

# Design and Technology



Class 0

EYFS (Reception) Key Stage 1 and 2

### Cooking and nutrition

Where food comes from, balanced diet, preparation and cooking skills. Kitchen hygiene and safety. Following recipes.



### Mechanisms/ Mechanical systems

Mimic natural movements using mechanisms such as cams, followers, levers and sliders.



Key Stage 2

### Structures

Material functional and aesthetic properties, strength and stability, stiffen and reinforce structures.



### Textiles

Fastening, sewing, decorative and functional fabric techniques including cross stitch, blanket stitch and appliqué.



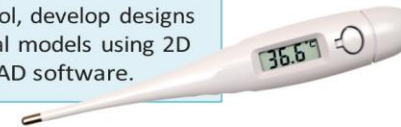
### Electrical systems

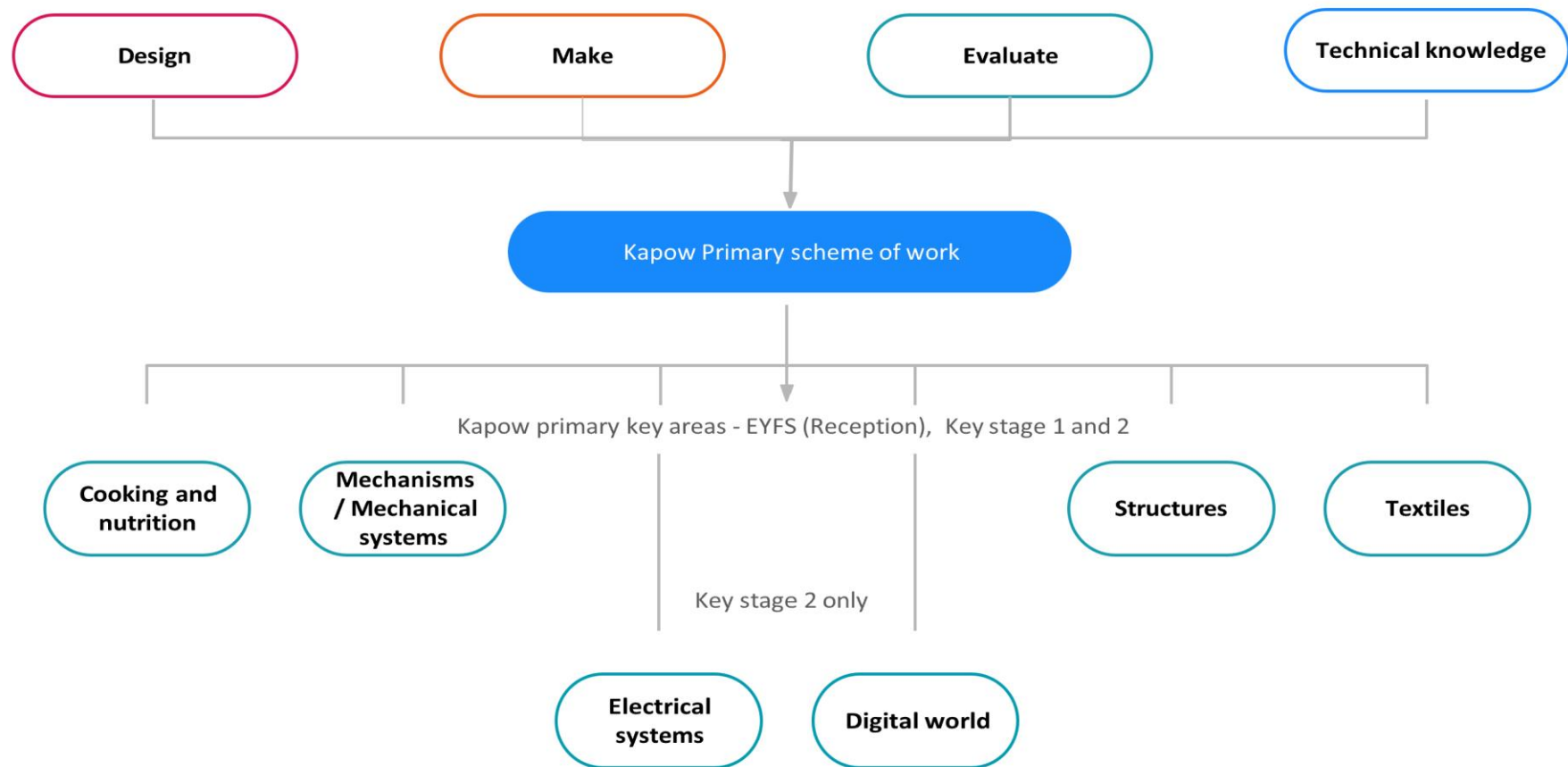
Operational series circuits, circuit components, circuit diagrams and symbols, combined to create various electrical products.



### Digital world

Program products to monitor and control, develop designs and virtual models using 2D and 3D CAD software.





# Skills Progression

## Structure

### Junk modelling / Boats

|        |        |                                                                                                                                                                                                                                                                                                                     |                                                                                                                                   |
|--------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Skills | Design | <ul style="list-style-type: none"><li>• Making verbal plans and material choices.</li></ul> Developing a junk model.                                                                                                                                                                                                | <ul style="list-style-type: none"><li>• Designing a junk model boat.</li></ul> Using knowledge from exploration to inform design. |
|        | Make   | <ul style="list-style-type: none"><li>• Improving fine motor/scissor skills with a variety of materials.</li><li>• Joining materials in a variety of ways (temporary and permanent).</li><li>• Joining different materials together.</li></ul> Describing their junk model, and how they intend to put it together. | Making a boat that floats and is waterproof, considering material choices.                                                        |

|           |           |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | Evaluate  | <ul style="list-style-type: none"> <li>• Giving a verbal evaluation of their own and others' junk models with adult support.</li> <li>• Checking to see if their model matches their plan.</li> <li>• Considering what they would do differently if they were to do it again.<br/>Describing their favourite and least favourite part of their model.</li> </ul> | <ul style="list-style-type: none"> <li>• Making predictions about, and evaluating different materials to see if they are waterproof.</li> <li>• Making predictions about, and evaluating existing boats to see which floats best.</li> <li>• Testing their design and reflecting on what could have been done differently.<br/>Investigating the how the shapes and structure of a boat affect the way it moves.</li> </ul> |
| Knowledge | Technical | <ul style="list-style-type: none"> <li>• To know there are a range to different materials that can be used to make a model and that they are all slightly different.<br/>Making simple suggestions to fix their junk model.</li> </ul>                                                                                                                           | To know that 'waterproof' materials are those which do not absorb water.                                                                                                                                                                                                                                                                                                                                                    |

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|  |            |  |                                                                                                                                                    |
|  | Additional |  | <ul style="list-style-type: none"> <li>• To know that some objects float and others sink.</li> </ul> <p>To know the different parts of a boat.</p> |

## Cooking and Nutrition

### Soup

|        |          |                                                                                                                                                                                                                                                  |
|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Skills | Design   | <ul style="list-style-type: none"><li>• Designing a soup recipe as a class.</li></ul> Designing soup packaging.                                                                                                                                  |
|        | Make     | <ul style="list-style-type: none"><li>• Chopping plasticine safely.</li></ul> Chopping vegetables with support.                                                                                                                                  |
|        | Evaluate | <ul style="list-style-type: none"><li>• Tasting the soup and giving opinions.</li><li>• Describing some of the following when tasting food: look, feel, smell and taste.</li></ul> Choosing their favourite packaging design and explaining why. |

|           |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Knowledge | Technical | <ul style="list-style-type: none"> <li>• To know that soup is ingredients (usually vegetables and liquid) blended together.</li> <li>• To know that vegetables are grown.</li> <li>• To recognise and name some common vegetables.</li> <li>• To know that different vegetables taste different.</li> <li>• To know that eating vegetables is good for us.</li> </ul> <p>To discuss why different packages might be used for different foods.</p> |
|-----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |            |  |
|--|------------|--|
|  | Additional |  |
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Textiles  
Bookmarks

|           |           |                                                                                                                                                                                                                                                                                   |
|-----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Skills    | Design    | <ul style="list-style-type: none"> <li>• Discussing what a good design needs.</li> <li>• Designing a simple pattern with paper.</li> <li>• Designing a bookmark.</li> </ul> <p>Choosing from available materials.</p>                                                             |
|           | Make      | <ul style="list-style-type: none"> <li>• Developing fine motor/cutting skills with scissors.</li> <li>• Exploring fine motor/threading and weaving (under, over technique) with a variety of materials.</li> </ul> <p>Using a prepared needle and wool to practise threading.</p> |
|           | Evaluate  | <ul style="list-style-type: none"> <li>• Reflecting on a finished product and comparing to their design.</li> </ul>                                                                                                                                                               |
| Knowledge | Technical | <ul style="list-style-type: none"> <li>• To know that a design is a way of planning our idea before we start.</li> <li>• To know that threading is putting one material through an object.</li> </ul>                                                                             |

|  |            |  |
|--|------------|--|
|  |            |  |
|  | Additional |  |

## Seasonal projects

|           |                                        |
|-----------|----------------------------------------|
| Autumn    | Hibernation boxes                      |
| Christmas | Sliding Santa Chimneys<br>(Mechanisms) |
| Easter    | Hanging egg decoration                 |
| Spring    | Flower threading                       |
| Summer    | Designing and making a rainbow salad   |