Know that leavers and sliders can make things move. * Create moving models that use leavers and sliders. * When planning draw the moving parts and label each type. * Know how to safely make holes in card. | Mechanisms   * Understand how pneumatic systems work. * Know that pneumatic systems force air over a distance to create movement. * Use recycled household objects to create a pneumatic system. * Use syringes and balloons to make pneumatic systems.   Electrical Systems   * Identify electrical products (knowing what electrical conductors and insulators are) * Know that a battery contains stored electricity and can be used to power products. * Make a working circuit with a switch. * Assemble product according to the design criteria. | Cooking and Nutrition-   * Follow instructions. * Join and combine a range of ingredients * Work safely and hygienically. * Understand a balanced diet. * Know that climate effects food growth. * To know that not all fruits and vegetables can be grown in the UK. * Know what foods are currently in season. * Create a recipe that is healthy and nutritious. * Use, store and clean a knife safely.   Structures- Strengthen and stiffen materials   * Make a variety of different frame structures. * Design a structure that is stable and aesthetically pleasing. * Build a framework using a range of materials * Build a free standing structure. * Select appropriate materials to build a strong structure. * Strengthening sheet materials. * Select appropriate materials for cladding. | Cooking and Nutrition   * Select and prepare foods for a particular purpose. * Cut and shape ingredients using appropriate tools and equipment. * Join and combine food ingredients appropriately (for example beating, rubbing in). * Decorate appropriately. * Work safely and hygienically. * Understand a balanced diet. * Prepare a kitchen to cook in. * Describe the process of ‘farm to Fork’   Electrical Systems   * Name key circuit components used to create a functioning circuit. * Use graphite as a conductor. * Map out where different components of a circuit will go. * Understand that breaks in a circuit stop it from working (use/apply this knowledge to make products work effectively). * Use batteries safely knowing that they contain acid, which can be dangerous if they leak. | Textiles   * Accurately mark outlines. * Cut neatly and accurately. * Sew with small neat stitches, following the edge. * Tying strong knots to secure the thread in place. * Secure a fastening. * Attatch objects for decoration using thread. |
| Depth  Teach – Practice – Repeat  Selects appropriate resources and adapts work where necessary. | Evaluate their ideas and products against design criteria.   |  | | --- | | Evaluate their product by discussing how well it works in relation to the purpose  Evaluate their products as they are developed, identifying strengths and possible changes they might make  Evaluate their product by asking questions about what they have made and how they have gone about it. | | Explore and evaluate a range of existing products.   |  | | --- | | Evaluate against their design criteria  Evaluate their products as they are developed, identifying strengths and possible changes they might make  Talk about their ideas, saying what they like and dislike about them | | Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.   |  | | --- | | Evaluate their product against original design criteria *e.g. how well it meets its intended purpose* | | Investigate and analyse a range of existing products.   |  | | --- | | Evaluate their work both during and at the end of the assignment  Evaluate their products carrying out appropriate tests | | Understand how key events and individuals in design and technology have helped shape the world.   |  | | --- | | Evaluate a product against the original design specification  Evaluate it personally and seek evaluation from others | | Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.   |  | | --- | | Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests  Record their evaluations using drawings with labels  Evaluate against their original criteria and suggest ways that their product could be improved | |
| We aim to improve depth of learning by teaching, practicing and repeating those skills related to evaluation during the designing and making process. Children are given opportunities to experience a range of products and pupils are encouraged to demonstrate their skills through practical work, creating prototypes, discussion, collaboration and written evaluations.  SMSC link  The spiritual development of pupils is shown by their:   * use of imagination and creativity in their learning. * Willingness to reflect on their experiences.     Life Skills/Relevance for our pupils  We want to prepare our pupils for future life. We believe that evaluation throughout the designing and making process enables them to become innovative, resilient and reflective people who are able to adapt to all situations and improve their work. | | | | | | |