

### Autumn – Seasonal Food and Healthy Eating (Food and Nutrition)

#### Learning Outcomes –

- I can research the benefits of eating a balanced diet.
- I can recognise why a healthy diet is important.
- I can plan a recipe for stuffed peppers.
- I can design a healthy dish.
- I can make and evaluate stuffed peppers.
- I know how seasonal fruits in Britain are grown and processed.
- I know that food can be grown, caught, reared or processed.

#### Throughout the year

- Describe the purpose of their products
- Share and clarify ideas through discussion
- Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas
- Explain their choice of tools and equipment in relation to the skills and techniques they will be using
- Explain their choice of materials and components according to functional properties and aesthetic qualities
- Apply a range of finishing techniques, including those from art and design, with some accuracy
- Refer to their design criteria as they design and make
- Evaluation: Use their design criteria to evaluate their completed products and identify the strengths and areas for development in their ideas and products

## Year 4 Design Technology Scheme of Work

| Skills                                                                                                                                                                                                                                                                                                                                       | Design                                                                                                                                                                                                                                                                                                  | Make                                                                                                                                                                                                                                                                                                                                                                                                 | Evaluate                                                                                                                                                                                                                                                       | Technical Knowledge – Food & Nutrition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>Vocabulary</u>                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Show design meets a range of requirements</li> <li>• Produce a plan and explain it to others - Say how realistic plan is.</li> <li>• Include an annotated sketch</li> <li>• Make and explain design decisions considering availability of resources</li> </ul> | <ul style="list-style-type: none"> <li>• Select suitable tools and equipment</li> <li>• Select appropriate ingredients, fit for purpose; explain choices</li> <li>• Work through plan in order.</li> <li>• Realise if product is going to be good quality</li> <li>• Measure, cut and shape ingredients with some accuracy</li> <li>• Assemble and combine ingredients with some accuracy</li> </ul> | <ul style="list-style-type: none"> <li>• Refer to design criteria to evaluate product</li> <li>• Begin to explain how I could improve original design</li> <li>• Discuss by whom, when and where products were designed</li> <li>• Know about chefs</li> </ul> | <ul style="list-style-type: none"> <li>• Explain how to be safe/hygienic</li> <li>• Think about presenting product in interesting/ attractive ways</li> <li>• Understand ingredients can be fresh, pre-cooked or processed</li> <li>• Begin to understand about food being grown, reared or caught in the UK or wider world</li> <li>• Describe eat well plate and how a healthy diet=variety / balance of food and drinks</li> <li>• Explain importance of food and drink for active, healthy bodies</li> <li>• Prepare and cook some dishes safely and hygienically</li> <li>• Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</li> </ul> | <ul style="list-style-type: none"> <li>➤ Fruit</li> <li>➤ Vegetables</li> <li>➤ Ingredients</li> <li>➤ Produce</li> <li>➤ Eatwell plate</li> <li>➤ Dairy</li> <li>➤ Carbohydrates</li> <li>➤ Protein</li> <li>➤ Fats</li> <li>➤ Fresh</li> <li>➤ Combine</li> <li>➤ Preparation</li> <li>➤ Health</li> <li>➤ Balanced diet</li> <li>➤ Design</li> <li>➤ Evaluate</li> <li>➤ Research</li> </ul> |
| <b>Spring – Alarms (Electronics)</b>                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Learning Outcomes –</b> <ul style="list-style-type: none"> <li>• I can research what alarm systems are used for and how different types of switches are activated.</li> <li>• I can investigate how to create circuits with a variety of different switches.</li> <li>• I can design an alarm system for a particular purpose.</li> </ul> |                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                 |

## Year 4 Design Technology Scheme of Work

- I can make an alarm system based on a design.
- I can evaluate a finished alarm system.

### Throughout the year

- Describe the purpose of their products
- Share and clarify ideas through discussion
- Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas
- Explain their choice of tools and equipment in relation to the skills and techniques they will be using
- Explain their choice of materials and components according to functional properties and aesthetic qualities
- Apply a range of finishing techniques, including those from art and design, with some accuracy
- Refer to their design criteria as they design and make
- Evaluation: Use their design criteria to evaluate their completed products and identify the strengths and areas for development in their ideas and products

| Skills: | Design                                                                                                                                                                                                                                                                                                              | Make                                                                                                                                                                                                                                                                                                                                                              | Evaluate                                                                                                                                                                                                                                                                                          | Technical Knowledge – Electronics                                                                                                | <u>Vocabulary</u>                                                                                                                                                                                                                                                                                          |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | <ul style="list-style-type: none"> <li>• Show design meets a range of requirements and is fit for purpose</li> <li>• Begin to create own design criteria</li> <li>• Have at least one idea about how to create product</li> <li>• Produce a plan and explain it to others - - Say how realistic plan is.</li> </ul> | <ul style="list-style-type: none"> <li>• Select suitable tools and equipment, explain choices in relation to required techniques and use accurately</li> <li>• Select appropriate materials, fit for purpose; explain choices</li> <li>• Work through plan in order.</li> <li>• Assemble, join and combine materials and components with some accuracy</li> </ul> | <ul style="list-style-type: none"> <li>• Refer to design criteria to evaluate product</li> <li>• Begin to explain how I could improve original design</li> <li>• Evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been</li> </ul> | <ul style="list-style-type: none"> <li>• Use simple circuit in product</li> <li>• Use number of components in circuit</li> </ul> | <ul style="list-style-type: none"> <li>➤ Circuit</li> <li>➤ Alarm</li> <li>➤ Negative</li> <li>➤ Positive</li> <li>➤ Connect</li> <li>➤ Wire</li> <li>➤ Sound</li> <li>➤ Power Source</li> <li>➤ Control</li> <li>➤ Push-to-make</li> <li>➤ Push-to-break</li> <li>➤ Design</li> <li>➤ Evaluate</li> </ul> |

## Year 4 Design Technology Scheme of Work

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                 |  |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Include an annotated sketch</li> <li>• Make and explain design decisions considering availability of resources</li> <li>• Explain how product will work</li> <li>• Make a prototype</li> <li>• Begin to use computers to show design.</li> </ul> |  | <p>made, fit for purpose</p> <ul style="list-style-type: none"> <li>• Discuss by whom, when and where products were designed</li> <li>• Research whether products can be recycled or reused</li> <li>• Know about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products</li> </ul> |  | ➤ Research |
| <b>Summer – Aqueducts (Structures)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                 |  |            |
| <b>Learning Outcomes –</b> <ul style="list-style-type: none"> <li>• I can research and explore the purpose, function and design of Aqueducts.</li> <li>• I can explore different materials for structure, strength, durability and water resistance and how they can be combined.</li> <li>• I can design and label an aqueduct, thinking about the form it will take and how it will work.</li> <li>• I can construct the final product, test its function and reevaluate its efficiency.</li> <li>• I can evaluate the prototype and consider materials for the final product</li> <li>• I can use mathematical skills to measure and scale</li> </ul> |                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                 |  |            |
| <b>Throughout the year</b> <ul style="list-style-type: none"> <li>• Describe the purpose of their products</li> <li>• Share and clarify ideas through discussion</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                 |  |            |

## Year 4 Design Technology Scheme of Work

- Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas
- Explain their choice of tools and equipment in relation to the skills and techniques they will be using
- Explain their choice of materials and components according to functional properties and aesthetic qualities
- Apply a range of finishing techniques, including those from art and design, with some accuracy
- Refer to their design criteria as they design and make
- Evaluation: Use their design criteria to evaluate their completed products and identify the strengths and areas for development in their ideas and products

| Skills: | Design                                                                                                                                                                                                                                                                                                                                                                                                                                             | Make                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Evaluate                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Technical Knowledge – Structures                                                                                                                                                                                                                | <u>Vocabulary</u>                                                                                                                                                                                                                                                                             |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | <ul style="list-style-type: none"> <li>• Use research for design ideas</li> <li>• Show design meets a range of requirements and is fit for purpose</li> <li>• Have at least one idea about how to create product and suggest improvements for design.</li> <li>• Produce a plan and explain it to others - - Say how realistic plan is.</li> <li>• Include an annotated sketch</li> <li>• Make and explain design decisions considering</li> </ul> | <ul style="list-style-type: none"> <li>• Select suitable tools and equipment, explain choices in relation to required techniques and use accurately</li> <li>• Select appropriate materials, fit for purpose; explain choices</li> <li>• Work through plan in order.</li> <li>• Measure, mark out, cut and shape materials/components with some accuracy</li> <li>• Assemble, join and combine materials and components with some accuracy</li> </ul> | <ul style="list-style-type: none"> <li>• Refer to design criteria to evaluate product</li> <li>• Begin to explain how I could improve original design</li> <li>• Evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose</li> <li>• Discuss by whom, when and where products were designed</li> <li>• Know about some inventors/designers/engineers/chefs/man</li> </ul> | <ul style="list-style-type: none"> <li>• Measure carefully to avoid mistakes</li> <li>• Attempt to make product strong</li> <li>• Continue working on product even if original didn't work</li> <li>• Make a strong, stiff structure</li> </ul> | <ul style="list-style-type: none"> <li>➤ Water bridge</li> <li>➤ Sanitation</li> <li>➤ Waterway</li> <li>➤ Engineering</li> <li>➤ Arches</li> <li>➤ Romans</li> <li>➤ Function</li> <li>➤ Arcade</li> <li>➤ Construction</li> <li>➤ Design</li> <li>➤ Evaluate</li> <li>➤ Research</li> </ul> |

## Year 4 Design Technology Scheme of Work

|  |                                                 |  |                                        |  |  |
|--|-------------------------------------------------|--|----------------------------------------|--|--|
|  | availability of resources<br>• Make a prototype |  | ufacturers of ground-breaking products |  |  |
|--|-------------------------------------------------|--|----------------------------------------|--|--|