



## Year 11 Food Technology Nutrition & Food Quality

<b>Due Date: Monday 17th June, Week 8 Term 2, 9:00AM</b> <b>Food Order: Week 6</b> <b>Parts 1 &amp; 2:</b> <b>Practical Component (part 3):</b>	<b>Assessment Name: Nutrition &amp; Food Quality Research Task</b>
<b>Mark: /70</b>	<b>Weighting: 40 %</b>

### SYLLABUS OUTCOMES TO BE ASSESSED:

P2.1 explains the role of food nutrients in human nutrition.

P2.2 identifies and explains the sensory characteristics and functional properties of food

P3.2 presents ideas in written, graphic and oral form using computer software where appropriate

P4.4 applies an understanding of the sensory characteristics and functional properties of food to the preparation of food products.

### DIRECTIVES TO BE ASSESSED:

**Analyse:** Identify components and the relationship between them; draw out and relate implications

**Demonstrate:** Show by example

**Describe:** Provide characteristics and features

**Explain:** Relate cause and effect; make the relationships between things evident; provide why and/or how

**Identify:** Recognise and name

### TASK DESCRIPTION:

#### Part 1: Educational Resource

Create an informative website (google sites or other software), that can be used to inform teenagers on the functions of macro nutrients (Carbohydrates, Protein & Lipids) in the body. **A hyperlink to your website must be submitted together with Part 2 by the due date.** Ensure that you check that your hyperlink works before submitting.

Include the following information for **each nutrient** within your website.

- Describe the different types of each macro-nutrient based on their chemical structure.
- Explain the nutrient's role and function within the human body.
- Identify food sources of each nutrient.
- Explain how each nutrient is digested and absorbed in the body.

Your website should be **visually appealing** and demonstrate use of a variety of media types including text, images, graphics etc.

#### Part 2: Functional Properties of Food Recipe & Analysis

Design a recipe which demonstrates **at least two** of the following functional properties: denaturation, coagulation, gelation, foaming, browning, gelatinisation, dextrinisation, caramelisation, crystallisation, emulsification or aeration.

Conduct an analysis (1-2 pages) of your recipe that:

- Identifies **at least two** functional properties of food within your recipe and the macro-nutrient each functional property corresponds too. (Carbohydrates, Protein, Lipids)
- Explains the physical and/or chemical changes that will occur during the preparation of your recipe with reference to the functional properties you have selected.
- Explains the factors which may affect the functional properties within your recipe. This may include: (oxygen, temperature, agitation, acidity, enzymes, addition of other ingredients).

### **Part 3: Practical Application**

- During an allocated practical lesson, you will be required to prepare one serve of your recipe which *demonstrates* the use of two or more functional properties.

Whilst preparing your food item will be assessed on your ability to:

- *Demonstrate* an understanding of the functional properties of food during the preparation of food products.
- *Demonstrate* safe and hygienic practices when handling food and during the preparation of food products.

### **Bibliography**

A **separate** bibliography **must be included** within **each section (1 & 2)**, which references each source of information (books, websites, newspaper articles etc) used in the completion of the task.

**Part 1:** The reference list can be completed as an additional page on your website or at the bottom of each nutrient webpage.

**Part 2:** The reference list is to be completed on a separate page as part of your Part 2 submission.

### **ASSESSMENT CRITERIA – STUDENT CHECKLIST:**

Have you:

- € Created an informative website (google sites or other software), that informs teenagers about the functions of macro nutrients (Carbohydrates, Protein & Lipids) in the body.

Ensured the website includes the following information for **each macro-nutrient**:

- € **Describes** the different types of each macro-nutrient their chemical structure.
- € **Explains** the nutrients role and function within the human body.
- € **Identifies** food sources of each nutrient
- € **Explains** how each nutrient is digested and absorbed in the body.
- € Designed a recipe which *demonstrates at least two* of the functional properties
- € Completed an analysis of your recipe (1-2) pages that:
  - € **Identifies at least two** functional properties of food within your recipe and the macro-nutrient each functional property corresponds too.
  - € **Explains** the physical and/or chemical changes that will occur during the preparation of your recipe.
  - € **Explains** the factors which may affect the functional properties within your recipe. This may include: (oxygen, temperature, agitation, acidity, enzymes, addition of other ingredients).
  - € Completed a bibliography which references each source of information (books, websites, newspaper articles etc) used in the completion of each component of the task.

<b>Macro Nutrients Website</b>	P2.1		<b>/30</b>
<b>Functional Properties of Food: Recipe &amp; Analysis</b>	P2.2		<b>/20</b>
<b>Website Design &amp; Bibliography</b>	P3.2		<b>/10</b>
<b>Practical Application</b>	P4.4		<b>/10</b>
	<b>Total</b>		<b>/70</b>

## Marking Guidelines/ Criteria

P2.1 explains the role of food nutrients in human nutrition.

### Part 1: Website

Guidelines / Criteria	Marking
<ul style="list-style-type: none"> <li>- Develops an outstanding website which provides a detailed explanation of the role of food nutrients in human nutrition.</li> <li>- Presents a detailed description of each macro-nutrient based on their chemical structure.</li> <li>- Explains the role and function of each macro-nutrient within the human body.</li> <li>- Identifies a range of quality food sources for each nutrient from a variety of food groups.</li> <li>- Provides a detailed explanation of how each macro-nutrient is digested and absorbed in the body.</li> <li>- Supports statements using relevant and accurate examples.</li> <li>- Uses appropriate terminology</li> </ul>	<p><b>Outstanding</b></p>          <p>26-30</p>
<ul style="list-style-type: none"> <li>- Develops an excellent website that clearly describes the role of food nutrients in human nutrition.</li> <li>- Describes the different types of each macro-nutrient based on their chemical structure.</li> <li>- Describes the role and function of each macro-nutrient within the human body.</li> <li>- Identifies a range of quality food sources for each macro-nutrient.</li> <li>- Describes how each macro-nutrient is digested and absorbed in the body.</li> <li>- Supports statements using relevant and accurate examples.</li> <li>- Uses appropriate terminology.</li> </ul>	<p><b>High</b></p>          <p>19-25</p>
<ul style="list-style-type: none"> <li>- Develops a sound website that identifies some roles of food nutrients in human nutrition, but more detail required.</li> <li>- Identifies the different types of each macro-nutrient based on their chemical structure.</li> <li>- Identifies some roles and functions of each macro-nutrient within the human body.</li> <li>- Identifies food sources for each nutrient.</li> <li>- Presents some facts related to how each macro-nutrient is digested and absorbed in the body.</li> <li>- Supports some statements using examples</li> <li>- Uses some appropriate terminology</li> </ul>	<p><b>Sound</b></p>          <p>13-18</p>
<ul style="list-style-type: none"> <li>- Basic information on the role of food nutrients in human nutrition.</li> <li>- Presents some facts related to the structure, function, sources, digestion and absorption of each nutrient.</li> <li>- Little use of factual material to support generalisations, limited examples.</li> <li>- Presents few ideas relevant to the questions</li> <li>- Uses some appropriate terminology.</li> </ul>	<p><b>Basic</b></p>          <p>7-12</p>
<ul style="list-style-type: none"> <li>- Limited information related to the roles of food nutrients in human nutrition.</li> <li>- Completely irrelevant information</li> <li>- Large amounts of generalisations.</li> <li>- Has few to no relevant points in answer.</li> </ul>	<p><b>Limited</b></p>          <p>0-6</p>

P2.2 identifies and explains the sensory characteristics and functional properties of food

### Part 2: Functional Properties of Food Recipe & Analysis



<ul style="list-style-type: none"> <li>- Bibliography is complete and correctly formatted.</li> <li>- Evidence of a variety of data sources (minimum of 6) used.</li> </ul>	9-10
<ul style="list-style-type: none"> <li>- Excellent use of website software, website incorporates a variety of media types including text, images, graphics, video, sound.</li> <li>- Bibliography is complete and correctly formatted</li> <li>- Evidence of a variety of data sources (minimum of 5) used</li> </ul>	High  7-8
<ul style="list-style-type: none"> <li>- Sound use of website software incorporating demonstrating most of the following media types: text, images, graphics, video, sound.</li> <li>- Bibliography is mostly complete, some minor formatting errors.</li> <li>- Bibliography demonstrates evidence of some data sources.</li> </ul>	Sound  5-6
<ul style="list-style-type: none"> <li>- Limited use of website software incorporating at least one of the following media types: text, images, graphics, video, sound</li> <li>- Limited or incomplete bibliography, multiple formatting errors.</li> <li>- Little use of factual material to support generalisations.</li> </ul>	Basic  3-4
<ul style="list-style-type: none"> <li>- Basic use of website software incorporating at least one of the following media types: text, images, graphics</li> <li>- No bibliography</li> </ul>	Limited  0-2

P4.4 applies an understanding of the sensory characteristics and functional properties of food to the preparation of food products.

### Part 3: Practical Application

Guidelines / Criteria	Marking
<ul style="list-style-type: none"> <li>- Applies an outstanding level of understanding of the functional properties of food when preparing food products.</li> <li>- Completed food product is visually appealing and successfully demonstrates at least two functional properties of food.</li> <li>- Demonstrates safe and hygienic practices when handling and preparing food items.</li> </ul>	Outstanding  9-10
<ul style="list-style-type: none"> <li>- Applies a high level of understanding of the functional properties of food when when preparing food products.</li> <li>- Completed food product is visually appealing and successfully demonstrates at least two functional properties of food.</li> <li>- Demonstrates safe and hygienic practices when handling and preparing food items.</li> </ul>	High  7-8
<ul style="list-style-type: none"> <li>- Applies a sound understanding of the functional properties of food when when preparing food products.</li> <li>- Completed food product is visually appealing and successfully demonstrates at least one functional property of food.</li> <li>- Demonstrates safe and hygienic practices when handling and preparing food items.</li> </ul>	Sound  4-6
<ul style="list-style-type: none"> <li>- Demonstrates a limited understanding of the functional properties of food when when preparing food products.</li> <li>- Completed food product unsuccessfully demonstrates the functional properties of food.</li> <li>- Some unsafe and or unhygienic practices demonstrated when handling and preparing food items.</li> </ul>	Basic  1-3
<ul style="list-style-type: none"> <li>- Practical not attempted.</li> </ul>	Limited  0