Bridging the Gap
into
Level 3 Diploma
Food, Science and Nutrition

Bridging the Gap….

Your Food, Science and Nutrition course will cover:

Year 12

Unit 1

Meeting nutritional needs of specific groups
90min Examination plus 15 mins reading time
Timed Controlled Assesment

Year 13

Unit 2

Ensuring Food is safe to eat
External Examination

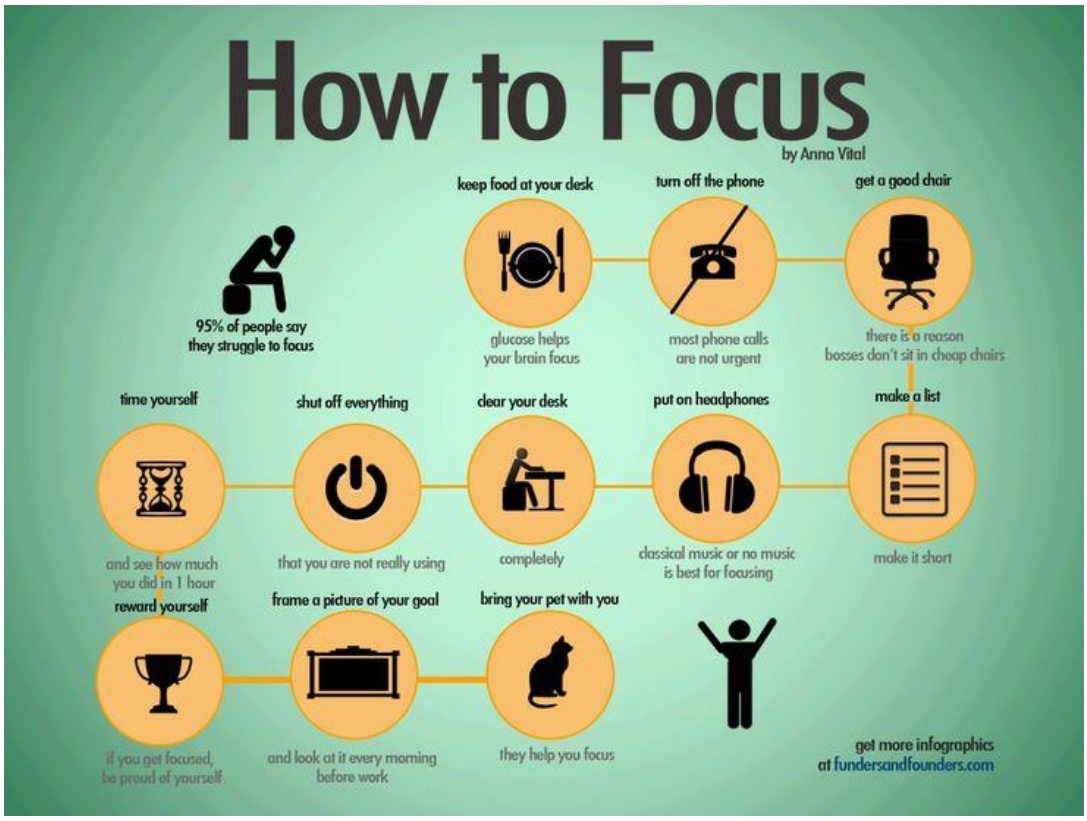
Unit 4

Current issues in food, science and nutrition
Controlled Assesment

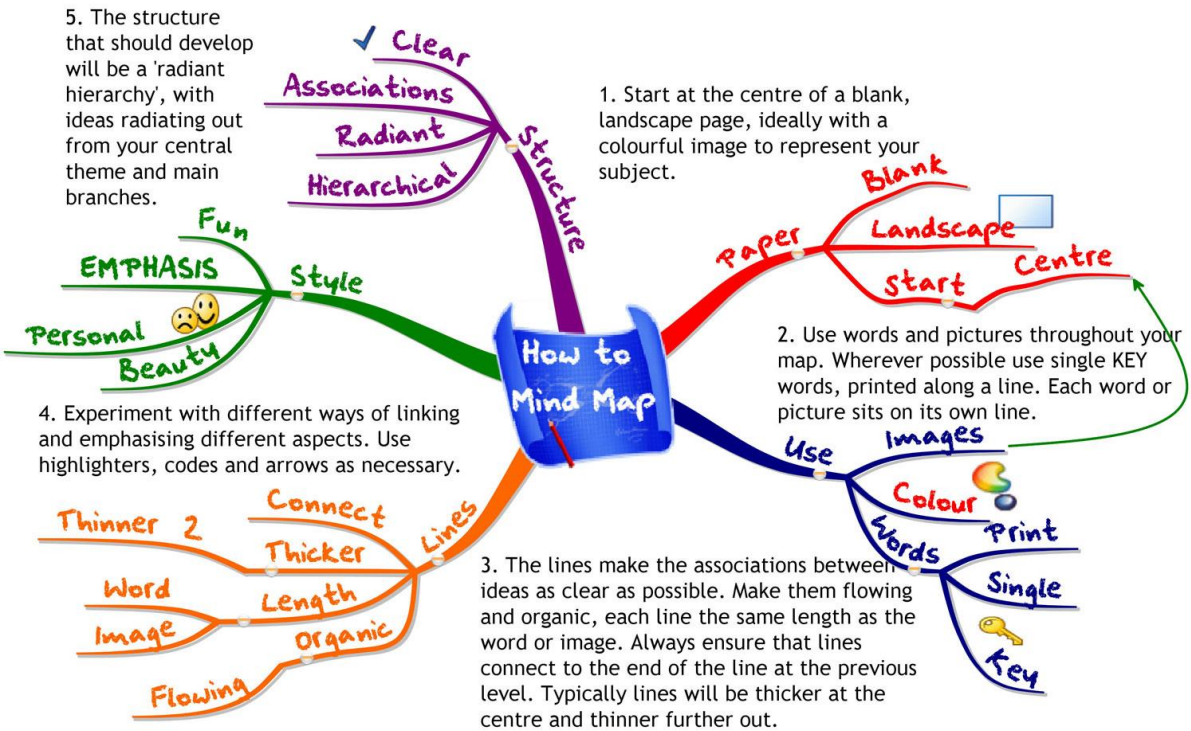
Contents

General tips for independent study

Get in the right frame of mind



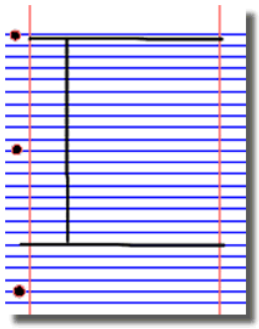
Mind Maps



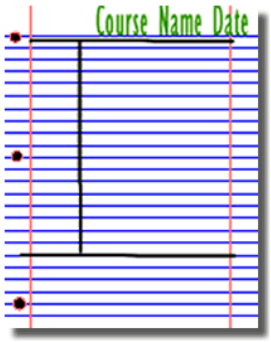
Note taking theory in the…

Research, reading and note making are essential skills for study. This is an example of the 'Cornell Notes' method of note taking which you should use

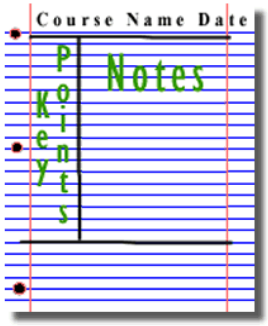
1. Divide your page into three sections like this



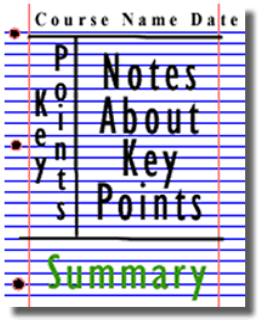
2. Write the name, date and topic at the top of the page



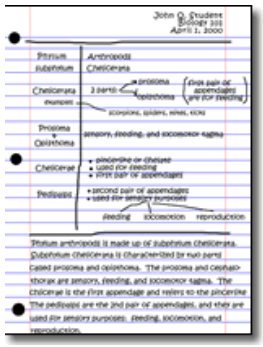
3. Use the large box to make notes. Leave a space between separate idea. Abbreviate where possible.



4. Review and identify the key points in the left hand box



5. Write a summary of the main ideas in the bottom space



Cornell note taking practice in the…

Go on to Food Fact of life and find resources on **protein**
Once you've read it, fill in below.

Key points	Notes
Summary	

Use your resources to find the answers to these fifty key facts

Question	Answer	Corrected answer
What is a NSP?		
Explain a polypeptide link		
What are the catogories of lipids?		
Explain Hydrogenated fat		
What are DRV's?		
Explain how individuals can take responsibility for food safety		
Explain methods used by food handlers to keep themselves clean and hygienic		
Explain methods used to keep work areas clean and hygienic		
What are the risks associated with food safety?		
Name 5 food poisonings		
Which food poisoning poses a threat to pregnant women?		
What are the differneces between Macro and Micro Nutrients?		

Question	Answer	Corrected answer
What is the chemical structure of protein?		
What is the chemical structure of Lipids?		
What is the chemical structure of Carbohydrates?		
What is BMR?		
State 2 causes of food cointamination		
What is ment by High Risk Food		
Describe one dietary function of protein		
State one difference between HBV and LBV		
Explain the difference between soluble and insoluble NSP's		
State 2 functions of fat in the diet		
State 2 reasons why foods are fortified		
What deficiency causes rickets?		

Question	**Answer**	**Corrected answer**
Give a symptom of protein deficency		
Why is an adequate water intake essential in the diet?		
What is the difference between monosaccharides and disaccharides?		
What is Glucose?		
Explain a complex polysaccharide		
What is modified startch?		
What chemicals make up protein?		
Explain the difference between monomers and polymers		
What are complementation foods and givr an example		
How can denaturation be brought about?		
What is coagulation?		
What is gelatinization?		

Question	**Answer**	**Corrected answer**
What chemicals make up fat?		
Explain the term simple triglyceride		
What is CIS?		
What is TRANS		
What sources contain saturated fats?		
Name an unsaturated fat		
What is a ceoliac?		
Explain a proterty of fats or oils		
What is anemia?		
What is the danger zone and why is it dangerous?		
What is a lacto vegetarian?		
What is an ovo – lacto vegetarian?		

Question	**Answer**	**Corrected answer**
Draw the chemical structure of a monosaccharide		
Draw the chemical structure of protein		

- **Consider the needs of the following groups. For each group explain the DRV and give examples of balanced meals explaining your choices.**
- Children
- Adults
- Elderly
- Pregnant women
- Type 1 diabetes
- Type 2 Diebetes
- Hyperchloesterolemia
- Anaemia
- Lactose intolerant
- Coeliac
- Religious Beliefs
- Vegans
- Vegetarians
- Lifestyle

Unit 1 introduction

Why do we need to follow food hygiene regulations? What is cross contamination? How do you know something is cooked and safe to eat? What are nutrients? Why do we need them? Is any food “bad” for us? Could fizzy drinks replace water? How does loss of mobility affect what I need to eat? Should we eat more in the winter? Can vitamin tablets replace fresh fruit? How can you make sure that when you cook a meal, everything is ready on time? How can you a make a dish look attractive?

Understanding food hygiene is an essential requirement for anyone who handles food in an industrial or domestic situation. The study of nutrition is essential in society as there are huge pressures on the global food system and increasing incidences of poor nutrition, despite a growth in interest in food related issues. Understanding nutritional requirements for a balanced diet will allow us to make informed dietary choices. Those working in food production need an appreciation of the nutritional value of food and the effect of this on individuals, as nutritional requirements can vary according to age, health, religion and lifestyle choices. Care sector workers need to ensure that meals meet the needs of specific patient groups: elderly, sick and nutritionally vulnerable. Those working as personal trainers understand how the nutritional intake of an athlete can impact on their performance and know the most effective methods of preparing food in order to maximise its nutritional value.

Whether cooking for two people at home, 100 clients at a conference or 1000 people in a hospital, any chef or cook will make sure they have a plan of action, which fully addresses health and safety factors to ensure any food prepared is safe to eat. They will also make sure they have all of the commodities and equipment needed and enough time to prepare and cook the dishes on the menu.

Through this unit, you will have gained an understanding of how to identify hazards and minimise risks when producing food to meet the nutritional needs of specific groups. You will learn about different types of nutrients and how those are used by the body to ensure you can plan a balanced nutritious diet. You will develop skills for preparing, cooking and presenting nutritious dishes that meet specific needs.

External Examination

Outcomes	Assessment Criteria	Marks	%
LO1 Understand the importance of food safety	**AC1.1** Explain how individuals can take responsibility for food safety **AC1.2** Explain methods used by food handlers to keep themselves clean and hygienic **AC1.3** Explain methods used to keep work areas clean and hygienic **AC1.4** Analyse risks associated with food safety	14-22	15-25%
LO2 Understand properties of nutrients	**AC2.1** Explain how nutrients are structured **AC2.2** Classify nutrients in foods **AC2.3** Assess the impact of **food production methods** on nutritional value	14-22	15-25%
LO3 Understand the relationship between nutrients and the human body	**AC3.1** Describe functions of nutrients in the human body **AC3.2** Explain characteristics of unsatisfactory nutritional intake **AC3.3** Analyse nutritional needs of specific groups **AC3.4** Assess how different situations affect nutritional needs	22-31	25-35%
LO4 Be able to plan nutritional requirements	**AC4.1** Evaluate fitness for purpose of diets **AC4.2** Calculate nutritional requirements for given individuals	22-31	25-35%
TOTAL	**90**		**100%**

Task setting

Under the process of task taking, controls are set for the key aspects of time, resources, supervision and collaboration.

• The time taken will be specified within the model assignment

• Resources must be provided that give learners fair and full access to the marking criteria and are appropriate for the assessment and requirements of the unit. Details of specific controls will be given within the model assessment

• Directions on where direct supervision is provided in the model assignment

• Directions on where collaboration is allowed within this unit will be detailed in the model assignment for this unit

• Guidance on collaboration, and where it is permitted, will be given with the model assignment.

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Example 1

A Personal Trainer could introduce learners to one or more of their clients. Learners develop their communication skills by working with the clients to determine their activity levels and diet. Learners identify nutrient needs based on the individual and calculate BMR, taking into account physical activity factor. Having calculated their nutritional requirements, learners work with the personal trainer to develop nutritious dishes. They prepare and cook the dishes and share these with the clients of the personal trainer, together with details of how the dishes meet their clients' nutritional needs.

Example 2

Learners are provided with information, including medical information, on groups of people within a care environment. Learners work in groups to develop a generic daily menu that includes all vital nutrients and meets the requirements of all. Learners advise the Care Manager or Catering Manager of their recommendations and produce the dishes for tasting by the residents. Learners receive feedback from the residents and the Care and Catering Managers on the quality of their food and menus.

Example 3

A Chef from the local community provides learners with a selection of recipes and methods that are used in his establishment. Learners have to

work in groups to produce orders of work for each recipe that an apprentice could follow, which pay absolute detail to critical control points and hazard prevention. Learners review the outputs and the menus and assess their nutritional value for different specific groups.

Example 4

A food production company provides details of their products and the processes used to create them. Learners work in teams to evaluate the nutritional value of the products, pre and post production and produce a report to representatives of the company. Learners prepare and cook the same dishes to demonstrate how nutritional values can be improved.

Example 5

A playgroup could set learners a project to produce meals for young children that could be cooked in their kitchens. Learners develop the technical skills for presenting dishes that would be appealing to children.

Example 6

A chef from a restaurant gives learners recipes from the menus. Learners are given limited time to work under pressure to produce the dishes, using plans provided by the chef. The quality of the final dishes is evaluated by the staff of the restaurant. Learners discuss with the chef how the plans could be adapted.

Making contacts

Examples of organisations that may be approached to provide help include:

- Environmental Health Departments
- NHS professionals
- Catering managers
- Contract catering organisations
- Charities that provide food to service users
- Hotels and restaurants
- Food production organisations.

Resources

Books

Bender, D. (2002). *An Introduction to Nutrition and Metabolism* (3rd Ed). Oxford, UK: Taylor and Francis Ltd

Brown, A.C. (2010). *Understanding Food: Principles and Preparation* (4th Ed). USA: Wadsworth Publishing

Campbell J (et al) (2011) *Practical Cookery Level 3* Hodder Education

Cesarani V (2002) *Advanced Practical Cookery: A Textbook for Education and Industry* Hodder Education

Drummond, K.E. and Brefere, L.M. (2009). *Nutrition for Foodservice and Culinary Professionals* (7th Ed). Hoboken, NJ, USA: John Wiley and Sons

Foskett D, Cesarani V, (2007) *Cesarani and Kinton's The Theory of Catering*

Dynamic Learning

Food Standards Agency. (2008). *Manual of Nutrition* (11th Ed). London, UK:

Stationary Office Jeukendrup, A. and Gleeson, M. (2004). *Sport Nutrition: An Introduction to Energy Production and Performance.* Leeds, UK: Human Kinetics

Smith, M. and Morton, D. (2001). *The Digestive System: Systems of the body.* London, UK: Churchill Livingstone

Websites

www.foodsafety.gov

http://homefoodsafety.org/app

BBC Health: www.bbc.co.uk/health/healthyliving

British Nutrition Foundation: www.nutrition.org.uk

CORE: http://www.corecharity.org.uk/

Department for Health: www.dh.gov.uk

http://www.dynamic-learning.co.uk/Product.aspx?productID=164

www.excellencegateway.org.uk/askbutler.examples.id295
Food and Drink Federation: www.fdf.org.uk

Food Standards Agency:
www.food.gov.uk/aboutus/publications/industrypublications/

Food Vision: www.foodvision.gov.uk

Health Development Agency: www.hda.nhs.uk

http://www.hoddereducation.co.uk/Colleges/Hospitality---Catering/Practical-Cookery-series-page/Practical-Cookery-Level-3-supporting-resources.aspx

NHS: http://www.nhs.uk/livewell/healthy-eating/Pages/Healthyeating.aspx

National Obesity Forum: http://www.nationalobesityforum.org.uk/

Physical Activity and Nutrition Wales:
www.physicalactivityandnutritionwales.org.uk

The British Dietetic Association: www.bda.uk.com

Vegetarian Society: www.veg.soc.org.uk

Grade Descriptors

Level 3 Pass

Learners have gained a basic understanding of food science and nutrition and the impact of food and nutrition on the lives of individuals and on society today. They will have gained a basic understanding of how to identify hazards and minimise risks when producing food to meet the nutritional needs of specific groups. They demonstrate some knowledge of the different properties of nutrients, how the body processes nutrients and how nutritional needs change over time. They are able to use their understanding and knowledge to plan dishes and dietary plans to meet nutrition needs of specific individuals. Learners can carry out practical tasks (including experimental work), analyse results and draw basic conclusions from their findings. Learners will be able to use a number of generic skills e.g. research, analysis, planning and evaluation fairly independently, in order to address food safety scenarios in a range of environments, and/or to produce a research project on a chosen issue within food science and nutrition. Learners will be able to identify and transfer knowledge and understanding from one task to another, thus using learning in an integrated and synoptic way.

Level 3 Merit

Learners have gained a good understanding of food science and nutrition and the impact of food and nutrition on the lives of individuals and on society today. They will have gained a clear understanding of how to identify hazards and minimise risks when producing food to meet the nutritional needs of specific groups. They demonstrate good knowledge of the different properties of nutrients, how the body processes nutrients and how nutritional needs change over time. They are able to use their understanding and knowledge to accurately plan dishes and dietary plans to meet nutrition needs of specific individuals. Learners can carry out practical tasks (including experimental work) with ease and can analyse results and draw basic conclusions from their findings. Learners will be able to use competently a number of generic skills e.g. research, analysis, planning and evaluation in order to address food safety scenarios in a range of environments, and/or to produce a good research project on a chosen issue within food science and nutrition. Learners will be able to identify and transfer accurately knowledge and understanding from one task to another, thus clearly demonstrating using learning in an integrated and synoptic way.

Level 3 Distinction

Learners have gained an in depth understanding of food science and nutrition and the impact of food and nutrition on the lives of individuals and on society today. They will have gained a sound understanding of how to identify hazards and minimise risks when producing food to meet the nutritional needs of specific groups. They demonstrate detailed knowledge of the different properties of nutrients, how the body processes nutrients and how nutritional needs change over time. They are able to use their understanding and knowledge to plan complex dishes and in depth dietary plans to meet the nutrition needs of specific individuals. Learners can carry out practical tasks (including experimental work), competently and confidently demonstrating flair and precision and analyse results and draw sound conclusions from their findings. Learners will be able to use a range of generic skills e.g. research, identification of key factors, analysis, planning and evaluation independently and with ease and accuracy, in order to address food safety scenarios in a range of environments, and/or to produce an in depth research project on a chosen issue within food science and nutrition. Learners will at every opportunity be able to identify and transfer accurately in depth knowledge and understanding from one task to another, thus clearly demonstrating using learning in an integrated and synoptic way.