

**BTEC SPORT YEAR 11 Mrs Thomas Group**

**If you know you are going to be off – email me and I will try to send you my powerpoint / resources for the lesson you have misse**

17	Carbohydrates: structure and function  (Component 2, B1: Macronutrients)	<b>Introductory activity</b> <ul style="list-style-type: none"><li>• Students are split into five equal teams. They are given a whiteboard marker per team (different colours if possible) and have to relay run to the board to write on a type of food they would eat. They are then given 2 minutes to identify which foods on another team's list are carbohydrates, proteins or fats.</li></ul> <b>Main session activities</b> <ul style="list-style-type: none"><li>• Students to list all of the foods they have eaten in the previous day. They should use three different colours to identify which are carbohydrates, proteins and fats.</li><li>• Teacher to lead discussion on the most popular macronutrient consumed.</li><li>• Teacher to introduce simple and complex carbohydrates.</li><li>• Students are given pictures of a range of foods rich in carbohydrates and they must identify if they are simple or complex.</li><li>• Teacher to introduce how carbohydrates provide energy for the brain, liver and muscles.</li></ul> <b>Plenary activity</b> <ul style="list-style-type: none"><li>• Students research the role of fibre and foods that are high in fibre.</li></ul>	
18	The benefits of carbohydrates to participation in sport or activity  (Component 2, B1: Macronutrients)	<b>Introductory activity</b> <ul style="list-style-type: none"><li>• Students to watch the YouTube clip that discusses how carbohydrates give us energy.</li></ul> <b>Main session activities</b> <ul style="list-style-type: none"><li>• Students to choose a sport or activity and research how much energy they would burn in 1 hour of this activity. They must then design a carbohydrate-based meal to re-balance the calories burned in the activity.</li><li>• Teacher leads a discussion on energy balance.</li><li>• Students are given a number of complex carbohydrates on slips. They must work in pairs to organise the foods into a breakfast, lunch and dinner. The students should then independently describe why they have chosen each food at each time of day.</li><li>• Students are given an aerobic exercise and must suggest a simple carbohydrate before, during and after the exercise and discuss the reasons for their choices.</li></ul> <b>Plenary activity (homework)</b>	Video clip relating to the energy in carbohydrates: <a href="https://www.youtube.com/watch?v=Xto8ZqCYDvY">https://www.youtube.com/watch?v=Xto8ZqCYDvY</a>

		<ul style="list-style-type: none"> <li>Students to research how the body uses the macronutrients and in what order they use them.</li> </ul>	
19	<p>Proteins; structure and function</p> <p>(Component 2, B1: Macronutrients)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students are given a blank copy of the Eatwell plate. Once they have been introduced to it they should add pictures of foods into the correct sections. Students to discuss why they believe the Eatwell plate was introduced.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Students watch a video explaining why the body needs protein.</li> <li>Teacher introduces amino acids.</li> <li>Students to research five main sources of animal protein and three sources of plant protein.</li> <li>Students to weigh themselves in kilograms. They then work out how much protein they must eat in a day. The students are given a handout which includes foods rich in protein and they have to plan which foods they would eat and when to achieve their protein goal.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students to research what considerations people who choose to follow a vegan diet could make when training for muscle strength and hypertrophy.</li> </ul>	<p>Blank Eatwell plate template:</p> <p><a href="http://www.hpac.hartlepool.nhs.uk/HPAC/MoreDetails.jsp?id=14392&amp;dsn=hphartlepool">http://www.hpac.hartlepool.nhs.uk/HPAC/MoreDetails.jsp?id=14392&amp;dsn=hphartlepool</a></p> <p>Video clip describing why the body needs protein:</p> <p><a href="https://www.youtube.com/watch?v=KSKPgaSGSYA">https://www.youtube.com/watch?v=KSKPgaSGSYA</a></p>
20	<p>The benefits of protein to participation in sport or activity</p> <p>(Component 2, B1: Macronutrients)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students to debate if protein shakes are a positive or negative way to consume protein. They then watch a video on protein shakes and the teacher leads a class discussion to see if opinions have changed.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Practical – students to participate in a warm up activity.</li> <li>Students to participate in a practical activity where they complete three sets of five heavy reps (an appropriate weight for them). Spotters should be used and the health and safety of weight training emphasised with the students.</li> <li>Teacher to introduce the concept of micro-tears and how eating protein can repair muscle tissue (micro-tears) after sport/activity which can allow further training and reduce risk of injury.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students to answer the question 'What could be the effect on elite performance if an athlete consumes too much or too little protein?'. This will allow the students to practise their long answer technique and help to confirm learning.</li> </ul>	<p>Video clip to explain if footballers should consume protein shakes:</p> <p><a href="https://www.youtube.com/watch?v=fogIsvTzi1E">https://www.youtube.com/watch?v=fogIsvTzi1E</a></p>

21	<p>Fat: structure and function</p> <p>(Component 2, B1: Macronutrients)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>A number of pictures of foods high in saturated and unsaturated fats are laid out in the middle of the room. The students must work together to identify which foods are high in saturated or unsaturated fats. Teacher to discuss correct responses.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Teacher to introduce saturated and unsaturated fats.</li> <li>Student to access the McDonald's nutrition calculator. They choose a meal they would normally eat and add the items into the calculator. They should then reflect on the nutrition in the foods and the percentage of fat they are consuming from their recommended daily intake.</li> <li>Students to create a healthy alternative meal and research the nutrition in their new meal.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students to highlight the positive and negative effect of consuming fat.</li> </ul>	<p>McDonald's nutrition calculator:</p> <p><a href="https://www.mcdonalds.com/gb/en-gb/good-to-know/nutrition-calculator.html">https://www.mcdonalds.com/gb/en-gb/good-to-know/nutrition-calculator.html</a></p>
22	<p>The benefits of unsaturated fat to participation in sport or activity</p> <p>Guidelines for calorie consumption</p> <p>(Component 2, B1: Macronutrients)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students to watch a YouTube clip on cholesterol.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Students to research foods that are high in HDLs (high density lipoproteins).</li> <li>Students to access the NHS 'Fat: the facts' article and answer questions based on the article.</li> <li>Students to watch a YouTube clip that discusses calories.</li> <li>Teacher to introduce RDA of calories.</li> </ul> <p><b>Plenary activity (homework)</b></p> <ul style="list-style-type: none"> <li>Students to write down one day's food intake and work out the total amount of calories they consumed in that day.</li> </ul>	<p>Video that discusses good and bad cholesterol:</p> <p><a href="https://www.youtube.com/watch?v=0U7YHRW5dyc">https://www.youtube.com/watch?v=0U7YHRW5dyc</a></p> <p>NHS web article:</p> <p><a href="https://www.nhs.uk/live-well/eat-well/different-fats-nutrition/">https://www.nhs.uk/live-well/eat-well/different-fats-nutrition/</a></p> <p>Video clip that discusses what calories are:</p> <p><a href="https://www.youtube.com/watch?v=VEQaH4LruUo">https://www.youtube.com/watch?v=VEQaH4LruUo</a></p>

**Teaching content B: Nutrition for sport and activity**

**B2: Micronutrients**

23	Vitamins and their uses in sport and activity  (Component 2, B2: Micronutrients)	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"><li>• Students are introduced to the concept of 5-a-day and asked to recall what they know about this initiative. Teacher should link to vitamins and discuss recommended daily allowances.</li></ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"><li>• Students to produce their homework and evaluate how many of their 5-a-day they consumed.</li><li>• Vitamin dominoes – the students are given a set of dominoes. They have a set time to match up the correct vitamin with its function. Students then copy down the correct answer.</li><li>• Practical activity – vitamin A, B1, C and D are written in four corners of the room. The teacher reads out a food and the students have to stand in the corner they think the food contains the highest number of vitamins.</li><li>• Research activity – the students create a poster to show good food sources of vitamin A, B1, C and D.</li></ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"><li>• The students should describe their perfect 5-a-day based on consuming different vitamins and discuss where they would fit these into their diet.</li></ul>	
24	Benefits of vitamins to performance in sport and activity  (Component 2, B2: Micronutrients)	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"><li>• Research activity – students to research ten superfoods and establish what vitamins (or minerals) they contain and give one reason why we should eat these foods.</li></ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"><li>• Students work in groups of four. Each student takes a vitamin and researches the benefit of eating that vitamin. Each student has 30 seconds to feed back to their group while the rest of the group write down their answer. All students in the group feed back. The teacher selects a student at random to feed back to the whole class and checks the answers.</li></ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"><li>• Students to design a healthy evening meal. They should include as many vitamins as they can. They must identify the vitamins in their meal and discuss what benefits these have for sport.</li></ul>	

25	<p>Minerals and their uses in sport and activity</p> <p>(Component 2, B2: Micronutrients)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students to watch the YouTube clip on why we should eat vitamins and minerals.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>The students research the functions of potassium, iron and calcium. Students are selected at random to feed back to the class.</li> <li>Students to access <a href="http://www.nutrition.org.uk">www.nutrition.org.uk</a> and research what effect deficiencies in potassium, iron and calcium can have.</li> <li>Students to research why female athletes particularly require a higher intake of iron.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students find out the RDA of potassium, iron and calcium. They should then identify foods that would contain that level of the mineral.</li> </ul>	<p>Video clip based on why eating fruit and vegetables is good for us:  <a href="https://www.youtube.com/watch?v=kteZneJm1EI">https://www.youtube.com/watch?v=kteZneJm1EI</a>          Nutrition website:  <a href="http://www.nutrition.org.uk">www.nutrition.org.uk</a></p>
26	<p>Benefits of minerals to performance in sport and activity</p> <p>(Component 2, B2: Micronutrients)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students to watch the YouTube videos based on why diet has proved important for tennis players.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Students to be given a table that has the benefits of eating potassium, iron and calcium in a column on the right. They are also given four sports and they have to say how the benefit would specifically affect the four different sports.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students to research the top five foods that contain potassium, iron and calcium.</li> </ul>	<p>Video clip based on how nutrition is important to performance in tennis:  <a href="https://www.youtube.com/watch?v=YT1fxlix1dE">https://www.youtube.com/watch?v=YT1fxlix1dE</a></p>
<p><b>Teaching content B: Nutrition for sport and activity</b></p> <p><b>B3: Hydration</b></p>			
27	<p>Dehydration and recommended daily intake</p> <p>(Component 2, B3: Hydration)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students to work in pairs to create a definition of dehydration.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Students to watch the YouTube video 'How does hydration affect performance?'. They are given a question sheet to complete during the video. After the video has finished they can consult with a partner to check their answers. Teacher selects students at random to answer questions.</li> <li>Students research the daily recommended amount of fluid an adult should consume.</li> </ul>	<p>Video clip based on how hydration affects performance:  <a href="https://www.youtube.com/watch?v=aoZgUqt1qzo">https://www.youtube.com/watch?v=aoZgUqt1qzo</a></p>

		<ul style="list-style-type: none"> <li>Teacher leads the students through creating a hydration timeline, which starts 12 hours before performance and 12 hours after to identify when fluid should be consumed. This should include increased intake for the activity.</li> <li>Research activity – students to research what isotonic, hypotonic and hypertonic drinks are and when an athlete would consume them.</li> </ul> <p><b>Plenary activity</b> (homework task)</p> <ul style="list-style-type: none"> <li>Students to research a pee chart and identify their hydration levels at different times of the day.</li> </ul>	
28	<p>Benefits of hydration and negatives of poor hydration</p> <p>(Component 2, B3: Hydration)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students to use their homework to show their different hydration levels and discuss with a partner. They should identify what their hydration levels were like at different times of the day and what they think could have caused these changes.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Students to participate in a fun warm up game. Half the group should be dressed in extra clothing, e.g. coats, hats and gloves. They should leave them on during the activity. Students to discuss the physiological changes that occurred when being over-hot during physical activity. Teacher to introduce normal body temperature.</li> <li>Students are given a number of slips that contain a good or poor fluid choice and they have to put them in the correct column. Teacher discusses the correct answers.</li> <li>Students to watch a YouTube clip on the effects of dehydration during sport and exercise. They then create a list of ten sports. The top sport/activity should be the one with the highest demand for fluid during performance down to an activity that would require the least fluid.</li> <li>Students work in pairs. They are given a flow chart which highlights the effects of reduced blood plasma and increased blood plasma. The students must rearrange into the correct order. Teacher checks the answers.</li> <li>Students to research how hydration effects lubrication of the joints.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students to write down the negatives of poor hydration and benefits of hydration.</li> </ul>	<p>Video clip where experts warn of the effects of dehydration during sport and exercise:</p> <p><a href="https://www.youtube.com/watch?v=vmFzBfqesC8">https://www.youtube.com/watch?v=vmFzBfqesC8</a></p>

Teaching content B: Nutrition for sport and activity			
B4: Improving nutrition for sport and activity			
29	<p>Features of a healthy diet and how to recognise them</p> <p>(Component 2, B4: Improving nutrition for sport and activity)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>The students are given a range of foods on a table in the centre of the room. The students must work together to identify which food group they fit into (fat, protein, carbohydrate or micronutrient).</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>The students work in groups of three. Each group is given a case study of a diet from a client. They must identify the positive and negative features of the diet.</li> <li>The students must then identify government recommendations and apply them to their client. The teacher will randomly chose a member of the group to feed back to the class about their client and their evaluation of their diet.</li> <li>The students are given a list of snack foods and they must independently give a healthy alternative.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students must suggest five ways they could improve their own diet.</li> </ul>	
30	<p>Link between positive features of a healthy diet and positive sport and activity performance</p> <p>(Component 2, B4: Improving nutrition for sport and activity)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students to watch a YouTube video that shows what players/coaches eat at professional competition. Students to list as many of the healthy and unhealthy foods they saw in the video.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Students should work in pairs. They are given a professional sports person and they must work out how many calories it is recommended that that person eats. They then plan a healthy daily meal plan for their client. The plan should include three main meals, plus snacks and hydration. The students should try to match the number of calories their client should eat with what they have planned out in their meals.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students should justify their food choices in the healthy diet plan by linking to percentage macronutrients, the inclusion of specific micronutrients and hydration.</li> </ul>	<p>Video showing what professional tennis players eat at competitions:</p> <p><a href="https://www.youtube.com/watch?v=JqvEInmnG3c">https://www.youtube.com/watch?v=JqvEInmnG3c</a></p>

31	<p>Methods to enhance sport and activity through nutritional change</p> <p>(Component 2, B4: Improving nutrition for sport and activity)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students to research Michael Phelps's diet for the 2008 Olympics. Students to discuss the content of his daily food plan and reflect on the increased level of intake before the Olympics.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>The teacher should give the students access to <a href="https://www.bbcgoodfood.com/howto/guide/carb-loading-explained">https://www.bbcgoodfood.com/howto/guide/carb-loading-explained</a>. The students should identify the key points of the article. Students selected at random to share the key points with the class.</li> <li>Students to complete a handout which contains a table. In the left column it states: simple carbohydrates, complex carbohydrates and proteins. The second column is titled 'When should these be eaten?' and the third column, 'How will this affect performance?'.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students to summarise why bowel emptying is important for good performance and identify which foods can help with this process.</li> </ul>	<p>Internet article on carbohydrate loading:  <a href="https://www.bbcgoodfood.com/howto/guide/carb-loading-explained">https://www.bbcgoodfood.com/howto/guide/carb-loading-explained</a></p>
32	<p>Link between specific sports and appropriate nutritional change</p> <p>(Component 2, B4: Improving nutrition for sport and activity)</p>	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students should weigh themselves in kilograms and calculate the amount of carbohydrate and protein they should consume every day.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Students to be given a handout with three pie charts on that represent the different macronutrients consumed by three groups. The students should work in pairs to discuss why the three charts are different. They must then evaluate if the 'healthy diet for sport' is appropriate for all sports.</li> <li>Students should be given access to <a href="https://www.triathlete.com/2015/05/nutrition/racing-weight-balancing-your-diet_24561">https://www.triathlete.com/2015/05/nutrition/racing-weight-balancing-your-diet_24561</a>. They should summarise the article and discuss with their group of three what the article suggests.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students to complete a 9-mark question independently: Sally is going to complete a triathlon on Sunday morning at 6 a.m. Discuss what types of food she should eat before, during and after the race and give reasons to explain why she should eat the selected foods.</li> </ul>	<p>Link to macronutrient pie charts:  <a href="https://www.testbig.com/ie/its-writing-task-essays/pie-charts-compare-percentage-carbohydrates-protein-and-fat-three">https://www.testbig.com/ie/its-writing-task-essays/pie-charts-compare-percentage-carbohydrates-protein-and-fat-three</a></p> <p>Web article discussing macronutrients required by a triathlete:  <a href="https://www.triathlete.com/2015/05/nutrition/racing-weight-balancing-your-diet_24561">https://www.triathlete.com/2015/05/nutrition/racing-weight-balancing-your-diet_24561</a></p>
33	<p>Legal supplements</p>	<p><b>Introductory activity</b></p>	<p>Video concentrating on the use of illegal drugs in sport:</p>

	(Component 2, B4: Improving nutrition for sport and activity)	<ul style="list-style-type: none"> <li>Students to watch a YouTube clip relating to performance-enhancing drugs. Teacher to lead discussion on the types of drugs that are illegal.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Students to list legal ways of enhancing performance.</li> <li>Students complete time-limited research to find examples of vitamin B and vitamin D, protein supplements, pre-workout supplements, glucose-based isotonic drinks and caffeine drinks.</li> <li>Students to be given access to <a href="http://www.itv.com/news/2018-08-30/how-much-caffeine-and-sugar-in-some-of-the-leading-energy-drink-brands-in-the-uk/">http://www.itv.com/news/2018-08-30/how-much-caffeine-and-sugar-in-some-of-the-leading-energy-drink-brands-in-the-uk/</a> so they can independently watch the video and read the article relating to caffeinated energy drinks.</li> <li>In groups of three the students create a mind map which highlights the benefits to performance from consuming caffeine beforehand. They then identify the disadvantages.</li> </ul> <p><b>Plenary activity (homework)</b></p> <ul style="list-style-type: none"> <li>Students to describe why vitamin B and D supplements could enhance performance and if there are any disadvantages of consuming them.</li> </ul>	<p><a href="https://www.youtube.com/watch?v=sBquYmxOz9M">https://www.youtube.com/watch?v=sBquYmxOz9M</a></p> <p>Web article on energy drinks:  <a href="http://www.itv.com/news/2018-08-30/how-much-caffeine-and-sugar-in-some-of-the-leading-energy-drink-brands-in-the-uk/">http://www.itv.com/news/2018-08-30/how-much-caffeine-and-sugar-in-some-of-the-leading-energy-drink-brands-in-the-uk/</a></p>
34	Legal supplements (Component 2, B4: Improving nutrition for sport and activity)	<p><b>Introductory activity</b></p> <ul style="list-style-type: none"> <li>Students to watch a sport energy drink advertisement or similar. They should then list what they think is in the isotonic drink. Teacher to introduce 'isotonic' and confirm the correct components.</li> </ul> <p><b>Main session activities</b></p> <ul style="list-style-type: none"> <li>Sports drink exercise – students work in groups of three to create a sports drink. They are given the basic ingredients of salt, water, glucose powder or fructose sugar, fresh citrus fruit and food colouring. They must combine the ingredients to make the best tasting isotonic drink.</li> <li>Teacher to give the students an article on protein supplements. The students should answer questions relating to the article.</li> <li>Students to independently create a leaflet to promote protein and post-workout supplements. The leaflet should contain the advantages and disadvantages of both.</li> <li>Students to list the advantages and disadvantages of taking legal supplements.</li> </ul> <p><b>Plenary activity</b></p> <ul style="list-style-type: none"> <li>Students to complete an end of section 'test' which should include short and long answer questions to test their recall of knowledge from this section.</li> </ul>	<p>Find Energy Sports Drinks adverts online</p> <p>Web article discussing protein supplements:  <a href="https://www.telegraph.co.uk/health-fitness/body/10-best-protein-powders-whip-shape-2018/">https://www.telegraph.co.uk/health-fitness/body/10-best-protein-powders-whip-shape-2018/</a></p>

