**Progression Framework for Design and Technology – Moorsway Federation**

| **Designing** | **KS1** | **KS2** |
|---|---|---|
| Understanding contexts, users and purposes | Across KS1 pupils should:<br>• work confidently within a range of contexts, such as imaginary,story-based, home, school, gardens, playgrounds, local community, industry and the wider environment<br>• state what products they are designing and making<br>• say whether their products are for themselves or other users<br>• describe what their products are for<br>• say how their products will work<br>• say how they will make their products suitable for their intended users<br>• use simple design criteria to help develop their ideas | Across KS2 pupils should:<br>• work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment<br>• describe the purpose of their products<br>• indicate the design features of their products that will appeal to intended users<br>• explain how particular parts of their products work<br>In LKS2 pupils should also:<br>• gather information about the needs and wants of particular individuals and groups<br>• develop their own design criteria and use these to inform their ideas<br>In UKS2 pupils should also:<br>• carry out research, using surveys, interviews, questionnaires and web-based resources<br>• identify the needs, wants, preferences and values of particular individuals and groups<br>• develop a simple design specification to guide their thinking |
| Generating, developing, modelling and communicating ideas | Across KS1 pupils should:<br>• generate ideas by drawing on their own experiences<br>• use knowledge of existing products to help come up with ideas<br>• develop and communicate ideas by talking and drawing<br>• model ideas by exploring materials, components and construction kits and by making templates and mock-ups<br>• use information and communication technology, where appropriate, to develop and communicate their ideas | Across KS2 pupils should:<br>• share and clarify ideas through discussion<br>• model their ideas using prototypes and pattern pieces<br>• use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas<br>• use computer-aided design to develop and communicate their ideas<br>In LKS2 pupils should also:<br>• generate realistic ideas, focusing on the needs of the user<br>• make design decisions that take account of the availability of resources<br>In UKS2 pupils should also:<br>• generate innovative ideas, drawing on research<br>• make design decisions, taking account of constraints such as time, resources and cost |
| **Making** | **KS1** | **KS2** |
| Planning | Across KS1 pupils should:<br>• plan by suggesting what to do next<br>• select from a range of tools and equipment, explaining their choices | Across KS2 pupils should:<br>• select tools and equipment suitable for the task<br>• explain their choice of tools and equipment in relation to the skills and techniques they will be using |

| | | |
|---|---|---|
| | • select from a range of materials and components according to their characteristics | • select materials and components suitable for the task<br>• explain their choice of materials and components according to functional properties and aesthetic qualities<br>In LKS2 pupils should also:<br>• order the main stages of making<br>In UKS2 pupils should also:<br>• produce appropriate lists of tools, equipment and materials that they need<br>• formulate step-by-step plans as a guide to making |
| Practical skills and techniques | Across KS1 pupils should:<br>• follow procedures for safety and hygiene<br>• use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components<br>• measure, mark out, cut and shape materials and components<br>• assemble, join and combine materials and components<br>• use finishing techniques, including those from art and design. | Across KS2 pupils should:<br>• follow procedures for safety and hygiene<br>• use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components<br>In LKS2 pupils should also:<br>• measure, mark out, cut and shape materials and components with some accuracy<br>• assemble, join and combine materials and components with some accuracy<br>• apply a range of finishing techniques, including those from art and design, with some accuracy<br>In UKS2 pupils should also:<br>• accurately measure, mark out, cut and shape materials and components<br>• accurately assemble, join and combine materials and components<br>• accurately apply a range of finishing techniques, including those from art and design<br>• use techniques that involve a number of steps<br>• demonstrate resourcefulness when tackling practical problems |
| **Evaluating** | **KS1** | **KS2** |
| Own ideas and products | Across KS1 pupils should:<br>• talk about their design ideas and what they are making<br>• make simple judgements about their products and ideas against design criteria<br>• suggest how their products could be improved | Across KS2 pupils should:<br>• identify the strengths and areas for development in their ideas and products<br>• consider the views of others, including intended users, to improve their work<br>In LKS2 pupils should also:<br>• refer to their design criteria as they design and make<br>• use their design criteria to evaluate their completed products<br>In UKS2 pupils should also:<br>• critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make |

| | | |
|---|---|---|
| | | • evaluate their ideas and products against their original design specification |
| Existing products | Across KS1 pupils should explore:<br>• what products are<br>• who products are for<br>• what products are for<br>• how products work<br>• how products are used<br>• where products might be used<br>• what materials products are made from<br>• what they like and dislike about products | Across KS2 pupils should investigate and analyse:<br>• how well products have been designed<br>• how well products have been made<br>• why materials have been chosen<br>• what methods of construction have been used<br>• how well products work<br>• how well products achieve their purposes<br>• how well products meet user needs and wants<br>In LKS2 pupils should also investigate and analyse:<br>• who designed and made the products<br>• where products were designed and made<br>• when products were designed and made<br>• whether products can be recycled or reused<br>In UKS2 pupils should also investigate and analyse:<br>• how much products cost to make<br>• how innovative products are<br>• how sustainable the materials in products are<br>• what impact products have beyond their intended purpose |
| Key events and individuals | Not a requirement in KS1 | Across KS2 pupils should know:<br>• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products |
| **Technical Knowledge** | **KS1** | **KS2** |
| Making products work | Across KS1 pupils should know:<br>• about the simple working characteristics of materials and components<br>• about the movement of simple mechanisms such as levers, sliders, wheels and axles<br>• how freestanding structures can be made stronger, stiffer and more stable<br>• that a 3-D textiles product can be assembled from two identical fabric shapes<br>• that food ingredients should be combined according to their sensory characteristics<br>• the correct technical vocabulary for the projects they are undertaking | Across KS2 pupils should know:<br>• how to use learning from science to help design and make products that work<br>• how to use learning from mathematics to help design and make products that work<br>• that materials have both functional properties and aesthetic qualities<br>• that materials can be combined and mixed to create more useful characteristics<br>• that mechanical and electrical systems have an input, process and output<br>• the correct technical vocabulary for the projects they are undertaking<br>In LKS2 pupils should also know:<br>• how mechanical systems such as levers and linkages or pneumatic systems create movement<br>• how simple electrical circuits and components can be used to create functional products<br>• how to program a computer to control their products<br>• how to make strong, stiff shell structures |

| | | |
|---|---|---|
| | | • that a single fabric shape can be used to make a 3D textiles product<br>• that food ingredients can be fresh, pre-cooked and processed<br>In UKS2 pupils should also know:<br>• how mechanical systems such as cams or pulleys or gears create movement<br>• how more complex electrical circuits and components can be used to create functional products<br>• how to program a computer to monitor changes in the environment and control their products<br>• how to reinforce and strengthen a 3D framework<br>• that a 3D textiles product can be made from a combination of fabric shapes<br>• that a recipe can be adapted by adding or substituting one or more ingredients |
| **Cooking and Nutrition** | **KS1** | **KS2** |
| Where food comes from | Across KS1 pupils should know:<br>• that all food comes from plants or animals<br>• that food has to be farmed, grown elsewhere (e.g. home) or caught | Across KS2 pupils should know:<br>• that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world<br>In UKS2 pupils should also know:<br>• that seasons may affect the food available<br>• how food is processed into ingredients that can be eaten or used in cooking |
| Food preparation, cooking and nutrition | Across KS1 pupils should know:<br>• how to name and sort foods into the five groups in The eatwell plate<br>• that everyone should eat at least five portions of fruit and vegetables every day<br>• how to prepare simple dishes safely and hygienically, without using a heat source<br>• how to use techniques such as cutting, peeling and grating | Across KS2 pupils should know:<br>• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source<br>• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking<br>In LKS2 pupils should also know:<br>• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate<br>• that to be active and healthy, food and drink are needed to provide energy for the body<br>In UKS2 pupils should also know:<br>• that recipes can be adapted to change the appearance, taste, texture and aroma<br>• that different food and drink contain different substances – nutrients, water and fibre – that are needed for health |