

Home Economics (Food and Nutrition)

General Certificate of Secondary Education

Unit **B003**: Principles of Food and Nutrition

Mark Scheme for January 2011

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All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the Report on the Examination.

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Question			Expected Answer	Marks		Rationale
1	(a)	(i)	<p>Look at the pictures below. Identify TWO examples of foods containing sugars.</p> <ul style="list-style-type: none"> Chocolate Sweets Honey Apple 	[2x1]	[2]	
		(ii)	<p>Look at the pictures below. Identify TWO examples of foods containing starch.</p> <ul style="list-style-type: none"> Wholemeal pasta Brown rice Flour Potatoes 	[2x1]	[2]	
		(iii)	<p>Give TWO changes that occur when bread is toasted.</p> <ul style="list-style-type: none"> The bread heats/warms The bread becomes crisp/firm/hard/texture The bread changes colour/goes brown The bread loses moisture/dries out/becomes dry The bread becomes lighter (weight/mass) 	[2x1]	[2]	
		(iv)	<p>Name ONE alternative to sugar (sucrose) for sweetening drinks.</p> <ul style="list-style-type: none"> Honey Glucose/Fructose/Maltitol/Galactose Artificial Sweetener or any chemical/commercial name for a sweetener. For example: Aspartame/<u>Acesulfame potassium</u> Splenda/Sweet 'n' low/Half sweetener and half sugar (by Tate and Lyle) 	[1x1]	[1]	Accept 'sweetner' on its own

Question		Expected Answer	Marks		Rationale
	(v)	<p>Give TWO reasons why athletes need sugar in their diet during training.</p> <ul style="list-style-type: none"> • For energy/ sustained energy/sugar has high energy content • For/to aid recovery • Helps to reduce the build up of lactic acid/helps muscles work • So the athlete can carry on for longer • Gives them an edge in training or competition • Reduces/stops the onset of fatigue/tiredness 	[2x1]	[2]	
(b)	(i)	<p>Explain what is meant by basal metabolic rate (BMR)”?</p> <p>1st mark = saying that it is a measurement of energy usage/expenditure.</p> <p>2nd mark = more detailed explanation, containing one or more of the following:</p> <ul style="list-style-type: none"> • Basic energy rate/ if the person is at complete rest/metabolism • The energy needed by the body just to function /no movement except breathing/natural functions at rest • Energy needed just to live • About 1/3 of someone’s energy needs 	[2]	[2]	

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(ii)	<p data-bbox="365 204 1234 271">Describe TWO reasons why people have different energy requirements</p> <table border="1" data-bbox="371 304 1227 1364"> <thead> <tr> <th data-bbox="371 304 568 336">Reason</th> <th data-bbox="568 304 1227 336">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="371 336 568 555">Age</td> <td data-bbox="568 336 1227 555">1. Babies need high energy due to growth. 2. Adolescents and young adults have a high energy need due to growth and a high level of activity. 3. Older people have a slowing metabolism/BMR/RMR/lower heart rate and maybe less active, subsequently needing less energy. They also have a greater fat mass.</td> </tr> <tr> <td data-bbox="371 555 568 647">Gender (sex)</td> <td data-bbox="568 555 1227 647">Males have a higher energy requirement (generally) due to being heavier and having a greater muscle mass.</td> </tr> <tr> <td data-bbox="371 647 568 834">Physical activity/ leisure time activities</td> <td data-bbox="568 647 1227 834">1. Increasing the physical activity in leisure time, be it running or just being active in daily tasks, increases energy requirements and more energy is being used. 2. Reliance upon automated things such as washing machines and cars means we have a decreased energy need compared to before such inventions.</td> </tr> <tr> <td data-bbox="371 834 568 959">Body composition</td> <td data-bbox="568 834 1227 959">1. A greater body mass/being heavier has an increased need for energy. 2. Having a greater fat free mass (FFM)/muscle mass has a greater increase for energy need.</td> </tr> <tr> <td data-bbox="371 959 568 1115">Pregnancy</td> <td data-bbox="568 959 1227 1115">During pregnancy there is a greater need for energy due to the babies development, laying down of fat stores and general preparation (of mother) for pregnancy – especially in the last trimester (3 months).</td> </tr> <tr> <td data-bbox="371 1115 568 1208">Lactation/ breastfeeding</td> <td data-bbox="568 1115 1227 1208">Breastfeeding is a high energy activity and therefore has a greater energy production associated with high quality milk production.</td> </tr> <tr> <td data-bbox="371 1208 568 1364">Illness</td> <td data-bbox="568 1208 1227 1364">1. Metabolism may be raised at times of illness of fever/body needs energy to fight illnesses 2. Other times it may decrease due to lack of or .a reduction in physical activity/energy expenditure. 3. Energy intake may be lower if trying to lose weight</td> </tr> </tbody> </table>	Reason	Description	Age	1. Babies need high energy due to growth. 2. Adolescents and young adults have a high energy need due to growth and a high level of activity. 3. Older people have a slowing metabolism/BMR/RMR/lower heart rate and maybe less active, subsequently needing less energy. They also have a greater fat mass.	Gender (sex)	Males have a higher energy requirement (generally) due to being heavier and having a greater muscle mass.	Physical activity/ leisure time activities	1. Increasing the physical activity in leisure time, be it running or just being active in daily tasks, increases energy requirements and more energy is being used. 2. Reliance upon automated things such as washing machines and cars means we have a decreased energy need compared to before such inventions.	Body composition	1. A greater body mass/being heavier has an increased need for energy. 2. Having a greater fat free mass (FFM)/muscle mass has a greater increase for energy need.	Pregnancy	During pregnancy there is a greater need for energy due to the babies development, laying down of fat stores and general preparation (of mother) for pregnancy – especially in the last trimester (3 months).	Lactation/ breastfeeding	Breastfeeding is a high energy activity and therefore has a greater energy production associated with high quality milk production.	Illness	1. Metabolism may be raised at times of illness of fever/body needs energy to fight illnesses 2. Other times it may decrease due to lack of or .a reduction in physical activity/energy expenditure. 3. Energy intake may be lower if trying to lose weight	[2x2] [15]	[4]
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(ii)	<p>The type of milk people buy has changed over the last few years.</p> <p>Explain three changes in the type milk people bought between 2000 and 2008 using the bar chart above.</p> <table border="1" data-bbox="383 411 1218 1396"> <thead> <tr> <th data-bbox="383 411 689 445">Changes/trends</th> <th data-bbox="701 411 1218 445">Explanation</th> </tr> </thead> <tbody> <tr> <td data-bbox="383 453 689 818"> Semi-skimmed milk has increased (steadily) OR Semi skimmed milk has been the most popular </td> <td data-bbox="701 453 1218 818"> Health conscious people may choose semi-skimmed due to lower fat intakes therefore, healthier diets. Greater publicity to reduce fat and or energy/Kcal/kJ intake. Increase in “low fat” diets. Increase in the number of people trying to lose weight. An increase in people making “small changes” in their day to day life – reducing energy intake by swapping milk. </td> </tr> <tr> <td data-bbox="383 826 689 1023"> Skimmed milk increased </td> <td data-bbox="701 826 1218 1023"> People prefer the taste of semi-skimmed milk and are more likely to have this than skimmed, albeit they know skimmed is lower in energy and fat. </td> </tr> <tr> <td data-bbox="383 1031 689 1396"> Whole milk is decreasing </td> <td data-bbox="701 1031 1218 1396"> Whole milk was more popular in 2000 than now, possibly due to people not being so health conscious then. More people are trying to lose weight now and are therefore switching to a lower fat an energy dense milk to help cut calorie intake. Publicity increase in lower fat and energy milks. Lower numbers of children requiring this milk. </td> </tr> </tbody> </table>	Changes/trends	Explanation	Semi-skimmed milk has increased (steadily) OR Semi skimmed milk has been the most popular	Health conscious people may choose semi-skimmed due to lower fat intakes therefore, healthier diets. Greater publicity to reduce fat and or energy/Kcal/kJ intake. Increase in “low fat” diets. Increase in the number of people trying to lose weight. An increase in people making “small changes” in their day to day life – reducing energy intake by swapping milk.	Skimmed milk increased	People prefer the taste of semi-skimmed milk and are more likely to have this than skimmed, albeit they know skimmed is lower in energy and fat.	Whole milk is decreasing	Whole milk was more popular in 2000 than now, possibly due to people not being so health conscious then. More people are trying to lose weight now and are therefore switching to a lower fat an energy dense milk to help cut calorie intake. Publicity increase in lower fat and energy milks. Lower numbers of children requiring this milk.		<p>Only one mark is awarded for a change referring to semi skimmed milk</p>
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Question			Expected Answer		Marks		Rationale
			Organic milk over all is up.	People are more aware of the organic culture now and therefore are trying to reduce the amount of pesticides in their diet, hence are consuming more organic milk. It became the “in thing “– related to society, affluence and standing. The increase in availability of organic products could have helped this (ie) increased publicity, more local produce in the supermarkets, farmers markets, local organic farms, home delivery of organic products. Greater number of TV programmes about the way animals in mass producing farms are kept –eye opening. People initially felt that organic produce had nutritional benefits.			
			Overall milk sales have remained fairly steady although decreasing slightly	People are not changing the quantity of milk they are buying but they are just tending to buy a different type of milk.	[6]	[6]	

Question		Expected Answer	Marks		Rationale		
	(b)	(i)	<p>Milk contains calcium.</p> <p>Name ONE other good source of calcium in the diet.</p> <ul style="list-style-type: none"> • Cheese or a named cheese • Cream • Fromage frais • Crème fraiche • Yoghurt • Bread • Fish or fish where the bones are eaten • Leafy green vegetables or named vegetable • Hard water/fortified water • Nuts or named nut • Seeds or named seed • Dried fruit • Tofu 		[1x1]	[1]	
		(ii)	<p>Give ONE reason why calcium is needed in the body.</p> <ul style="list-style-type: none"> • Strong bones • Strong teeth • Clotting of blood • Rhythmic heartbeat • For nerves and muscles • Works with Vitamin D • Prevents rickets/brittle bones/osteoporosis <p>Do not accept:</p> <ul style="list-style-type: none"> • “Bones” or “teeth” as single word statements – needs to be quantified with “strong/er” • Healthy bones/teeth • Growth or repair of bones/teeth 		[1x1]	[1]	

Question		Expected Answer	Marks		Rationale
	(iii)	<p>State 3 nutrients other than calcium found in whole milk.</p> <ul style="list-style-type: none"> • Fat • Protein • Carbohydrate/lactose • Vitamin A • Vitamin B complex/vitamin B (or): • <i>Vitamin B₁ (Thiamin)</i> • <i>Vitamin B₂ (Riboflavin)</i> • <i>Vitamin B₆ (Pyridoxine)</i> • Vitamin B₁₂ • Vitamin C • Vitamin D • Vitamin E • Folate • Phosphorus • Potassium 	[3x1]	[3]	
	(c)	<p>Fresh milk has to be stored in a refrigerator.</p> <p>Give TWO other types of milk that could be stored in a cupboard at home.</p> <ul style="list-style-type: none"> • UHT/long-life/sterilised • Powdered/formula • Evaporated/tinned/canned • Condensed/tinned/canned 	[2x1] [15]	[2]	
Question 2 total					

Question	Expected Answer	Marks	Rationale
3	<p>Students have a limited income for buying food.</p> <ul style="list-style-type: none"> • Describe the problems that could affect a new student when choosing, storing and cooking food. • Explain how these problems could be overcome. <p>This question is marked according to the quality of response.</p> <p>Marks are allocated according to the quality of the response. Candidates should be able to show their depth of knowledge and understanding, using correct terminology. In order to achieve a high level response, both areas must be addressed in detail.</p> <p>A candidate only answering one part of the question well remains in the limited level response and can access up to 8 marks only. Must be answered well, with clear descriptions and/or explanations.</p> <p>If candidates respond by giving answers in a list, they remain in the lower level response.</p> <p>Bullet point answers can only achieve up to the medium level response only.</p> <p>A high level of response 13-15</p> <p>The candidate can describe in detail the problems a new student might face when shopping for food and give a comprehensive explanation of how these problems could be overcome. Answers will be accurate. The candidates must provide coverage for both parts of the question. The information will be presented in a clear and organised way. A whole range of</p>		<p>The following answers are examples only and are therefore, not a definitive list.</p>

Question	Expected Answer	Marks	Rationale
	<p>specialist terms are used with precision. There will be few errors in spelling, punctuation or grammar.</p> <p>A good/satisfactory response 9-12</p> <p>The candidate can demonstrate some understanding by describing some of the problems a new student might face when shopping for food. The candidate will explain how some of these problems could be overcome. The candidates must provide coverage for both parts of the question. Information will be offered to support the answer but in general terms with little detail. The information will be offered in a structured format. The candidate can use a range of specialist terms with facility. There may be occasional errors in spelling, punctuation and grammar.</p> <p>A limited response 5-8</p> <p>The candidate makes some valid comments about the problems a student could face when shopping for food and makes an attempt to explain how some of these problems could be overcome. Some information will be relevant, although may lack specific detail. The candidate uses some specialist terms, although these may not always be used appropriately. There may be errors in spelling, punctuation and grammar.</p> <p>A low level of response 0-4</p> <p>The candidate provides limited descriptions of the problems that could be faced by a new student shopping for food and may give one or two suggestions as to how any problems could be overcome. Facts may not always relate to the contents. Answers may be ambiguous or disorganised. There will be little or no use of specialist terms. Errors of grammar, punctuation and spellings may be intrusive.</p>		

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	<p>If a candidate does not describe or explain, but makes a list/series of points they can achieve a maximum of 8 marks.</p> <p>Examples of points that the candidate may consider:</p> <table border="1" data-bbox="389 405 1196 1398"> <tbody> <tr> <td data-bbox="389 405 719 475">Lack of nutritional knowledge</td> <td data-bbox="725 405 1196 475">Not having a balanced diet-leading health problems egobesity</td> </tr> <tr> <td data-bbox="389 475 719 576">Do not know what to buy</td> <td data-bbox="725 475 1196 576">First time away from home. Someone else has always done the food shopping.</td> </tr> <tr> <td data-bbox="389 576 719 646">Do not know how to cook</td> <td data-bbox="725 576 1196 646">Never been taught. Never been responsible for the cooking before.</td> </tr> <tr> <td data-bbox="389 646 719 716">Other priorities</td> <td data-bbox="725 646 1196 716">Leaves limited money and possibly time for food</td> </tr> <tr> <td data-bbox="389 716 719 887">Large expenditure on expensive items such as text books</td> <td data-bbox="725 716 1196 887">Leaves little money for food. Large expenditure all at once makes it difficult if money is credited to your account irregularly.</td> </tr> <tr> <td data-bbox="389 887 719 989">Do not know how to budget properly</td> <td data-bbox="725 887 1196 989">Could leave insufficient money for buying food, limits choice and therefore nutrition.</td> </tr> <tr> <td data-bbox="389 989 719 1398">Lack of transport</td> <td data-bbox="725 989 1196 1398">Makes food shopping harder- have to carry food back and may change what they buy (ie) less fruit and vegetables as they are heavy. Cannot go to larger stores/supermarkets, therefore are likely to have to pay more at local stores. May mean the student gets less food overall for the same money (less value for money). Local shops may stock less variety.</td> </tr> </tbody> </table>	Lack of nutritional knowledge	Not having a balanced diet-leading health problems egobesity	Do not know what to buy	First time away from home. Someone else has always done the food shopping.	Do not know how to cook	Never been taught. Never been responsible for the cooking before.	Other priorities	Leaves limited money and possibly time for food	Large expenditure on expensive items such as text books	Leaves little money for food. Large expenditure all at once makes it difficult if money is credited to your account irregularly.	Do not know how to budget properly	Could leave insufficient money for buying food, limits choice and therefore nutrition.	Lack of transport	Makes food shopping harder- have to carry food back and may change what they buy (ie) less fruit and vegetables as they are heavy. Cannot go to larger stores/supermarkets, therefore are likely to have to pay more at local stores. May mean the student gets less food overall for the same money (less value for money). Local shops may stock less variety.		
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	Limited storage	Limited space for storage of food, may mean the student buys less and therefore eats less or has to spend more time shopping/more trips to the shops in a set period of time. Less variety of food available in the home.		
	May get stuck in buying the same foods Repetitive meals	Limited nutrition – may increase the risk of a particular disease, such as rickets.		
	Lack of time	For either or both food cooking or shopping.		
	Limited access to food shops	The food available at places such as 'corner' shops are considered more expensive and may lack variety of larger stores/supermarkets.		
	Limited equipment and cooking facilities	Limits options of choice of food/meals		
	Limited money	May buy cheaper food(s) that may not be nutritional balanced. Less variety of foods.		
	Food hygiene issues	Increase rates of food poisoning due to sharing facilities		
	Explain how these problems could be overcome.			
	Budget	Know your allocation for everything. Means that you will have enough money as long as you stick to it. Having a set amount of 'food money' each time you shop means that you will have enough every time you go shopping – consistent nutritionally too.		

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	<table border="1"> <tr> <td data-bbox="394 236 701 274">Go with a shopping list</td> <td data-bbox="723 236 1193 370">Only come out with what you went in for, don't over spend and do not come out with things that you might not need.</td> </tr> <tr> <td data-bbox="394 376 701 446">Plan what you are going to eat</td> <td data-bbox="723 376 1193 475">Means you minimise waste, know what you are eating for the duration you are shopping for.</td> </tr> <tr> <td data-bbox="394 481 701 552">Shop around/shop on line</td> <td data-bbox="723 481 1193 580">Get the best deals from the different supermarkets/shops. Lack of transport.</td> </tr> <tr> <td data-bbox="394 587 701 657">Use local farms/markets</td> <td data-bbox="723 587 1193 686">Things like Pick your own (PYO) or markets can be cheaper than the supermarket.</td> </tr> <tr> <td data-bbox="394 692 701 730">Buy in bulk</td> <td data-bbox="723 692 1193 852">Saves money as long as the product does not have a short shelf life. Can always shop with friends if storage is a problem or you can all save money.</td> </tr> <tr> <td data-bbox="394 858 701 928">Cook in bulk. Freeze or eat the next day</td> <td data-bbox="723 858 1193 1091">Saves money on utilities – electricity and water for cooking and washing up. Means you have food that is easy to cook when busy, saves buying convenience foods which can cost a more money than making your own.</td> </tr> <tr> <td data-bbox="394 1098 701 1136">One pot meals</td> <td data-bbox="723 1098 1193 1232">Saves time, and money (electricity) and washing-up. Can use cheaper ingredients and cook for longer (ie) cuts of meat.</td> </tr> <tr> <td data-bbox="394 1238 701 1308">Tinned and frozen fruit and vegetables</td> <td data-bbox="723 1238 1193 1340">Often these can be cheaper and just as (if not more) nutritious (as long as not processed).</td> </tr> <tr> <td data-bbox="394 1347 701 1417">Buy things on special offer</td> <td data-bbox="723 1347 1193 1417">Saves money long term. Especially useful for non-perishable items</td> </tr> </table>	Go with a shopping list	Only come out with what you went in for, don't over spend and do not come out with things that you might not need.	Plan what you are going to eat	Means you minimise waste, know what you are eating for the duration you are shopping for.	Shop around/shop on line	Get the best deals from the different supermarkets/shops. Lack of transport.	Use local farms/markets	Things like Pick your own (PYO) or markets can be cheaper than the supermarket.	Buy in bulk	Saves money as long as the product does not have a short shelf life. Can always shop with friends if storage is a problem or you can all save money.	Cook in bulk. Freeze or eat the next day	Saves money on utilities – electricity and water for cooking and washing up. Means you have food that is easy to cook when busy, saves buying convenience foods which can cost a more money than making your own.	One pot meals	Saves time, and money (electricity) and washing-up. Can use cheaper ingredients and cook for longer (ie) cuts of meat.	Tinned and frozen fruit and vegetables	Often these can be cheaper and just as (if not more) nutritious (as long as not processed).	Buy things on special offer	Saves money long term. Especially useful for non-perishable items		
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	such as tins		
	Use value/loss leaders Look for alternatives		
	Use left over food as next day meals		
	Get a job/earn money		
	Cook with friends		
	Prioritise and make a time plan		
	Do the food shopping before any other spending		
	Do not going shopping when thirsty or hungry		
	Buy a cook book		
	Sign up to a cooking course		

Question			Expected Answer		Marks		Rationale
				and likely to meet people.			
			Look out for supermarkets selling things cheaper	When food reaches or nears its sell-by date the supermarket reduces the products, they are still good to eat and are often a lot cheaper.			
			Long life products	Less waste/cheaper			
Question 3 total					[15]	[15]	

Question		Expected Answer	Marks		Rationale
4	(a)	<p>Blue veined cheese is one example of a food where a micro-organism is used in food production.</p> <p>Name ONE other food that uses a micro-organism in production.</p> <ul style="list-style-type: none"> • Bread – or named bread • Yoghurt – or named yoghurt 	[1x1]	[1]	
	(b)	<p>State THREE methods of preserving food at home.</p> <ul style="list-style-type: none"> • Making jams/jellies/crystallising • Pickling/chutneys • Bottling • Drying • Freezing • Salting • Smoking 	[3x1]	[3]	Accept accurate descriptions of processes
	(c)	<p>Give THREE advantages of food preservation</p> <ul style="list-style-type: none"> • Longer shelf life/food keeps for a longer period of time/does not spoil as quickly/ micro-organisms are destroyed/inactivated/killed/affected by changes in temperatures/pHs/atmospheric gases • Better for the environment – less wasted/thrown away • Saves money as not throwing so much away • Can buy some foods in bulk which can save money in the long term • Do not have to go to the shop as often • Can use foods when they are out of season • Buy food in season so they are cheaper and then keep them • Food may be in a more convenient form for use • Variety in the diet/different flavours or textures 	[3x1]	[3]	

Question	Expected Answer	Marks	Rationale																		
(d)	<p>Describe four ways of reducing the risk of food poisoning when storing and re-heating leftover food. Examples of specific information that may be covered by the candidate:</p> <table border="1" data-bbox="383 376 1227 1337"> <thead> <tr> <th data-bbox="394 376 636 410">Point</th> <th data-bbox="647 376 1216 410">Description/Reasoning</th> </tr> </thead> <tbody> <tr> <td data-bbox="394 413 636 580">Ensure the food cooled before refrigerating or freezing</td> <td data-bbox="647 413 1216 580">If the food is not cooled, the micro-organism will continue to multiple. If the food is hot then it heats the fridge or freezer and therefore puts all the food within the danger zone.</td> </tr> <tr> <td data-bbox="394 584 636 751">Ensure the food is kept in the refrigerator (between 0 and 5°C)</td> <td data-bbox="647 584 1216 751">This is out of the 'danger zone' where micro-organisms are most active.</td> </tr> <tr> <td data-bbox="394 754 636 820">Cool food quickly</td> <td data-bbox="647 754 1216 820">Limits micro-organism growth time. Less time in the 'danger zone'.</td> </tr> <tr> <td data-bbox="394 823 636 922">Do not leave food on the side for long periods</td> <td data-bbox="647 823 1216 922">This would encourage micro-organism growth.</td> </tr> <tr> <td data-bbox="394 925 636 1024">Keep food out of the 'danger zone' 5-63°C</td> <td data-bbox="647 925 1216 1024">This is where the organisms and most active. Out of this range the micro-organisms are inactivated.</td> </tr> <tr> <td data-bbox="394 1027 636 1163">Use the food within a few days of cooking/ opening</td> <td data-bbox="647 1027 1216 1163">Exposure to air and temperatures once open encourages food to deteriorate and micro-organisms to multiple.</td> </tr> <tr> <td data-bbox="394 1166 636 1265">Transfer food to containers from tins and cans</td> <td data-bbox="647 1166 1216 1265">Open cans encourage micro-organism activity and can lead to poisoning from the can oxidising.</td> </tr> <tr> <td data-bbox="394 1268 636 1334">Only re-heat the food once</td> <td data-bbox="647 1268 1216 1334">Continued cooling and heating encourages micro-organism activity.</td> </tr> </tbody> </table>	Point	Description/Reasoning	Ensure the food cooled before refrigerating or freezing	If the food is not cooled, the micro-organism will continue to multiple. If the food is hot then it heats the fridge or freezer and therefore puts all the food within the danger zone.	Ensure the food is kept in the refrigerator (between 0 and 5°C)	This is out of the 'danger zone' where micro-organisms are most active.	Cool food quickly	Limits micro-organism growth time. Less time in the 'danger zone'.	Do not leave food on the side for long periods	This would encourage micro-organism growth.	Keep food out of the 'danger zone' 5-63°C	This is where the organisms and most active. Out of this range the micro-organisms are inactivated.	Use the food within a few days of cooking/ opening	Exposure to air and temperatures once open encourages food to deteriorate and micro-organisms to multiple.	Transfer food to containers from tins and cans	Open cans encourage micro-organism activity and can lead to poisoning from the can oxidising.	Only re-heat the food once	Continued cooling and heating encourages micro-organism activity.		<p>The following answers are examples only and are therefore, not a definitive list.</p> <p>One mark for the point One mark for the description /reasoning</p>
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Question		Expected Answer		Marks		Rationale
		Ensure heated food is cooked throughout	Inactivates the majority of micro-organisms, as out of the danger zone. Ensure food is cooked thoroughly above 63C			
		If heating in a microwave – leave to stand before eating.	Microwaves can encourage the development of cold spots where the food isn't thoroughly cooked/heated. Leaving to stand evens out the temperature/cooked thoroughly.			
		Do not store cooked and raw foods together	Store correctly to avoid cross contamination			
		Use within the use by date	Minimise micro-organism growth.			
		Cover in the fridge/freezer/ when left out	Keeps cross contamination minimal/avoids it.			
		Defrost food in the refrigerator/ cool area Defrost thoroughly	Minimise micro-organism growth. Limits time in the danger zone/Stops food becoming too hot. Limits exposure to micro-organisms/bacteria.			
		Question 4 total		[8]	[8]	
				[15]		

Question			Expected Answer	Marks		Rationale
5	(a)	(i)	<p>How many servings of fruit and vegetables are we advised to eat every day?</p> <ul style="list-style-type: none"> • Five • More than five/At least five • 400g/ 5 x 80g <p>A range of 5 to 10 is acceptable</p>	[1x1]	[1]	
		(ii)	<p>Give FOUR reasons why we are advised to eat more fruit and vegetables.</p> <ul style="list-style-type: none"> • To protection against cancer(s) • To boost the immune system/reduce the chance of becoming ill • For antioxidants • To fight signs of aging/skin health • To get enough vitamins/get enough ... (named vitamin) MAX of TWO • To get enough minerals/get enough ... (named mineral) MAX of TWO • To eat a balanced diet/part of the healthy eating plate/plan • To fight illness/infections/colds • As a source of fibre • Add bulk not calories to meals/good to snack on/filling and add bulk to the diet • They are a low energy/calorie/Kcal/kJ snack • They are a low fat snack • Convenient and quick snack • For heart health • Reduces cholesterol • Fruit contains natural sugars • Helps to control blood sugar • Helps to control cravings/appetite • Colourful addition to meal/more appetising 	4x1	4	Do not accept – “because they are healthy”

Question	Expected Answer	Marks		Rationale
	<p>(iii) State FOUR ways a young child could be encouraged to eat more fruit and vegetables</p> <p>Examples:</p> <ul style="list-style-type: none"> • Make fruit and vegetables a daily part of family • Lead by example • Give them a variety of fruits and vegetables to try (different flavours) • Give them a variety of textures to try • Give each fruit and or vegetable more than once even if they do not like it at first • Make meal times fun • Chop fruits and vegetables into small/bite sized pieces • Peel fruit/vegetables • Let them help with the preparation/choosing • Puree the fruit and vegetables so it is easier to eat and digest • Eat/give dried fruit rather than sweets or on cereals • Eat/give chopped fruit and vegetables as snacks • Add to all meals; for example add salad to sandwiches • Use as natural sweetener (ie) in porridge/scones • Drink smoothies • Eat soup • Give it to them for puddings • Get them to grow their own • Go to places such as pick your own farms – positive associations and greater understanding • Give them colourful fruit and vegetables – appetising as snacks or as meals • Advertising/labelling 	[4x1]	[4]	<p>The following answers are examples only and are therefore, not a definitive list.</p>

Question		Expected Answer	Marks		Rationale
	(iv)	<p>Name TWO fruits that go brown during preparation.</p> <ul style="list-style-type: none"> • Banana • Apple • Pears • Peaches • Nectarines • Avocado (pear) • Pineapples • Cherries • Mangoes • Plums 	[2x1]	[2]	
	(v)	<p>Give ONE way to prevent fruit going brown during preparation.</p> <ul style="list-style-type: none"> • Add/sprinkle with lemon/citrus juice/soak in a citrus fruit juice • Soak in ascorbic acid /vitamin C • Soak in (cider) vinegar • Cover in water • Do not leave for long periods on the side uncovered/only cut when needed 	[1x1]	[1]	
(b)	(i)	<p>We are advised to eat a balanced diet. Explain what is meant by a balanced diet.</p> <ul style="list-style-type: none"> • For the TWO marks, the answer must include both “necessary nutrients” and “appropriate proportions” <p>A MAXIMUM OF ONE IF ONLY ONE OF THE ABOVE OR ONLY THE FOLLOWING IS MENTIONED:</p> <ul style="list-style-type: none"> • A diet that has enough nutrients for good health/A diet that provides enough nutrients for daily activities/Some of each food group used at every meal/Nutrients in correct proportions for individual needs/A varied or colourful diet <p>(1 mark)</p> <p>Do not accept “a good diet” or “healthy diet”</p>	[2]	[2]	

Question	Expected Answer	Marks	Rationale
(c)	<p>Many children take a packed lunch to school.</p> <p>A packed lunch contains the following – peanut butter sandwich on white bread, a packet of crisps and a can of fizzy drink.</p> <p>Explain how this packed lunch could be changed to make it a balanced meal for a child and meet dietary guidelines.</p> <p>This question is marked according to the quality of response.</p> <p>High Level Response 5-6</p> <p>The candidate will provide accurate explanations of how the packed lunch could be changed to meet dietary guidelines. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. There will be few errors for spelling, punctuation or grammar.</p> <p>Medium Level Response 3-4</p> <p>The candidate will provide some suggestions for changes to the packed lunch but explanations may lack specific detail or examples. There will be some attempt at explanation of the changes suggested. There will be some use of specialist terms although these may not be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, punctuation and grammar.</p> <p>Low Level Response 0-2</p> <p>The candidate may give limited or confused suggestions for appropriate changes to the packed lunch. Answers may be in the form of a list with little or no description. There will be little or no use of specialist terms. Errors of spelling, punctuation and</p>		<p>The following answers are examples only and are therefore, not a definitive list.</p> <p>Notes:</p> <p>The candidate are looking to create a healthy lunch box (as a whole) so just suggesting and justifying changes to one food item can only achieve a maximum of 4 marks.</p>

Question	Expected Answer	Marks	Rationale												
	<p>grammar may be intrusive.</p> <p>Candidates can achieve a maximum of 3 marks if they suggest changes but do not provide any reasoning</p> <p>Specific points that the candidate may cover:</p> <table border="1" data-bbox="387 443 1223 1366"> <thead> <tr> <th data-bbox="387 443 674 475">Changes</th> <th data-bbox="680 443 1223 475">Possible reason for change</th> </tr> </thead> <tbody> <tr> <td data-bbox="387 475 674 647">Change fizzy drink for water</td> <td data-bbox="680 475 1223 647">Fizzy drinks are mainly sugar – bad for teeth, concentration, blood sugar control, overall health. Also cola is less hydrating than water. Children should be encouraged to drink more water.</td> </tr> <tr> <td data-bbox="387 647 674 751">Have a smoothie instead of a fizzy drink</td> <td data-bbox="680 647 1223 751">Smoothie – addition of calcium, low fat and more vitamins and minerals.</td> </tr> <tr> <td data-bbox="387 751 674 887">Have a piece of fruit/ vegetables (instead of crisps)</td> <td data-bbox="680 751 1223 887">Minerals, vitamins, fibre, more filling for less energy, adds bulk, natural sugars, stabilises blood sugar, longer concentration and contains water.</td> </tr> <tr> <td data-bbox="387 887 674 1059">Wholemeal/seeded /granary bread/oat bread or 50/50 rather than white bread</td> <td data-bbox="680 887 1223 1059">More fibre, more filling, better for concentration, helps you go to the toilet more easily (fibre). Do not accept “brown bread”.</td> </tr> <tr> <td data-bbox="387 1059 674 1366">Have cheese/low fat cheese/cottage cheese rather than peanut butter</td> <td data-bbox="680 1059 1223 1366">Peanut butter is high in fat but contains a lot of protein – not necessarily balanced. Cheese contains calcium which is important for growth although contains fat, may contain less fat than peanut butter. Low fat cheese is a good source of protein and calcium but lower in energy and fat.</td> </tr> </tbody> </table>	Changes	Possible reason for change	Change fizzy drink for water	Fizzy drinks are mainly sugar – bad for teeth, concentration, blood sugar control, overall health. Also cola is less hydrating than water. Children should be encouraged to drink more water.	Have a smoothie instead of a fizzy drink	Smoothie – addition of calcium, low fat and more vitamins and minerals.	Have a piece of fruit/ vegetables (instead of crisps)	Minerals, vitamins, fibre, more filling for less energy, adds bulk, natural sugars, stabilises blood sugar, longer concentration and contains water.	Wholemeal/seeded /granary bread/oat bread or 50/50 rather than white bread	More fibre, more filling, better for concentration, helps you go to the toilet more easily (fibre). Do not accept “brown bread”.	Have cheese/low fat cheese/cottage cheese rather than peanut butter	Peanut butter is high in fat but contains a lot of protein – not necessarily balanced. Cheese contains calcium which is important for growth although contains fat, may contain less fat than peanut butter. Low fat cheese is a good source of protein and calcium but lower in energy and fat.		
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Question		Expected Answer		Marks		Rationale
		Have ham rather than peanut butter	Good source protein for growth, more filling and sustained energy for afternoon. Peanut butter although high in protein in high in fat too. Ham may be cheaper to purchase than peanut butter.			
		Change to a low-fat peanut butter	This would reduce the fat content but keep the high protein content which is important for growth, development and also for sustained energy (sugar levels) and satiety.			
		Add tuna instead of peanut butter	A good source of protein for the child and a reduced fat content compared to peanut butter. Contains omega-3 good for cardio-vascular disease and concentration/ brain development and cognitive function.			
		Add salad to the sandwich	Adds to your 5 a day, minerals & vitamins, fibre, satiety.			
		Get rid of the crisps	Contains a lot of energy and not filling.			
		Have low-fat crisps or have vegetable crisps	Lower fat and energy intake which is better for health and concentration. Vegetable crisps will also add to your mineral & vitamin intake as we as add to your 5-a-day.			
		Add a yoghurt	Contains calcium important for growth and development. Good appetite control. If you add one with grains or fruit in, the yoghurt can contribute to wholegrain or fruit and vegetable consumption.			

Question			Expected Answer		Marks		Rationale
			Have an alternative to a sandwich such as; protein and carb based dish eg tuna pasta salad/chicken rice and peas/slice of quiche	Keeps interest in lunch, less likely to get bored. Keep variety in nutrients too.			
			Question 5 total		[6]	[6]	
					[20]		

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