National Certificate of Educational Achievement
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

Exemplar for Internal Achievement Standard

Home Economics Level 2

This exemplar supports assessment against:

Achievement Standard 91299

Analyse issues related to the provision of food for people with specific food needs

An annotated exemplar is an extract of student evidence, with a commentary, to explain key aspects of the standard. It assists teachers to make assessment judgements at the grade boundaries.

New Zealand Qualification Authority

To support internal assessment

	Grade Boundary: Low Excellence
1.	For Excellence, the student needs to comprehensively analyse issues related to the provision of food for people with specific food needs. This involves justifying the connections between personal, interpersonal and societal issues, and justifying the health-enhancing strategies used to address these issues. This student has justified the suggested strategy of seeking professional advice to improve the knowledge of soccer players and their families, and to address issues from a personal, interpersonal and societal perspective. Connections are justified, showing how and why improving nutritional knowledge and cooking skills will help to meet the specific high-energy needs of the soccer players (an issue from a personal perspective), as well as the family members' need to keep to a budget (an issue from an interpersonal perspective) (1) (2) (3). Further connections are made that show how the soccer player, her team mates and their families will be able to read labels (an issue from an interpersonal perspective), and interpret mixed media messages related to sports drinks (an issue from a societal perspective) (4) (5) (6). For a more secure Excellence, the student could provide more detail in the justification that clearly shows how improved knowledge of key nutrients for enhanced performance (personal perspective) is connected to making choices related to sports drinks (societal perspective).

In order to achieve success the school soccer team is training hard but they also need to consider some of the issues around their food intake. Some issues could be the need for quickly prepared meals and snacks, lack of nutritional knowledge and preparation skills, confusing media messages and printed information on labels.

All players in the team may lack nutritional knowledge which is a big issue as the members would not understand which foods will help performance and which foods will hinder it. To improve performance the players will need to change their diets with full understanding of what they are consuming. Because all members have a busy schedule, they want to have fast, easy and cost efficient meals. The packaged food at the supermarkets nowadays provides this option; however the players do not understand all the information and claims on the packaging so do not know whether they are selecting the right choices. 1

The players could do some research on the internet and in books to find some suitable meals and snacks. However if they do not have an understanding of the nutrients needed to improve their performance they will be influenced by the recipes and snacks promoted by sports people and companies. These companies have their own interests to promote, not always the best interests of the athletes. The nutritional knowledge and cooking skills could be provided by the Home Economics teacher, a dietician or a sports nutritionist at a meeting that the whole team attends. The players could learn about key nutrients and foods that are needed to enhance their performance and also learn some simple skills and basic quick recipes that are easy to modify. There are some useful magazines that provide a range of lower cost recipes using seasonal produce; the best way to check these is to see who the authors are and if they have any sporting/nutritional qualifications. A very helpful magazine available in NZ is… 2

For example, a simple beef stir fry on rice is always popular. A cheaper lean cut of beef such as schnitzel is used but could be adapted with other meats such as chicken or fish or it could be extended to feed more with the addition of legumes such as chickpeas. The rice could be substituted for pasta and any seasonal vegetables could be used – to make it lower in cost. The rice or pasta contains complex carbohydrates which will release energy slowly so the players will have sufficient energy for the game. It is important to have plenty of complex carbohydrates leading up to games to enable the body to build up glycogen stores in the liver and muscles. The rice also contains B vitamins which assist with the release of energy. The lean beef is a good source of protein and iron – the protein helps repair any muscle tissue as well as helping with the growth of adolescent muscles. Without a good supply of protein, the player would be unable to restore muscle strength making it difficult for them to play their best. The iron helps carry oxygen to the muscles and brain which is vital for the players to move quickly and also vital to ensure they are thinking straight…

The vegetables contain vitamin C that helps the body to absorb iron and also vitamin A…

If you add a smoothie to the meal, simple carbohydrates…

Pre competition: A main meal should be consumed at least four hours before a game or practice….

During competition:…

Post competition:…

At least 10 glasses of water…

The skills learnt in class could be used at home to help other family members or the classes could be held at night where several members could come along and learn. This way the family are learning to support each other by selecting, preparing and cooking meals to suit all the family's needs but still keeping within a budget. Learning how to read the information on packaging when out shopping at the supermarket would be useful as manufacturers highlight and use colourful images to promote their products and write the nutritional information in small letters. The dietician could help the families to look at suitable websites and how to check whether the information is recommended and credible e.g.in the 'about us' section there is information about the people and their qualifications. 3

The dietician could provide the team mates and their families with small pocket/wallet size cards that explain for a product to be considered suitable it must be under 10g fat, under 10g sugar, over 6g fibre and under 120mg salt per 100g. Also knowing that ingredients are listed in order of their quantities mean the athletes would have some control over their choices and also understanding what some words mean e.g. that 'sodium' is a salt and 'maltodextrin and honey' are sugars. Knowing what the difference is between 'total and saturated fat' would help in the choice of packaged snack foods such as muesli bars. Better still the families and players could learn to make muesli bars with ingredients that they like but also using less saturated fat and simple sugars. Fruit juice and a little vegetable oil along with spices like cinnamon and nutmeg will add just as much flavour and crunch as plain sugar and butter. Some lipids are needed in the athletes' diet to… 4

The team members may be influenced by advertisements on TV, where well known athletes promote certain foods or sports drinks. This leads to everyone thinking that the product being promoted is nutritious, which is not always the case. However if the families have learnt how to read the packaging labels they may already have the skills to work out what is in the product and why water is the better choice. 5

The team members could also discuss sports drinks with the Home Economics teacher or dietician when they meet for classes to learn what the purpose of these drinks is as opposed to energy drinks. They could then choose when to drink water, which costs nothing and when to choose a sports drink which contains electrolytes with the right amount of sodium and sugar to help rehydrate them during and after a game. Dr Smith from Otago University stated that "These are only needed by athletes playing high level or elite sport." Unfortunately many players "are faced with marketing that sends them mixed messages about what's required for sport and certainly the food and nutrition guidelines in New Zealand at that level of activity say they only need water to rehydrate." 6

	Grade Boundary: High Merit
2.	For Merit, the student needs to analyse issues in depth related to the provision of food for people with specific food needs. This involves giving reasons for health-enhancing strategies used to address these issues. This student has given reasons for the strategies used to address issues for people with high energy needs (soccer players) from a personal, interpersonal and societal perspective. From a personal perspective, the issue of adequate fuel intake before and after a soccer competition is explained (2). Examples of food and liquid choices are suggested (2) (3). A reasoned strategy is provided for the soccer players to gain this knowledge (1). From an interpersonal perspective, the strategy of how to shop wisely and read labels is explained, with reasons that link to meeting the specific food needs (4). A brief suggestion is made of where to find recipes and general advice (5). From a societal perspective, the issue of media and promotion of sports drinks is explained, and information is provided on the tactics used to influence people (7) (8). A reasoned strategy is provided for soccer players to gain knowledge of what drinks would be suitable for their high energy needs (6). To reach Excellence, the student could justify the connections between the suggested strategies and how they address issues from more than one perspective.

Dieticians are an excellent resource in the community for the soccer team. The dietician would advise them and their families about which nutrients are in foods, how to cook foods in nutritious ways, suitable recipes and where to find them, making meal plans using all the food groups, and general advice on each soccer team members needs considering the amount of exercise they do. 1

Nutrients in food: Complex carbohydrates are an essential part of a high energy user's diet and are the main source of fuel and energy for everybody, particularly people like Sam and her team. Carbohydrates are broken down in our bodies as glucose and stored in our muscles as glycogen. Glycogen is the main source of energy for the muscles to perform during exercise, but it is essential for Sam to eat carbohydrates every day as the human body is only able to store a limited amount of glycogen at a time. Wholegrain carbohydrates such as brown bread and brown rice provide a slow release of energy as they contain fibre which is broken down slowly in our system, which is ideal for training or games as the energy is released slowly and consistently rather than fast and all at once. Carbohydrate foods are usually high or low GI - glycaemic index is the ranking of foods based on how they influence blood sugar levels. A low GI pre-exercise meal is recommended for high energy users as it has been proven to maintain better blood sugar during exercise. Carbohydrates such as breads, cereals, fruits, vegetables and legumes are recommended by dieticians and nutritionists to make up more than half of a high energy user's daily energy intake. It is recommended that people like Sam and her team members who are regularly participating in high intensity activity consume up to 8-10g of carbohydrates per kg of body weight a day. 2

It is also important for Sam and her team members to acquire accurate pre and post competition and training nutrition. To ensure Sam performs at her best, low GI carbohydrate foods before a game are ideal as they provide a sustained energy release, such as fruit salad and low fat yoghurt, a banana sandwich pasta with tomato based sauce, fruit smoothie, milk shake, baked beans, toast or muesli bar. The team should also make sure the food they are consuming before a game is reasonably low in fibre such as a white jam sandwich, as fibre can upset the bowel which is not ideal while participating in exercise. A pre-competition meal is particularly important as the team are participating in an event which is longer than 30 minutes. In the final 3-4 days before the game, Sam should reduce her exercise while also increasing her carbohydrate intake, for example, 9-10g of carbohydrate per kg of bodyweight each day. The easiest way for Sam to do this is by replacing most of the fat in her diet with carbohydrates such as noodles, rice dishes, potatoes, kumara, cereals, fruit and vegetables. During a high intensity event, (in Sam's case, a soccer game), Sam and the team should plan to consume carbohydrates and fluid at regular intervals (every 20 mins if possible) throughout the game. 3

Protein… Vegetables… vitamin B… vitamin C… Iron… Calcium… Liquid intake… Sports drinks…

The family members of Sam and her team mates have a limited budget for food, which means they also have to adapt to having a high energy user in the house. Shopping for cheaper cuts… Eating seasonally… Menu planning… Shopping around… Making a list….

The dietician would also advise the families on how to choose foods wisely at the supermarket and how to read labels/nutrition panels. When showing the family around the supermarket, a dietician would take them around the outside aisles as a way to go for

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searching for healthy, fresh and nutritious produce. That is where most of the whole foods are located, and the energy dense junk foods are usually found in the middle aisles. Shopping for meat, vegetables and fruit, milk, bread and also snacks such as hummus and nuts are found mainly around the perimeter and are the types of foods the families should be looking for. The family would learn to read labels on processed food such as snack food and breakfast cereals so they know which products to choose – it must be under 10g fat, under 10g sugar, over 6g fibre and under 120mg salt per 100g. It is important to read labels when shopping to understand the nutrition of the product as many of the breakfast cereals promoted as being suitable for high energy needs do not meet the recommended sugar, fibre and salt recommendations.

Dieticians may also introduce Sam's family to the Healthy Food Magazine, which contains recipes, advice about healthy food, and general tips on healthy eating…

The media is filled with products being pushed on us, enticing us to buy them… High energy drinks such as V and Red Bull are filled with sugar and empty kilojoules… These high energy drinks also contain large amounts of caffeine, which can disturb sleep patterns... These are things Sam wants to completely avoid if she is performing at competition level in her soccer team. 6

Experts on nutrition such as the Ministry of Health are advising young people to avoid energy drinks. According to new Government recommendations, children under 18 should not be consuming energy drinks… The Ministry of Health's chief advisor on child and youth health, Dr Pat Touhy, says energy drinks used to be sold in smaller quantities, "but now they're being sold in bigger and bigger volumes – up to 600ml - and that makes it easier to exceed an adverse effect level with a single bottle or can". However, as Sam's family have limited knowledge on nutrition… This is why seeing a dietician is a good idea for Sam's family as they will be provided with the information from experts that they previously haven't known about. 7

Energy drink companies claims things on their products such as 'It all starts with you' and 'Powerade, the power to reach your goal'. Claims like this entice customers to buy the product as it makes the drink sound superior and special, as if you can conquer anything when you drink the energy drink. The vibrant colours … can also draw attention to the product, which makes people want to buy them more. It is common for companies to use celebrities or sports ambassadors to advertise their products which inspires young people who wish to be like that celebrity to buy the energy drink, even though it is high in sugar and salt at around 7.5g carbohydrates and 4.6g sodium per 100ml. These companies are well known for their product promotion in order to attract people to buy and try out the new drink, for example, when they bring out a new colour/flavour of a drink. This something Sam and her team mates need to avoid if they are going to perform at their best during trainings and competitions. 8

	Grade Boundary: Low Merit
3.	For Merit, the student needs to analyse issues in depth related to the provision of food for people with specific food needs. This involves giving reasons for health-enhancing strategies used to address these issues. This student has given reasons for the strategies used to address issues for people with high energy needs (soccer players) from an interpersonal and societal perspective. From an interpersonal perspective, the strategy of making weekly plans/menus is explained with reasons linked to a soccer player, her family and the team mates' specific food needs (4). A suggestion of where to find a variety of recipes and menu plans is provided (5). From a societal perspective, the issue of media and promotion of sports drinks is explained, and information is provided on the tactics used to influence people (7). A reasoned strategy is provided for the soccer players to gain knowledge of suitable drinks for their high energy needs (6). From a personal perspective, the issue of adequate fuel intake is explained (1). Examples of food and liquid choices are suggested (2). A suitable strategy is provided for the soccer players to gain this knowledge (3). For a more secure Merit, the student could include more detailed reasons that explain how and why the suggested strategy would address issues from a personal perspective. The student could also explain how a suggested magazine would provide suitable information for the soccer team's high energy needs.

One of Sam's main concerns is the amount of energy she is able to get from a variety of foods. There are three different main types of nutrients in food that will be able to provide Sam with energy:

Complex carbohydrates are the major source of fuel for everyone, especially athletes. Carbohydrates such as breads, cereals, spaghetti, potatoes, lasagne, rice, fruit and vegetables make up more than half our total energy intake. The specific amount of carbohydrates your body needs depends on your body weight and your level of training. Eating a lot of carbohydrates is essential for Sam because carbohydrates are stored in the muscles to perform during exercise, but as the body can only store a limited amount of glycogen, it is essential to eat carbohydrates every day. 1

Protein is an essential nutrient in the diet with important structural and functional roles in the body e.g. lean beef, lamb, eggs, trim milk, unsweetened yoghurt, cottage cheese, hummus, rice, pasta, muesli. Protein can provide energy if your glycogen stores are low, but when used in this way; it can't contribute to the important areas of muscle growth, repair and recovery. Athletes have slightly higher protein needs than the average person due to the extra wear and tear on their bodies. 1

From a personal perspective Sam will have to think about all the exercise that she does separately and how much that can affect her in the short term/long term. Sam has practice twice a week after school which would go for around an hour, keeping that in mind Sam will need a small snack such as a muesli bar (which contains at least 20g carbohydrates and also some protein) or a small bag of nut mix so she is able to pull through the practice with the right amount of energy. Sam also has training every morning before school so just like practice after school she will need a snack (muesli bar, nut mix etc) for after training so that she doesn't feel faint before school and also so she doesn't have to wait until interval before eating. At least every weekend Sam has a game of soccer which will go for about 1 hour and 15minutes to an hour and a half. Sam will need a good breakfast before the game. A good example before the game could be 1 cup of orange juice/milk (calcium)/water for hydration before the game, 2-3 weetbix with low fat yoghurt (calcium), canned fruit salad and some low fat milk (calcium) and maybe even 1 piece of wholegrain bread with a banana on top. Sam should also take a couple of small snacks for during the break and after the game. A piece of fruit like an apple or an orange or a cereal bar would be a good snack. 2

One of the strategies that Sam and her family could use is to talk to a sports nutritionist or a dietician. They could work out the right foods that will enhance Sam and her team's performance in an easy way that Sam and her team mates could understand. Also they will be able to maintain around all of their training, games, exercise, school work etc. 3

Fat ... B vitamins… Iron… Vitamin C… Liquid…

Making a weekly plan/menu could be beneficial for Sam and her family/sports team. This would be a benefit because it could help Sam's family to make a shopping list so that they get the right amount of food that they and Sam require for all of her exercise/sport/training with the right amounts of nutrients. Because Sam's family is on a limited budget, to be able to pay for the National Competition using the specials that come in the mail or that are available from the supermarket. When making the shopping list Sam's family could identify 4

the essential foods that they absolutely need for the week, for example, milk, cereal, whole grain bread, red meat (iron), muesli bars etc. If Sam started making a weekly menu/food plan then they could encourage the rest of the team mates and the team's families to join in and use the same practice.

Another money saving strategy that Sam's family could do is to eat the food that is in season …

Sam's family could buy the Healthy Food Magazine to help increase their knowledge on nutrition and food. It contains a variety of recipes and menu plans that could be handy for Sam's family to have a look through or even for her family to try. It also contains heaps of information on what foods contain and how that can be beneficial to everyone. 5

Talking to a sports nutritionist will also enhance Sam's nutritional knowledge which will help her with future sports and competitions. The nutritionist could also work out what drinks are right for Sam and her team, considering how much exercise they all do and what events they will be playing in. The media can have a big influence/put a lot of pressure on sports players, especially teenage sports players. 6

Ads on TV promoting sports drinks can affect young adults like Sam because a lot of ads have famous sports players drinking/speaking about the sports drinks. For teenagers this can have a big effect on them because a lot of their role models/idols are celebrities/famous sports players. The advertisements on TV use quick music to have a big effect to capture the audience at home; they use logos such as 'the AA Blacks drink PowerAde because it FUELS them to train FASTER and LONGER..'. The use of these words makes young sports players think that if they drink the same drink as what is being advertised, that it will have the same effect on them as it did on the All Blacks/famous sports players. The advertisements also use bright colours against a faded background to make the drink be the first thing that you look at. 7

	Grade Boundary: High Achieved
4.	For Achieved, the student needs to analyse issues related to the provision of food for people with specific food needs. This involves explaining issues related to the provision of food from a personal, interpersonal and societal perspective, and will involve consideration of health-enhancing strategies to address these issues. This student has explained issues related to the provision of nutritionally adequate food and liquid for people with high energy needs (soccer players) from a personal, interpersonal and societal perspective. From a personal perspective, the issue of adequate fuel intake is explained with reference to complex carbohydrates (1). The Glycaemic Index is briefly described and connections made to food choices during events (2). From an interpersonal perspective, the issue of reading labels on food to determine suitable choices is explained with details relating to nutrients of concern (3). From a societal perspective, the issue of sports drinks is explained and information provided on why they are suitable for high energy users (4) (6). A health enhancing strategy has been suggested by the coach with brief reasons provided on when to drink water and sports drinks (5). A range of health enhancing strategies is considered. Brief information is provided to show how these strategies could help high energy users. To reach Merit, the student could explain how and why the nutritional information on packaging can enhance performance. The student could also provide more reasons for the suggested strategies explaining how the soccer team's performance would be enhanced from all three perspectives.

Carbohydrates are an essential nutrient for Sam as a high energy user because they are the major source of fuel. There are three different forms of carbohydrates; starch, fibre and complex carbohydrates. Examples include breads, cereals, fruits and vegetables. Carbohydrates are stored in our muscles and liver as glycogen which is the main source of energy for the muscles to perform during exercise. However, our body can only store a limited amount so it is essential that Sam eats carbohydrates every day in order for her to get the most out of the carbohydrates she consumes so it does not store as fat in her body. As a high energy user Sam requires a higher amount of carbohydrates than the average person as she is constantly burning energy and fat. Sam could have pita bread filled with ingredients such as mixed salad and smoked chicken for lunch with an apple to gain the carbohydrates she needs. 1

Protein… Calcium… Iron… Vitamins… Four food groups… Plate Model for high energy user… suitable meal ideas….

Glycaemic Index is the ranking of carbohydrate foods based on their effects on blood sugar levels.

Pre Competition: It is advisable for Sam to consume a low GI meal before exercise and competition in order to maintain blood sugar levels and to improve use of fat stores. An example of low GI food is pasta or muesli with low fat yoghurt. Having a low GI meal before exercise will benefit Sam as it will help protect her energy stores throughout prolonged exercise which will in turn, improve endurance performance. 2

Competition: Having carbohydrate during prolonged exercise provides an extra source of fuel, improving capacity and performance which is important to Sam as a high energy user. Sam could have a handful of nuts such as almonds during exercise to give her the energy boost she may need during her training or game.

Recovery: Sam should consume moderate to high carbohydrates after her training or soccer games as doing so will result in quickly raised blood sugar levels which will enhance recovery.

Eating well for less/shopping skills:

Meat… Fast cooking cuts… slow cooking cuts… Eating in season… Don't buy anything you can make yourself…

Reading labels: It is important for Sam and her family to learn how to read the nutritional labels on foods before they buy them. This is because they could be purchasing foods extremely high in sodium, saturated fat and sugar which can impair their health and performance. Sam and her family should read the labels by looking below the 'per 100g' column; saturated fat should be 10g or less, sugar should be 10g or less, fibre should be 6g or more, and sodium should be 350mg or less. If the products Sam and her family check meet these requirements they can go ahead and buy them as they are not going to impair their health as for example, consuming a great amount of something very high in saturated fat (well over 10g per 100g) could cause obesity and hypertension. 3

Energy and sports drink advertising: Advertisements of sports drinks and energy drinks are used to distort society's view on what they should and should not be consuming and what is

good for you and what isn't. Advertisements on television, posters and in magazines can deceive society into buying their products when it may not be as beneficial as they claim.

Sports drinks: High energy users throughout the community such as Sam must be hydrated and adequately fuelled during exercise for optimal performance. Sports drinks contain carbohydrates such as glucose and fructose which provide a fuel source for the muscles and brain and contribute to the flavour. Sports drinks also contain electrolytes such as sodium and potassium. The sodium stimulates the absorption of carbohydrate and water through the small intestine, stimulates thirst which encourages you to drink more and therefore replace fluid faster. 4

The coach has recommended that Sam and her team mates only need to drink water at training and during their weekly games. He suggested that they should only consider buying a sports drink if they are playing in a tournament. However they are keen to have some of the Powerade that is widely advertised at their sports grounds. 5

Research by Sports Dieticians have shown that sports drinks also known as carbohydrate electrolyte drinks are one of the most beneficial nutrition supplements available to athletes. Powerade is a well-known sports drink advertised to society through posters and television commercials. Their main target markets is high energy users which need the extra fuel to replace fluid and sodium loss through sweating during high intensity exercise although Powerade has begun to appeal to young adults as having Powerade is now associated with looking 'fit' which is very desirable along with adults. Advertising techniques include the slogan 'Powerade. The power to reach your goal'. This sends messages to society that if you want to feel empowered and accomplish goals you have to buy Powerade. Television commercials are also made to entice society with celebrity endorsements of the All Blacks, New Zealand's most looked up to sports team by many New Zealanders. This sends messages to society that if you want to be like the All Blacks you have to drink Powerade like they do in the advertisements. 6

Energy Drinks… Healthy Food Magazines…

Dieticians: Dieticians are also a great option for members of the community to gain advice, shopping and eating tips and meal plans that will ensure they are getting the right amount of nutrients they need from the four food groups to feel sustained throughout the day. Dieticians are a great strategy as they help high energy users so they are provided with the energy they need to perform daily routines. They give us knowledge that we need in order to live a healthy and positive life.

	Grade Boundary: Low Achieved
5.	For Achieved, the student needs to analyse issues related to the provision of food for people with specific food needs. This involves explaining issues related to the provision of food from a personal, interpersonal and societal perspective, and will involve consideration of health-enhancing strategies to address these issues. This student has briefly explained issues related to the provision of nutritionally adequate food and liquid for people with high energy needs (soccer players), from a personal, interpersonal and societal perspective. From a personal perspective, the issue of adequate fuel intake is explained with reference to complex carbohydrates and protein as a secondary source. The links between carbohydrates and performance are explained with reference to glycogen levels. Details of how the Glycaemic Index can affect blood sugar levels are provided (1). From an interpersonal perspective, the issue of buying specials and reading labels for recommended nutrients is briefly described (2). From a societal perspective, the issue of sports drinks and energy drinks is briefly explained, and information is provided about how to check the suitability of the drink for high energy users (3). A range of health enhancing strategies is considered. Brief information is provided to show how these strategies could help the soccer players (4). For a more secure Achieved, the student could explain how interpersonal issues are more closely connected to high energy needs, and how the promotion of drinks by well-known sports players could be an issue for people with high energy needs.

Personal issues

Sam and her team mates and their families have limited nutrition knowledge and know very little about foods that are needed for high energy activities. 1

Complex carbohydrates are the major source of fuel for everyone, especially for athletes. Dieticians and nutritionists recommend carbohydrates such as breads, cereals, fruits, vegetables and pulses to make up more than our total energy intake. The specific amount of carbohydrates your body needs depends on your body weight and level of training… Carbohydrates can be spread over the day into 20g portions; some examples are 2 thin slices of bread, 2 plain crackers, 1 apple or orange or 200ml of fruit yoghurt. Sam has a reasonable variety to pick from each day. Carbohydrates are a very high need for Sam because they are stored in the muscles and liver as glycogen. Glycogen is the main source of energy for the muscles to perform during exercise but as the body can only store a limited amount of glycogen, it is essential to eat carbohydrates each day. Sam is undergoing endurance training 2-5 hours a day e.g. long distance running so that means she needs 8-10g of carbohydrates to every kilogram of body weight.

Protein… Protein also provides energy if glycogen stores are low but when used in this way it cannot contribute to the important areas of muscle growth, repair and recovery. This can happen when low carbohydrate and high protein diets are being used. Carbohydrates should therefore contribute to the majority of energy needs (50-60%)…

Glycaemic Index (GI) provides a ranking for carbohydrate foods, based on how they influence blood sugar levels. A low GI pre-exercise meal has been proven to maintain better blood sugar levels during exercise… Foods that Sam could eat in low GI (55 or less)… Moderate foods (56 to 69)… The high GI foods (70 and above and are not recommended before exercise)…

Interpersonal issues 2

Because Sam and the other team members are on a budget, they will need to be budgeting their money as much as possible to be able to get the variety of high energy foods, and meats.

A good way for her family to be helping her is to be looking out for specials at their local supermarkets and looking up cheap recipes to make a meal for their whole family to enjoy and be able to be what Sam needs daily. At Countdown, they have leaflets as you exit there to grab that feed families of four for $15, most of which are high in protein, carbohydrates, iron…

Her family could be checking the labels on food to see what ingredients are inside them. This is a good option because Sam and her family don't know all that much about what she should be eating. It is easy to read labels; all you need to be looking at is what is in them and how much percent. For example, looking at a packet of sauce shows you that there is 780mg of sodium, 1.9g of fat, 55.5g of carbohydrates and 2.3g of sugar… By reading labels, this is ensuring that you are well aware of what you are eating, having full knowledge of what is inside your food is important because it is what your body runs on.

Societal issues

With Sam being a high energy user, she needs to watch out from what she drinks. As much as Powerade is highly advertised for sports people, those drinks are only recommended… Drinks like Red Bull and V will keep you going but not for long. It is more like a sugar hit and the nervous jitteriness comes from the caffeine. The caffeine in the drinks make them particularly unsuitable to be drunk after exercise when you really need fluids. If Sam is going to the supermarket to find a drink prior to exercise, she needs to be reading the labels, checking the sugar and sodium content.

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Strategies

Sam's family could buy the Healthy Food Guide magazine which can be found at some supermarkets or at bookshops. They would be a good suggestion for Sam and her family because it has everything you need to know about her kind of diet, because it is written by professionals who know all there is to know about it. The magazine can teach Sam and her family and friends the ways to make delicious tasteful foods that fulfils everyone's needs. Also there are many online recipes… Sam could see a dietician about meal plans… Having a dietician is basically the same as having the magazine, but this way you have someone to talk everything through with you and help you gain a better understanding of things. Also talking to a dietician, all your questions, worries and needs would be answered, instead of relying on Google for everything when it could possibly be false.

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	Grade Boundary: High Not Achieved
6.	For Achieved, the student needs to analyse issues related to the provision of food for people with specific food needs. This involves explaining issues related to the provision of food from a personal, interpersonal and societal perspective and will involve consideration of health-enhancing strategies to address these issues. This student has briefly explained some issues related to the provision of nutritionally adequate food and liquid for people with high energy needs (soccer players). From a personal perspective, the issue of adequate fuel intake is explained with reference to carbohydrates. Brief details are provided to show how the Glycaemic Index can enhance performance (1). From an interpersonal perspective, the issue of getting the correct nutrients from fresh and processed food is identified (2). From a societal perspective, the issue of the media and advertising is briefly described (3). Some health enhancing strategies are considered. Brief information is provided to show how these strategies could help the soccer players (4). To reach Achieved, the student could explain in more detail how the interpersonal issue is connected to the performance needs of high energy users. The student could also explain the difference between energy and sports drinks and how the media influence sports people like the soccer player and her team mates.

Personal

Complex carbohydrates are one of the most important sources of slow release energy for athletes. This is good as it means all the players of the game eat complex carbohydrates they will stay energised right up until the end of the game which will result in a better outcome for the team. Carbohydrates beak down into simple sugars like glucose that get absorbed and used as energy. Any glucose not used straight away gets stored in the muscles and the liver in the form of glycogen. Once glycogen stores are filled up any extra gets stored as energy. 1

Food with a high glycaemic index (GI) rating contain the right type of carbohydrates that raise blood sugars and insulin levels; foods with a high GI are great for enhancing recovery. Low GI foods can be used to improve performance in high energy users as it helps to protect their energy stores throughout exercise and extend their performance. It is very important for Sam to have the correct GI intake so that she gets as much energy as possible to extend her ability to perform in her weekly games and also while she does training.

Protein... B vitamins... Calcium... Iron... Vitamin C… Liquids…

Interpersonal

Sam's family is on a budget and therefore needs to know good tips to smart shopping to save money.

Shopping in season is very important as that's when produce is the cheapest, freshest and tastiest, by using this fresh produce with staples Sam's family can make nutritious meals. Seasonal eating is also healthier, as well-stored and transported in season fruit and vegetables will be fresher and have more nutrients than produce that has been transported long distances from overseas. 2

Making a list is important when on a budget because it stops the buyer from purchasing unneeded items and saves money. Because the family is on a budget, they would be better off using slow cooking cuts of meat such as blade, chuck or silverside as they are vastly cheaper; these can be braised, casseroled or stewed.

Sam and her family need to learn how to correctly read the labels on all foods and recognise the sugar, carbohydrate and sodium levels in food and drink.

Societal

Societal issues will have a large effect on Sam and her team mates; one of these that has a huge impact on society would be the media and how things are falsely advertised, such as sports and energy drinks. Even just the name 'energy' and 'sports' implies that drinks will give you lots of the right energy and improve your performance, but if you are not training as a career or intensively training multiple times a day they are just made up of empty calories. Sports drinks are not a good idea for people not playing professional sport as they are filled with empty calories and sugars and people just playing a team sport could drink alternatives such as water and things like vitafresh. 3

Strategies

Sam and her sports team need to get local advice on getting the right nutrients and advice for doing high energy training multiple times a week. She could gain this advice from people such as dieticians and other local people in society such as teachers at her school and her soccer coach. Dieticians could give Sam and her team mates advice on things such as nutritional content on what they are eating, help promote healthy eating habits and develop specific diets for people. Another place she could gain this knowledge from could be the Healthy Food Magazine which has lots of recipes which are based on a budget which would be good for the family to help save money. This magazine also has lots of articles on sustainable eating and food strategies to help Sam gain extra knowledge.