Scheme of Learning

The scheme of learning sets out the knowledge, understanding and skills required to cook and apply the principles of food science, nutrition and health, food safety, food choice and food provenance. Students will build upon prior learning from Key Stage 3. The specification has been mapped throughout the scheme of learning and the intention is that the specification content is not delivered in a linear fashion.

Each session comprises two/three hours or can be split into single one-hour lessons. Additional activities have been included to allow centres to select appropriate activities. Throughout the scheme of learning there are explicit links to the Illuminate Food and Preparation textbook and teaching resources. The content should be covered by all students with appropriate differentiation and challenge included. The course is designed to be easily adapted to be tailor-made to meet the individual needs of different schools, curriculum time, teachers and students. All the activities and lessons can be easily adapted to cater for different dietary needs, timings, and to reduce costs. Practical work can also be carried out in pairs and in groups to reduce costs of ingredients.

Practical skills

Practical dishes are suggestions. The choice of recipes to exemplify the food preparation skills will be at the discretion of the school or college to meet the needs of students. The full list of food preparation skills has been thoroughly covered throughout the selected dishes. Practical skill 1: General practical skills will be evidenced throughout all practical activities: e.g. weighing and measuring, preparing ingredients and equipment, selecting and adjusting cooking times, testing for readiness and judging and modifying the sensory properties. Practical skill 4: Use of the cooker will be evident throughout the making of different practical dishes. There are many recipes and exemplification of the food preparation skills and scientific principles throughout the student book, digital resources and teacher resources.
Activities

There is a wide variety of activities to exemplify some of the learning objectives. Potential activities related to each lesson have been suggested. Quiz questions feature throughout the digital book to test knowledge and understanding.

Food preparation skills – Illuminate step-by-step guides and film resources

<table>
<thead>
<tr>
<th>Skill 1: General practical skills</th>
<th>Skill 2: Knife skills</th>
<th>Skill 3: Preparing fruit and vegetables</th>
<th>Skill 8: Sauce making</th>
<th>Skill 10: Dough</th>
<th>Skill 11: Raising agents</th>
<th>Skill 12: Setting mixtures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighing and measuring</td>
<td>Preparing fruit and vegetables</td>
<td>Knife skills</td>
<td>Hollandaise sauce</td>
<td>Choux pastry</td>
<td>Bread making</td>
<td>Coagulation</td>
</tr>
<tr>
<td>Lining flan tin</td>
<td>Jointing a chicken</td>
<td>Fruit coulis</td>
<td>Tomato sauce</td>
<td>Shortcrust pastry</td>
<td>Lemon meringue pie</td>
<td></td>
</tr>
<tr>
<td>Chocolate ganache</td>
<td>Stuffed chicken breast</td>
<td></td>
<td>Béchamel sauce</td>
<td>Pasta</td>
<td>Meringue</td>
<td></td>
</tr>
<tr>
<td>Melting chocolate</td>
<td>Filleting fish</td>
<td></td>
<td></td>
<td></td>
<td>Whisked sponge</td>
<td></td>
</tr>
<tr>
<td>Making chocolate leaves</td>
<td>Making fish cakes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whipped cream</td>
<td>Separating an egg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Illuminate animations

<table>
<thead>
<tr>
<th>Heat transference</th>
<th>Sauce making</th>
<th>Doughs</th>
<th>Raising agents</th>
<th>Setting mixtures</th>
<th>Food safety</th>
<th>Meat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduction of heat</td>
<td>Gelatinisation of starch</td>
<td>Gluten</td>
<td>Gas-in-liquid foams</td>
<td>Coagulation of protein</td>
<td>Bacteria</td>
<td>Enzymic browning</td>
</tr>
<tr>
<td>Convection currents</td>
<td>Reduction</td>
<td>Fat shortening gluten strands</td>
<td>Bicarbonate of soda</td>
<td></td>
<td>Mould</td>
<td>Tenderising meat</td>
</tr>
<tr>
<td>Radiation in a grill</td>
<td>Emulsification</td>
<td>Rolling and folding</td>
<td>Baked mixtures</td>
<td>Steam as a raising agent</td>
<td>Yeast</td>
<td></td>
</tr>
<tr>
<td>Microwave heat transfer</td>
<td></td>
<td></td>
<td>Steam as a raising agent</td>
<td>Yeast as a raising agent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## GCSE Food Preparation and Nutrition – Year 1

<table>
<thead>
<tr>
<th>Session</th>
<th>Learning objectives</th>
<th>Teaching and learning</th>
<th>Student book links</th>
<th>DBB links</th>
<th>Practical skills</th>
<th>Spec.</th>
</tr>
</thead>
</table>
| 1       | • To understand and apply appropriate hygiene and safety procedures when preparing, cooking and serving food  
• To know and explain key terminology  
• To develop knife skills: bridge hold, claw grip, batons and julienne | Introduction to the course/Practical challenges  
• Explanation of the Food Preparation and Nutrition course  
• Question: What do we know about personal hygiene and kitchen hygiene?  
  • Practical: Omelette challenge. Teacher demonstration: In pairs students make an omelette.  
  • Practical: Knife skills challenge: Development of knife skills (julienne and baton).  
  • Practical: Vegetable stir fry. | • Micro-organisms p158–161  
• Practice questions p161  
• Personal hygiene p193–196 | Film & step-by-step: Cutting fruit and vegetables  
Animation: Bacterial growth  
TDB Activity 5I: Hygiene in the kitchen – case study  
Activity 5K: Keeping a clean kitchen  
TDB Activity 6G: Personal hygiene in the kitchen | Skill 2: Knife skills: bridge hold, claw grip, peel, slice, batons, julienne  
Skill 3: Preparing fruit and vegetables: peel  
Skill 6: Cooking methods – stir frying | 3.4.2.2 |
| 2       | • To understand the food safety principles when buying and storing food  
• To know and apply key temperatures  
• To understand the different sources of bacterial contamination | Food safety when buying and storing food  
• Activity: A day in the life of a high-risk food ingredient.  
• Activity: Log key temperatures on a thermometer  
• Produce a guide for a food preparation and nutrition kitchen explaining food safety Guidelines  
• Practice questions | • Food spoilage and contamination p171–184  
• Practice questions p182–184  
• Buying and storing p185–201  
• Practice questions p201 | TDB Activity 6E: A day in the life of a high-risk ingredient  
Activity 5I: Which bacteria and which food/liquid  
Activity 5A: Crossword on food safety  
Activity 6A: Where food should be stored and why  
Activities 6B/C: Buying food  
Animation: Bacterial growth | 3.4.1.2  
3.4.2.2  
3.4.1.4 |
### Scheme of Learning Year 1

**4 • To understand the:**
- **Food safety when preparing and cooking food**
  - Activity: To make notes of all the possible areas that could contaminate food whilst demonstrating a meat dish. Key term: cross-contamination
  - Demonstrate how to correctly use a food probe
  - **Practical:** Lamb kofta/Beef burgers/Meat balls/Falafel
  - To answer questions related to food safety and preparing and cooking meat and vegetables

### Nutrition: Protein

- **Activity:** Notes and explanation of protein in the diet
- Selection of protein ingredients in terms of HBV/LBV
- Design a range of dishes to show protein complementation
- Production of revision map
- Practice questions
- **Practical:** Meat stew/Casserole/Thai curry/Fish cakes

### Food spoilage and contamination p185–201
- Practice questions p201
- Use of food probes p198–199

### Animation: Bacterial growth
### Animation: Mould growth
### Animation: Enzymic browning
### Film & step-by-step: Cutting fruit and vegetables
### TDB Activity 6F: Restaurant inspector
### Activity 5L: Principles of food safety
### Skill 7: Prepare, combine and shape wet mixtures 3.4.2.2
### Skill 3: Preparing fruit and vegetables: cut and dice 3.2.1.1

**3 • To understand the food safety principles when preparing, cooking and serving food**
- To know how to correctly use a food probe
- To understand how to prevent cross contamination

- **Skill 2: Knife skills:** slice and chop meat
- **Skill 8:** Sauce making – reduction: curry sauce

### 4 • To understand the:**
- **a.** functions of protein in the diet
- **b.** main food sources in the diet (plant and animal, HBV and LBV)
- **c.** effects of deficiency and excess
- **d.** complementation of proteins

### Protein p2–7
- Practice questions p7
- Recipe: Fish pie p8

### TDB Activity 1A: Match pictures of foods to HBV/LBV proteins
### Activity 1C: Protein complementation
### Activity 1B: Produce an information sheet on protein in the diet
| 5 | To understand the protein alternatives, e.g. TVP, soya, mycoprotein and tofu | Nutrition: Protein/Sensory testing | Protein p2–7 | Skill 2: Knife skills: slice and chop meat alternatives | 3.2.1.1 |
|   | To develop knowledge and understanding of sensory testing and fair testing |  |   |   |   |
| 6 | To develop making skills/processes when using fish | Preparation skills: Protein/Fish and Sauce making | Recipe p8 | Film & step-by-step: Making sauces | 3.3.2.1 |
|   | To develop sauce making skills and finishing techniques |   | Stretch and challenge p9 | Animation: Tenderising meat |   |
|   |   |   |   | Animation: Gelatinisation of starch |   |
|   |   |   |   | TDB Activity 4H: Gelatinisation: explain the process |   |
| 7 | To know and practice filleting fish | Preparation skills: Fish | Recipe: Fish cakes p46 | Film & step-by-step: Filleting fish | 3.3.2.1 |
|   | To develop food preparation skills when using fish |   |   | Film & step-by-step: fish cakes |   |
|   |   |   | Stretch and challenge activity: p9 |   |   |
|   |   |   | Stretch and challenge activity: p9 |   |   |
|   |   |   | Stretch and challenge activity: p9 |   |   |
| 8 | **To understand:**  
  a. protein denaturation  
  b. protein coagulation | **Protein: Functional and chemical properties – denaturation and coagulation**  
  - Explanation of denaturation and coagulation  
  - **Practical investigation:** Frying, scrambling, poaching and boiling eggs. Record results  
  - **Practical:** Chilled lemon flan/Swiss roll/Lemon curd/Crème caramel/Grilled salmon and tomato pasta  
  - Spot demonstrations throughout the lesson  
  - **Practical:** Meat/fish or vegetable dish to demonstrate how the acids denature protein: Chicken fajitas/Kebabs | **Denaturation and coagulation**  
  - p105–107  
  - Practice questions p115  
  - Recipe: Chilled lemon flan p108–109  
  - Practice questions p115 | **Crème caramel**  
  **Grilled salmon and tomato pasta**  
  **Animation:** Coagulation of protein  
  **Film & step-by-step:** Whisked sponge/Cheese and tomato flan  
  **TDB Activity 4A:** Coagulation of protein – missing word  
  **Activity 4B:** Denatured protein – missing word  
  **Activity 4C:** Proteins anagrams  
  **Activity 4D:** Protein key words  
  **Activity 4E:** Explain the process of coagulation | **Skill 6: Cooking methods**  
  **Skill 11: Eggs as a raising agent – whisked sponge**  
  **Skill 12: Setting mixtures – use of protein**  
  **Skill 9: Tenderise and marinate**  
  **Skill 7: Prepare, combine and shape** | 3.3.2.1  
  3.3.1.2 |
| 9 | **To understand the:**  
|   | a. gluten formation  
|   | b. foam formation  
| Protein: Function and chemical properties – gluten formation  
|   | Explanation of gluten formation  
|   | **Practical investigation:** Making bread rolls with different flours to produce gluten balls  
|   | **Practical:** Flavoured bread/Bread rolls/Cajun spiced bread  
|   | Notes/questions related to gluten formation and foam formation  
|   | **Gluten formation**  
|   | p110–111  
|   | **Recipe:** Bread rolls p112–113  
|   | **Foam formation**  
|   | p114–115  
|   | **Practice questions** p115  
| Animation: Gluten formation  
| Film & step-by-step: Bread making  
| TDB Activity 4F: Coagulation, gluten formation and denaturation challenge  
| Recipe: Cajun spiced bread  
| 10 | **To know the difference between primary and secondary processing**  
|   | **To understand the processing of milk to make cheese and yogurt**  
|   | **To further reinforce denaturation and coagulation**  
|   | **To understand the use of micro-organisms in food production**  
| Food production  
|   | Primary and secondary processing  
|   | Video to look at cheese making and yogurt production.  
|   | Group activity: make soft cheese  
|   | Tasting session: cheese making  
|   | Teacher demonstration of yogurt making  
|   | Tasting session: milk tasting (UHT/micro filtered etc.)  
|   | **Practical:** Layered dessert using yogurt/Cheesecake/Trifle  
|   | **Cheese making**  
|   | p165–169  
|   | **Yogurt making**  
|   | p170  
| TDB Activity 11A: Investigate the production of yogurt/flow diagram  
| Activity 11C: Carry out testing session of different yogurts and milk  
| Animation: Coagulation of protein  
| Skill 10: Dough – Making a dough: gluten formation  
| Skill 10: Shaping and finishing: proving and resting  
| Skill 12: Setting mixtures: Removal of heat – gelatinisation setting a chilled dessert  
| 3.3.2.1
<table>
<thead>
<tr>
<th>11</th>
<th>To understand the: a. functions of carbohydrates in the diet (starch, sugars and fibre) b. main food sources in the diet c. effects of deficiency and excess d. related dietary reference values</th>
</tr>
</thead>
</table>
|     | Nutrition: Carbohydrates  
|     | - Activity: Notes and explanation of carbohydrates in the diet. Selection of carbohydrate  
|     | - Production of revision map  
|     | - Practice questions  
|     | - PAL – the recommended percentage of energy intake/life stages  
|     | - Practical: Minestrone soup/Wholemeal scones/Courgette, onion and cheese muffins. Other soup recipes  
|     | Carbohydrates p16–19  
|     | Practice questions p21  
|     | Recipe: Courgette, onion and cheese muffins p20  
|     | Energy p58–62  
|     | Practice questions p62  
|     | TDB Activity 1G/H: Match the name of individual carbohydrates to their classifications  
|     | TDB Activity 1I: Find the sugars  
|     | Activity 1J: How much sugar am I drinking?  
|     | Activity 2C: How many calories?  
|     | Skill 2: Knife skills: bridge hold, claw grip, peel, slice  
|     | Skill 3: Preparing fruit and vegetables: peel shred, grate, de-seed, blanch  
|     | Skill 11: Raising agents: chemical – using baking powder  
|     | Skill 5: Use of equipment – blender  
| 12  | To understand the scientific principles related to carbohydrates: gelatinisation  
|     | Carbohydrates: Function and chemical properties – gelatinisation  
|     | - Explanation of gelatinisation  
|     | - Activity: Flow chart of gelatinisation  
|     | - Practical investigation: Viscosity of sauces or sauce making methods (all in one, roux, microwave, blended)  
|     | - Practical: Lasagne/Cannelloni/Sweet and sour sauce  
|     | - Spot demonstrations throughout the lesson  
|     | - Explanation of heat transference method: conduction and convection  
|     | Gelatinisation p117–119  
|     | Recipe: Lasagne 120–121  
|     | Practice questions p126  
|     | Heat transference: p85–90  
|     | Animations: Gelatinisation/Reduction/Conduction/Convection/Radiation  
|     | Recipes: Ricotta and spinach lasagne  
|     | TDB Activity 4H: Gelatinisation: explain the process  
|     | Activity 4G: Compare caramelisation and dextrinisation  
|     | Activity 4H: Carbohydrates quiz  
|     | Skill 8: Sauce demonstrating starch gelatinisation: roux, all-in-one, ratio affecting viscosity, blended, Béchamel  
|     | Skill 6: Cooking methods: dry frying  
|     | Skill 8: Sauce making – Reduction: tomato sauce  

© Illuminate Publishing Ltd

AQA GCSE Food Preparation and Nutrition by Tull, Littlewood, Maitland, Worger
<table>
<thead>
<tr>
<th>13</th>
<th>To understand the scientific principles related to carbohydrates: caramelisation, dextrinisation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To understand the heat transference methods: conduction and convection</td>
</tr>
<tr>
<td></td>
<td>To understand how to make successful shortcrust pastry</td>
</tr>
<tr>
<td></td>
<td>Skills: Shortcrust pastry</td>
</tr>
</tbody>
</table>

**Carbohydrates: Function and chemical properties – caramelisation and dextrinisation**
- Explanation of caramelisation/dextrinisation
- Demonstrate: pastry making
- Practical investigation: Melting sugar
- Practical: Roasted vegetable tart
- Spot demonstrations throughout the lesson
- Explanation of heat transference methods

**Animations:**
- Caramelisation/dextrinisation p122–123
- Recipe: Caramelised onion and goat’s cheese tart p124
- Practice questions p126
- Heat transference p85–90

**Recipes:**
- Caramelised onion and goat’s cheese tart p124
- Sun-dried tomato pinwheels/Roasted vegetable tart

**TDB Activity 3B:**
- Match the method of heat transference to the foods

**Skill 10:** Making a dough – shortening, shaping and finishing
**Skill 12:** Setting a mixture using protein
**Skill 5:** Use of equipment – food processor

**Skill 3.3.2.2**
3.3.1.1
| 14 | **To know the difference between primary and secondary processing**  
**To understand the processing of wheat to make flour**  
**To understand how processing affects the nutritional value** | **Food production**  
- Primary and secondary processing  
- Video to examine the milling of wheat  
- Flow diagram of producing wheat  
- Bread tasting: different breads made from flour  
- **Practical investigation:** Flavouring and colouring pasta  
- **Practical:** Tortellini/Ravioli | **Milling of flour**  
- Recipe: Caramelised onion and goat’s cheese tart p124  
- **Film & step-by-step:** Pasta | **Skill 10: Making a dough:** pasta  
**TDB Activity 11D:** Practical investigation: different flours to make pasta.  
**Activity 11E:** Practical investigation: adding flavourings and natural colourings to pasta  
**Activity 11B:** Practical Name the pasta shapes  
**Skill 10: Making a dough:** shaping and finishing  
**Skill 5: Use of equipment – pasta machine**  
**3.6.2.1** |
|---|---|---|---|
| 15 | **To understand the:**  
  a. functions of fat in the diet and the types of fat (saturated and unsaturated)  
  b. main food sources  
  c. effects of deficiency and excess  
  d. related dietary reference values | **Nutrition: Fats and oils**  
- Activity: Notes and explanation of fat in the diet. Selection of different fats.  
- Production of revision map  
- Practice questions  
- **Practical:** Modification of high fat recipe, e.g. cheesecake  
- **Practical:** Roasted Mediterranean vegetable quiche/Apple tart/Tarte tatin/Sun-dried tomato palmiers | **Fats and oils**  
- Recipe: Roasted Mediterranean vegetable quiche p14–15  
- **TDB Activity 1D:** Invisible fats in foods  
**Activity 1E:** Find the fat  
**Activity 1F:** Fats in the diet  
**Animation:** Rolling and folding | **Skill 10: Making a dough:** create layers – palmiers  
**Skill 10: Making a dough:** shortening, shaping and finishing  
**3.2.1.2**  
**3.2.3.3** |
### Scheme of Learning Year 1

**16**  
- To understand the scientific principles related to fats and oils: shortening and plasticity  
- To understand how to make shortcrust pastry

<table>
<thead>
<tr>
<th>Fats: Function and chemical properties – shortening and plasticity</th>
<th>Fats: Emulsification</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Explanation of shortening and plasticity</td>
<td>• Explanation of emulsification</td>
</tr>
<tr>
<td>• Practical investigation: Making pastry samples with different fat combinations</td>
<td>• Practical challenge: Making a Hollandaise sauce/Mayonnaise</td>
</tr>
<tr>
<td>• Practical: Quiche/Meat or vegetable and cheese pasties/Chocolate mousse</td>
<td>• Test: Nutrition: Protein/Fat/Carbohydrates</td>
</tr>
<tr>
<td>• Spot demonstrations throughout the lesson</td>
<td>• Practice questions p140</td>
</tr>
<tr>
<td>• Questions</td>
<td>• Emulsification: p135–138</td>
</tr>
<tr>
<td></td>
<td>• Practice questions p140</td>
</tr>
</tbody>
</table>

**17**  
- To understand the scientific principles related to fats and oils: emulsification

<table>
<thead>
<tr>
<th>Animation: Skins on</th>
<th>Animation: Emulsification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortening Film &amp; step-by-step: Shortcrust pastry/ Lining a flan tin</td>
<td>Film &amp; step-by-step: Making a Hollandaise sauce</td>
</tr>
<tr>
<td>TDB Activity 4J: Fill in the missing words: plasticity, etc.</td>
<td>TDB Activity 4K: Emulsification</td>
</tr>
</tbody>
</table>
| Skill 8: Sauce making – emulsions | Skill 10: Making a dough: pastry  
Skill 10: Making a dough – shortening, shaping and finishing |  
| Skill 2: Knife skills: bridge hold, claw grip, peel, slice, batons, julienne | Skill 3: Preparing fruit and vegetables: peel |  
| Skill 11: Raising agents – whisking egg whites |
| 18 | To understand the scientific principles related to fats and oils: aeration  
   To understand the scientific principles of raising agents. (chemical/mechanical) | **Fats: Function and chemical properties – aeration/Raising agents**  
   - Explanation of aeration  
   - **Practical**: Swiss roll/Victoria sandwich cake/Gingerbread/Watercress and Salmon roulade/Cheese or herb scone round/Puff pastry cheese twists  
   - **Practical investigation**: Making cakes using different raising agents: chemical and mechanical  
   - Practice questions | **Aeration** p141  
   - Recipe: Swiss roll p142  
   - Doughs p143–145  
   - Recipe: Puff pastry twists p144–145  
   - Carbon dioxide p146  
   - Recipe: Cheese or herb scone round/Gingerbread p147–148  
   - Practice questions – p154 | **Animations**: Gas-in-liquid foams/Bicarbonate of soda/Baked mixtures  
   **Film & step-by-step**: Swiss roll  
   **TDB Activity**:  
   **Skill 11**: Raising agents: Eggs as raising agent/Chemical raising agents: baking powder, bicarbonate of soda  
   **Skill 10**: Making a dough: pastry | 3.3.2.3  
   3.3.2.5 |
|---|---|---|---|---|
| 19 | To understand the scientific principles of raising agents (steam/biological)  
   To understand how different raising agents work in different recipes | **Raising agents**  
   - Notes and annotated sketches of raising agents  
   - **Practical**: Choux pastry/Batter/Savoury choux buns  
   - **Practical investigation**: Batters  
   - **Practical investigation**: Yeast experiments  
   - **Practical**: Chelsea buns/Tear and share tray bread | **Yeast** p149  
   - Recipe: Chelsea buns p150  
   - Steam p151  
   - Recipe: Choux pastry p152–153 | **Animation**: Yeast/Steam/Baked mixtures  
   **Film & step-by-step**: Choux pastry/Bread making  
   **TDB Activity 4O**: Scientific investigation: conditions for yeast to multiply  
   **Activity 4P**: Identify the raising agent and explain the process  
   Recipe: Tear and share tray bread/Chelsea buns | 3.3.2.5 |
| 20 | To understand the: functions, sources, effects of deficiency and excess, and related dietary reference values for: fat and water soluble vitamins  
To understand how the selection of appropriate preparation and cooking methods can conserve or modify nutrition value | Nutrition: Vitamins and minerals  
Theory tasks related to water and water soluble vitamins  
Practical investigation: Examine different cooking methods: water based: steaming, boiling, simmering, Blanching, poaching and braising.  
Practical: Mackerel pate/Fish cakes/Crunchy orange and watercress salad | Vitamins: p22–27  
Practice questions p30  
Recipe: Crunchy orange and watercress salad/ Mackerel pate p28–29  
Nutritional value p101–102 | TDB Activity 1K: Vitamins wordsearch  
Activity 1L: Match the vitamin function to the correct vitamin  
Activity 1M: Match the deficiency to the correct vitamin  
Film & step-by-step: Fish cakes | Skill 3: Preparing fruit and vegetables: mash, scissor snip, de-skin, segment  
Skill 6: Cooking methods – water based | 3.2.2.1  
3.1.2 |
|---|---|---|---|---|---|
| 21 | To understand the: functions, sources, effects of deficiency and excess, and related dietary reference values for: minerals  
The important of hydration and the functions of water in the diet | Nutrition: Minerals  
Theory tasks related to minerals  
Task to make a dish for different client groups that are high in calcium/iron  
Research task: Functions of water | Minerals p30–35  
Practice questions p35  
Water p36–37  
Practice questions p37 | TDB Activity 1N: Match the mineral function to the correct mineral  
Activity 1O: Minerals crossword  
Activity 1P: Importance of water  
Activity 1Q: Dehydration | Variety of skills dependent of choice of recipes | 3.2.2.2  
3.2.3 |
| 22 | To understand the scientific principles related to fruits and vegetables: enzymic browning and oxidation  
To understand the process emulsification | Enzymic browning and oxidation  
Notes and annotated sketches of raising agents  
Practical investigations: Fruit and vegetables  
Practical: Prepare a salad with accompanying dressing to show emulsification | Animation: Enzymic browning/ Emulsification  
TDB Activity 5B: Enzymic browning | Skill 3: Preparing fruit and vegetables: controlling enzymic browning/garnishing | 3.3.2.4 |
| 23 | To understand current guidelines for a healthy diet  
 To understand nutritional needs for different life stages  
 To major diet related health risks  
 To know the recommended percentage of energy provided by protein, fat and carbohydrates | **Nutritional needs**  
 Theory nutritional needs for different life stages  
 To understand the current guidelines for a healthy diet, e.g. Eatwell Guide  
 Eatwell Guide – practical challenge  
 **Practical:** Eatwell Guide dish  
 **Practical:** Roasted vegetable and pasta medley/Jambalaya/Fish cakes/Cottage pie with Cheddar and sautéed leek mash/Lemon chicken | **Nutritional needs**  
 p38–55  
 Practice questions p55  
 Recipes: Roasted vegetable and pasta medley p40  
 Fish cakes p46  
 Jambalaya p49  
 Cottage pie with Cheddar and sautéed leek mash p54  
 Lemon chicken p52  
 **TDB Activity 2A:** Eatwell Guide challenge  
 **Activity 2C:** How many calories?  
 **Activity 2D:** Put pictures of foods in order of energy density  
 **Activity 2E:** Energy density  
 **Activities 2H–O:** What are the risk factors?  
 **Activity 2O:** Obesity and the diet | **Skill 2:** Knife skills: bridge hold, claw grip, peel, slice, batons, julienne  
 **Skill 3:** Knife skills: meat and fish  
 **Skill 3:** Preparing fruit and vegetables: various skills  
 **Skill 10:** Making a dough: pasta  
 **Skill 10:** Making a dough: shaping and finishing  
 **Skill 5:** Use of equipment – pasta machine |
| 24 | To produce and analyse a dish that shows a range of food preparation skills and demonstrates some of the functional and chemical properties of food | **Functional and chemical properties of food**  
 Demonstrate lemon meringue pie or alternative  
 **Practical:** Lemon meringue pie  
 Student report explaining the function and chemical properties of the ingredients | **Chapters 3 & 4**  
 **Film & step-by-step:** Lemon meringue pie  
 **Film & step-by-step:** Meringue  
 **Animations:** Baked products  
 **TDB Activity 4A:** Coagulation of protein – missing word  
 **Activity 4B:** Denatured protein – missing word | **Skill 3:** Preparing fruit and vegetables: mash, scissor snip, de-skin, segment  
 **Skill 6:** Cooking methods – water based |
| 25 | To know how to carry out nutritional analysis  
To analyse a recipe and be able to modify the dish to improve the nutritional content |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nutritional analysis</strong></td>
<td><strong>Dietary groups</strong></td>
</tr>
</tbody>
</table>
| • Understanding of Dietary Reference Values  
• **Practical:** Vegetable/meat cobbler  
• To plan, prepare, cook and modify the recipe for: low fat diet/high fibre diet | • Discussion relates to different dietary groups  
• Meal planning case studies for different dietary groups  
• To plan, prepare, cook and modify the recipe for: low fat diet/high fibre diet |
| • Nutritional analysis p63–69  
• Practice questions p68–69  
• Diet, nutrition and health p70–77  
• Practice questions p77  
• Nutritional analysis software (free BNF). | • Nutritional needs p56–57  
• Practice questions p57 |
| **TDB Activity 2F:** Carry out nutritional analysis of meat cobbler  
**Activity 2G:** Nutritional analysis of breakfast cereals | Recipes: Lemon drizzle cake/Vegetable and bean stew or spicy bean cobbler with wholemeal scone topping  
Chocabeet cake/Meatloaf  
**TDB Activity 2B:** Vegetarian/vegan research task |
| Variety of skills dependent on choice of recipes | Variety of skills dependent on choice of recipes |

<table>
<thead>
<tr>
<th>26</th>
<th>To understand the nutritional requirements for specific dietary groups: vegetarian, vegan, coeliac, lactose intolerant, reduced fat and high fibre</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nutritional analysis</strong></td>
<td><strong>Dietary groups</strong></td>
</tr>
</tbody>
</table>
| • Understanding of Dietary Reference Values  
• **Practical:** Vegetable/meat cobbler  
• To plan, prepare, cook and modify the recipe for: low fat diet/high fibre diet | • Discussion relates to different dietary groups  
• Meal planning case studies for different dietary groups  
• To plan, prepare, cook and modify the recipe for: low fat diet/high fibre diet |
| • Nutritional analysis p63–69  
• Practice questions p68–69  
• Diet, nutrition and health p70–77  
• Practice questions p77  
• Nutritional analysis software (free BNF). | • Nutritional needs p56–57  
• Practice questions p57 |
| **TDB Activity 2F:** Carry out nutritional analysis of meat cobbler  
**Activity 2G:** Nutritional analysis of breakfast cereals | Recipes: Lemon drizzle cake/Vegetable and bean stew or spicy bean cobbler with wholemeal scone topping  
Chocabeet cake/Meatloaf  
**TDB Activity 2B:** Vegetarian/vegan research task |
| Variety of skills dependent on choice of recipes | Variety of skills dependent on choice of recipes |
| 27 | • To understand the reasons for cooking food | Heat transference and reasons for cooking food |
|    |                                           | • Theory notes related to reasons for cooking food |
|    |                                           | • Experimental work: Conduction, convection and radiation |
|    |                                           | • Activity: Fact sheets explaining heat transference methods |
|    |                                           | • Practical: Curry/Kedgeree/Spiced poached pears/Steamed sponge pudding/Apple and apricot crumble/Carrot cake muffins/Cannelloni/Vegetable stir fry |
|    |                                           | Reasons for cooking food |
|    |                                           | Activity: p84 |
|    |                                           | Heat transference p85–90 |
|    |                                           | Practice questions p90 |
|    | Animations: Conduction/Convection/Radiation |
|    | Recipes: Steamed sponge pudding/Apple and apricot crumble/Carrot cake muffins/Cannelloni/Vegetable stir fry/Curry/Kedgeree/Spiced poached pears |
|    | Activity 3A: Why food is cooked and how heat is transferred to food |
|    | TDB Activity 3B: Match the method of heat transference to the food |
|    | Activity 3C: Why do we cook food and how would you cook it? |
|    | Activity 3D: How was this cooked? |
|    | Activity 3E: How would I cook this? |
|    | Activity 3F: Cooking methods test |
|    | Skill 11: Raising agents |
|    | Skill 2: Knife skills |
|    | Skill 5: Use of equipment |
|    | Skill 6: Cooking methods |

3.3.1.1
| 28 | To understand the reasons for cooking food  
| To understand how different cooking methods affect food  
| To develop complex knife skills, e.g. portioning a chicken | **Portioning a chicken/Selecting cooking methods**  
| Explanation of how preparation and cooking affect the appearance, flavour, texture, etc. of food  
| Cooking methods explained: water-based, dry and fat-based  
| **Practical investigation:** Portioning a chicken  
| **Practical challenge:** p102 (Variety of recipes)  
| Spot demonstrations throughout the lesson  
| **Practical:** Chicken casserole/Chicken chasseur/Sweet and sour chicken/Lemon roasted chicken with mustard and onion mash  
| Technical challenge: Comparison of fish/potatoes cooked with different methods (steam, fry, bake, microwave, etc.) | **Cooking methods** p90–104  
| Practice questions p104  
| Practical challenge p102  
| Recipe: Lemon roasted chicken with mustard and onion mash p52  
| Curry/Kedgeree/Spiced poached pears/Home-made burgers/Steamed sponge pudding/Apple and apricot crumble/Carrot cake muffins/Cannelloni/vegetable stir fry  
| **Activity 3A:** Why food is cooked and how heat is transferred to food  
| **TDB Activity 3B:** Match the method of heat transference to the foods  
| **Activity 3C:** Why do we cook food and how would you cook it?  
| **Activity 3D:** How was this cooked?  
| **Activity 3E:** How would I cook this?  
| **Activity 3F:** Cooking methods test.  
| **Film & step-by-step:** Jointing a chicken  
| Stuffed chicken breast and butterfly fillet | **Skill 2:** Knife skills: Fillet a chicken breast, portion a chicken, remove fat and rind  
| **Skill 6:** Cooking methods | 3.3.1.1  
<p>| 3.3.1.2 |</p>
<table>
<thead>
<tr>
<th>Page</th>
<th>Objectives</th>
<th>Sensory Evaluation</th>
<th>NEA Practice task – Food Investigation</th>
<th>TDB Activity</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 29   | • To understand the term sensory evaluation  
• To know the different methods for carrying out sensory evaluation  
• To understand the conditions and controls required when carrying out sensory evaluation | **Sensory Evaluation**  
What is sensory evaluation? YouTube clip  
- Discussion related to why sensory analysis is carried out  
- Examine the different sensory testing methods: Ranking, rating and difference tests  
- To discuss controls  
  - **Practical investigation:** Using sensory tests | **NEA Practice task – Food Investigation**  
**Teaching points**  
- Analyse the task  
- Carry out background research of the working characteristics, functions and chemical properties of the ingredients to investigate  
- Summarise the research  
- Write a prediction or hypothesis for the practical investigations  
- Plan a practical investigation and experimental work based on the research findings  
- **Practical experimentation:** investigate how ingredients work and why  
- Present the results of the testing  
- Analyse, interpret and evaluate the results of the investigation  
- Evaluate the hypothesis/prediction  
- Explain how the results can be used when preparing and cooking food | **TDB Activity 9A:** Practical investigations related to sensory testing.  
**Activity 9B:** Organising a food panel.  
**Activity 9C:** Sensory appreciation. | 3.5.3 |
| 30   | • To understand the expectations of the NEA Investigation task  
• To carry out a modified task (not a full investigation) |  |  |  | 3.3.1.1 |
| 31   |  |  |  |  | 3.3.1.2 |
| 32   |  |  |  |  | 3.3.2.1 |

Possible tasks: NEA specimens  
1. Investigate what type of flour is best for bread making  
2. Investigate the use of raising agents in baked products  
3. Investigate the ingredients used to thicken sauces and soups  

**TDB Activity 4G:** Compare caramelisation and dextrinisation  
|  |  |  |  |  | 3.3.2.2 |
|  |  |  |  |  | 3.3.2.3 |
|  |  |  |  |  | 3.3.2.4 |
|  |  |  |  |  | 3.3.2.5 |
|  |  |  |  |  | 3.5.3 |
| 33 | To understand the factors that affect food choice | **Food choice**
- To discuss and mind map the factors which may influence food choice
- Activity: Concept plans to show the factors which affect different groups, e.g. Single, low income, e.g. student, elderly person, Low income, family, Family with 4 children and busy lifestyle, Elderly couple living on a pension, Adult couple concerned about environmental sustainability
- **Practical**: To plan, prepare, cook and modify the recipe for a dietary group | **Food choice**
- p202–210
- Practice questions p210 | **TDB Activity 7A**: Produce concepts maps for individual groups related to food choice
**Activity 7B**: Food choice conflicts
**Activity 7C**: Your food decisions
**Activity 7D**: Food choices and religion – you’re in charge
**Activity 7E**: Religion and food choices
**Activity 7F**: Food choice and religion – revision cards | Wide range of food preparation skills dependent on the dishes chosen | 3.5.1.1 |
<table>
<thead>
<tr>
<th>#</th>
<th>Activity Description</th>
<th>Food choices and international cuisine</th>
<th>Topics and Resources</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 34 | To understand food choice related to religion, culture, ethical, moral beliefs and medical conditions | **Activity**: In groups to select a religion, culture, ethical and moral belief and medical condition to research and present to the group  
**Questions related to topic** |  
**Religion, culture**  
**Medical conditions**  
**Practice questions** | Wide range of food preparation skills dependent on the dishes chosen  
3.3.1.2 |
| 35 | To develop research skills  
To understand the expectations of the NEA Food Preparation tasks | **Food choices and international cuisine**  
**Individually select a country and research:** recipes, eating patterns, equipment and cooking methods associated with the country  
**Practical:** To plan, prepare, cook and present a practical dish |  
**International cuisine**  
**Practical challenge** | Wide range of food preparation skills dependent on the dishes chosen  
3.5.2 |
### Scheme of Learning Year 1

#### 36
- To understand the environmental issues associated with food

<table>
<thead>
<tr>
<th>Food and the environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss issues surrounding: seasonal foods, sustainability, organic foods, locally produced food, carbon footprint, packaging and food waste</td>
</tr>
<tr>
<td>Activity: Food waste diary: Produce a diary of the food wasted by your family over a 7 day period. Produce an evaluation explaining how you as a family could reduce food waste</td>
</tr>
<tr>
<td>Practical: Prepare a dish using English or locally grown fruits. The recipe must demonstrate food styling, e.g. garnishes and decorative techniques, e.g. Strawberry petal cake, fruit flan, apple pie</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Food sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examine reared ingredients: meat and poultry; caught ingredients: fish; grown ingredients: fruits, vegetables and cereals</td>
</tr>
<tr>
<td>Discuss issues surrounding: organic and conventional farming, free range production, intensive farming, sustainable fishing, and genetically modified foods</td>
</tr>
<tr>
<td>YouTube clips to demonstrate</td>
</tr>
<tr>
<td>Activity: Advantages and disadvantages of farming methods</td>
</tr>
</tbody>
</table>

#### 37
- To understand where and how ingredients are grown, reared and caught

<table>
<thead>
<tr>
<th>Food and environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food sources p255–262</td>
</tr>
<tr>
<td>Practice questions p262</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Film &amp; step-by-step:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chocolate ganache/Melting chocolate/Coulis/Chocolate leaves</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TDB Activity 10C:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food waste diary</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity 10D: Food miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDB Activity 10A:</td>
</tr>
<tr>
<td>Research and fact cards related to different food sources</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity 10B: Plan and make a dish that uses seasonal/local ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide range of food preparation skills dependent on the dishes chosen</td>
</tr>
</tbody>
</table>

#### 38
- To understand where and how ingredients are grown, reared and caught

<table>
<thead>
<tr>
<th>Food and environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food sources p263–269</td>
</tr>
<tr>
<td>Practice questions p269</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Film &amp; step-by-step:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chocolate ganache/Melting chocolate/Coulis/Chocolate leaves</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TDB Activity 10C:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food waste diary</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity 10D: Food miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDB Activity 10A:</td>
</tr>
<tr>
<td>Research and fact cards related to different food sources</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity 10B: Plan and make a dish that uses seasonal/local ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide range of food preparation skills dependent on the dishes chosen</td>
</tr>
</tbody>
</table>
### Sustainability of food

- Discuss issues surrounding: climate change, global warming, sustainability of food sources, and insufficient land for growing food, availability of food, fairtrade, food waste, drought and flooding
- Model an extended answer to the above issues
- Activity: Advantages and disadvantages of farming methods
- Match the logo with the sustainability issue. Use Fairtrade, Organic, GM, Red Tractor, Freedom Food, RSPCA, Forest Stewardship Council, recycling food packaging, sustainable fishing, etc. Students have to explain each label and how this impacts on sustainability.
- Fact sheet on Fairtrade – survey of ingredients which can be purchased using fairtrade ingredients
- Practical: Prepare a dish with at least two fair trade ingredients

### Practice questions

- Sustainability of food p269–272
- Practice questions p273
- Activity p273
- Practical challenge p273

### Activities

- TDB Activity 10E: Match the logo with the sustainability issue
- Activity 10F: Environmental food issues wordsearch
- Activity 10G: Activity for Fairtrade fortnight
- Film & step-by-step: Chocolate ganache/ Melting chocolate/ Coulis/Chocolate leaves

### Wide range of food preparation skills

- Wide range of food preparation skills dependent on the dishes chosen

### 3.6.1.3