

Name _____

Class _____

3.1 Physical, Emotional and Social Health, Fitness & Well-Being

3.2. The Consequences of a Sedentary Lifestyle

3.3. Energy Use, Diet, Nutrition and Hydration



Topic	Description from Specification	Pupil comments – How confident do you feel on this topic?
<p>Linking participation in physical activity, exercise and sport to health, well-being and fitness, and how exercise can suit the varying needs of different people</p>	<p>Reasons for participation in physical activity, exercise and sport, and how performance in physical activity/sport can increase health, wellbeing and fitness.</p> <p>Physical health and well-being: Improves heart function, Improves efficiency of the body systems, Reduces the risk of some illness, Able to do everyday tasks, Avoid obesity.</p> <p>Mental health and well-being: Reduces stress/tension, Release of feel good hormones (serotonin), Able to control emotions.</p> <p>Social health and well-being: Opportunities to socialise/make friends, Cooperation, Teamwork, Have essential human needs (food, shelter, clothing).</p> <p>Fitness: Improves fitness, Reduces the chances of injury, Can aid in the physical ability to work, eg on your feet all day/manual labour.</p>	
<p>The consequences of a sedentary lifestyle</p>	<p>Definitions of sedentary and lifestyle.</p> <p>Possible consequences of a sedentary lifestyle: Weight gain/obesity, heart disease, hypertension, diabetes, poor sleep, poor self-esteem, lethargy.</p>	
<p>Obesity and how it may affect performance in physical activity and sport</p>	<p>Definition of obesity. Obesity and how it may affect performance in physical activity and sport: Limits stamina/cardiovascular endurance, limits flexibility, limits agility, limits speed/power.</p> <p>Causes ill health (physical): Cancer, heart disease/heart attacks, diabetes, high cholesterol.</p> <p>Causes ill health (mental): Depression, loss of confidence.</p> <p>Causes ill health (social): Inability to socialise, inability to leave home.</p>	

Somatotypes	Definitions of the following body types: Endomorph, mesomorph, ectomorph. Students should be taught to identify the most suitable body type for particular sports (or positions within a sport) and justify their choice.	
Energy use	Energy is measured in calories (Kcal) and is obtained from the food we eat. The average adult male requires 2,500 Kcal/day and the average adult female requires 2,000 Kcal/ day but this is dependent upon: Age, gender, height, energy expenditure (exercise).	
Nutrition – reasons for having balanced diet	There is no single food that contains all the nutrients the body needs. A balanced diet contains lots of different types of food to provide the suitable nutrients, vitamins and minerals required. The reasons for a balanced diet: Unused energy is stored as fat, which could cause obesity (particularly saturated fat), suitable energy can be available for activity, the body needs nutrients for energy, growth and hydration.	
Nutrition – the role of carbohydrates, fat, protein and vitamins/minerals	A balanced diet contains 55–60% carbohydrate, 25–30% fat, 15–20% protein. Carbohydrates are the main and preferred energy source for all types of exercise, of all intensities. Fat is also an energy source. It provides more energy than carbohydrates but only at low intensity. Protein is for growth and repair of muscle tissue. Vitamins and minerals are for maintaining the efficient working of the body systems and general health. Students do not need to be taught about specific vitamins and minerals.	
Reasons for maintaining water balance (hydration)	Definition of dehydration. Water balance (hydration) prevents dehydration. Dehydration results in: Blood thickening (increased viscosity), which slows blood flow, increases in heart rate/heart has to work harder/irregular heart rate (rhythm), increase in body temperature/overheat, slowing of reactions/increased reaction time/poorer decisions, muscle fatigue/cramps. Students should be taught to understand and evaluate the consequences of dehydration to performance in different sporting activities.	

This module relates closely to the work you did on health and fitness during component one. Think back and try to remember the definitions for the following terms. If you are struggling, use some of the words below as prompts.

Health:

Fitness:

Key Words:

Physical Environment Social Demands Emotional Disease

We are going to look at the reasons why people should be encouraged to take part in sport. Before we begin, give 3 of your own reasons below:

- 1.
- 2.
- 3.



Physical Health:

One of the reasons we exercise is to improve our physical health. This is related to improving the **health related** components of fitness. Again think back to component one and the work you did on the components of fitness. Four of the components of fitness relate closely to health, what are they?

- 1.
- 2.
- 3.
- 4.

Use the table below, and the phrases given to you separately, to fill out the 'point' column. Can you add your own explanation?

How can exercise or physical activity improve physical health? **(2 marks)**

Point (1 mark)	Explanation (1 mark)

Emotional/Mental Health:

Exercise and physical activity can also help to improve emotional health.

Use the table below, and the phrases given to you separately, to fill out the 'point' column. Can you add your own explanation?

How can exercise or physical activity improve emotional health? **(2 marks)**

Point (1 mark)	Explanation (1 mark)

Social Health:

Exercise and physical activity can also help to improve social health.

Use the table below, and the phrases given to you separately, to fill out the 'point' column. Can you add your own explanation?

How can exercise or physical activity improve social health? **(2 marks)**



Point (1 mark)	Explanation (1 mark)

Fitness:

As stated previously **fitness** can be defined as:

Improving fitness can:

- Reduce the chance of injury
- Can aid in the physical ability to work

A Tennis player has recently been working on their muscular endurance. How will this help to reduce the chance of injury?



A builder has been taking part in Spinning sessions outside of work. How might an increase in fitness help with their ability to work?



Sedentary Lifestyle: a lifestyle where there is **little, irregular or no physical activity.**

In order to maintain health and fitness you should aim to exercise at a moderate intensity for at least 30mins five days a week.

Which of the following could be included in 30minutes of moderate exercise.....

Walking the dog
9 holes of golf

Heavy weights session

Go-karting

Lawn Bowls

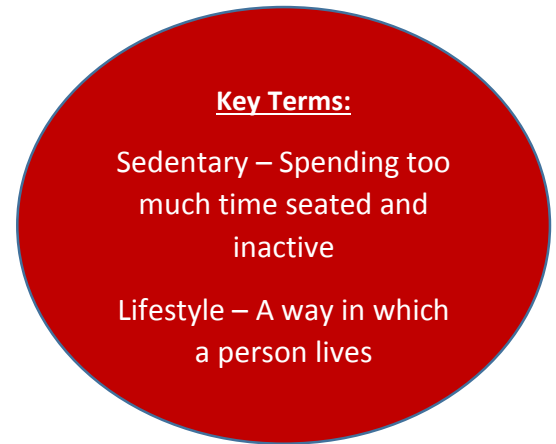
Darts

Ice-skating

Sumo-Wrestling

If all of the expert advice leads to people taking part in exercise, why do many adults (and some children) end up leading a sedentary lifestyle with no physical activity? Give 5 reasons.

- 1.
- 2.
- 3.
- 4.
- 5.



A sedentary lifestyle leads to many long-term health risks. Some of these risks are highlighted below. Categorise each as 'physical', 'mental' or 'social' and give an explanation as to why they are a result of a sedentary lifestyle? You may need to do some of your own research before answering.

Weight gain:



Heart Disease:

Hypertension:

Diabetes:

Poor Sleep:



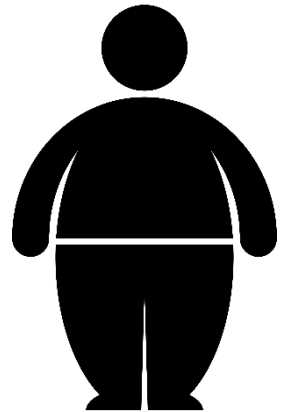
Poor Self-Esteem:

Lethargy:

Obesity:

Obesity can be defined as 'The state of being grossly fat or overweight'.

Think carefully about a sport that you take part in. Why would obesity decrease your performance levels in this sport?



Obesity effects performance levels as it has a negative impact on some of the components of fitness. It also effects physical, mental and social health. Use the descriptions given in order to fill in the table below:

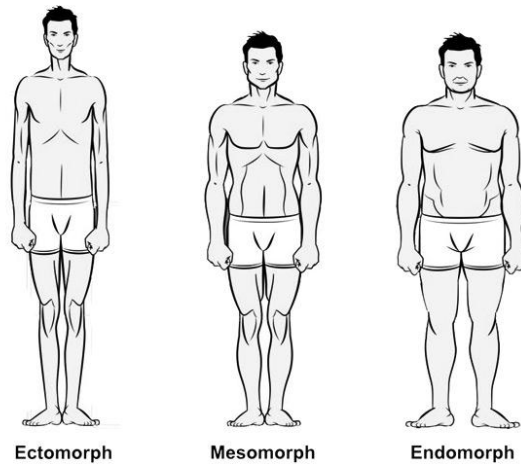
The impact of obesity on....			
Fitness	Physical Health	Mental Health	Social Health

Sample Exam Question

A golfer has been injured for several months. During their time off from the sport they have begun to put on weight. Analyse the negative effects that obesity can have on the golfer's fitness, performance and well-being. **(6 marks)**

Somatotypes:

‘Somatotype’ refers to the body shape of an individual and may influence the sport (or position within a sport) that a person takes part in. There are three different somatotypes which can be seen in the diagram below:



Use the phrases given separately to fill in the table below.

Somatotype	Features	Sports/Position within sports
Endomorph		
Mesomorph		
Ectomorph		

Sample Exam Question

Rugby is a sport played by people of many different shapes and sizes. Why would the following body shapes be suited to playing rugby?

Endomorph (2 marks)

Mesomorph (2 marks)

Ectomorph (2 marks)

Energy Use:

In order to maintain your weight you must take in (through eating) and use up (through exercise) an equal number of calories.

If you take in more calories than you burn off, what will happen?

If you burn off more calories than you take in, what will happen?

Task

Think about the last snack that you ate. Do some research to find out how many calories it contains. Using a piece of cardiovascular equipment in the gym, see how quickly you can burn these calories off.

Energy is measured in Kcal and is obtained from the food we eat. On **average** the calories required for an individual **per day** are as follows:

Male – 2500 Kcal

Female – 2000 Kcal

Why do you think gender has an effect on the amount of calories required per day?

Further to **gender**, calorie intake is also dependent on:

- Age
- Height
- Energy Expenditure

Do some research in order to fill in the table below on calorie intake:

Category	Daily Calorie Intake
60 year old Male	
60 year old Female	
18 year old male	
18 year old female	
Elite Marathon Runner	
Premier League Football Player	



Body Mass Index:

One way to look at whether an individual is a healthy is by looking at **BMI**.

A **BMI chart** can be found below.

WEIGHT lbs	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215
kgs	45.5	47.7	50.0	52.3	54.5	56.8	59.1	61.4	63.6	65.9	68.2	70.5	72.7	75.0	77.3	79.5	81.8	84.1	86.4	88.6	90.9	93.2	95.5	97.7
HEIGHT in/cm	Underweight				Healthy				Overweight				Obese				Extremely Obese							
5'0" - 152.4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
5'1" - 154.9	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	36	37	38	39	40
5'2" - 157.4	18	19	20	21	22	22	23	24	25	26	27	28	29	30	31	32	33	33	34	35	36	37	38	39
5'3" - 160.0	17	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	32	32	33	34	35	36	37	38
5'4" - 162.5	17	18	18	19	20	21	22	23	24	24	25	26	27	28	29	30	31	31	32	33	34	35	36	37
5'5" - 165.1	16	17	18	19	20	20	21	22	23	24	25	25	26	27	28	29	30	30	31	32	33	34	35	35
5'6" - 167.6	16	17	17	18	19	20	21	21	22	23	24	25	25	26	27	28	29	29	30	31	32	33	34	34
5'7" - 170.1	15	16	17	18	18	19	20	21	22	22	23	24	25	25	26	27	28	29	29	30	31	32	33	33
5'8" - 172.7	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	32	32
5'9" - 175.2	14	15	16	17	17	18	19	20	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	31
5'10" - 177.8	14	15	15	16	17	18	18	19	20	20	21	22	23	23	24	25	25	26	27	28	28	29	30	30
5'11" - 180.3	14	14	15	16	16	17	18	18	19	20	21	21	22	23	23	24	25	25	26	27	28	28	29	30
6'0" - 182.8	13	14	14	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28	29
6'1" - 185.4	13	13	14	15	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28
6'2" - 187.9	12	13	14	14	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27
6'3" - 190.5	12	13	13	14	15	15	16	16	17	18	18	19	20	20	21	21	22	23	23	24	25	25	26	26
6'4" - 193.0	12	12	13	14	14	15	15	16	17	17	18	18	19	20	20	21	22	22	23	23	24	25	25	26

What is your BMI and what does this tell you about your current weight? Is this a good weight to be for your sport?

Can you see any problems with using BMI as an assessment of weight?



A Balanced Diet:

A balanced diet can vary between individuals depending on their sport and to optimise performance. However a balanced diet should always include:

Carbohydrates

Fats

Proteins

Vitamins

Minerals

Next to each of the above, give an example of a food type which falls into this category.

Carbohydrates are important because they give you energy. There are two types:

Complex Carbohydrates (starch):

These are found in natural foods such as _____

Simple Carbohydrates (sugars):

These are found in their natural form in _____ and _____. They are found in their refined form in _____.

Carbohydrates are stored in the _____ and _____ as glycogen. This can be converted into glucose to provide _____ quickly. Energy produced by _____ will last for longer than energy produced by _____. Examples of sports performers who require lots of carbohydrates are _____.

Carbohydrates are the **main and preferred** energy source for all types of exercise, of all intensities. If carbohydrates are not burnt off as energy, **they will turn into fat and be stored in the body**. This can lead to **obesity**.

Fats are important because they provide _____ slowly. They are also important for insulation. Fats are found in foods such as _____.

Examples of sports performers who require lots of fats are _____.

Fats provide **more energy** than carbohydrates but only at **low intensity**.

Proteins are important for muscle _____ and _____ damaged tissue. If all carbohydrates and fat resources have been used up, protein can also be used for _____.

Examples of sports performers who require a lot of protein include _____.

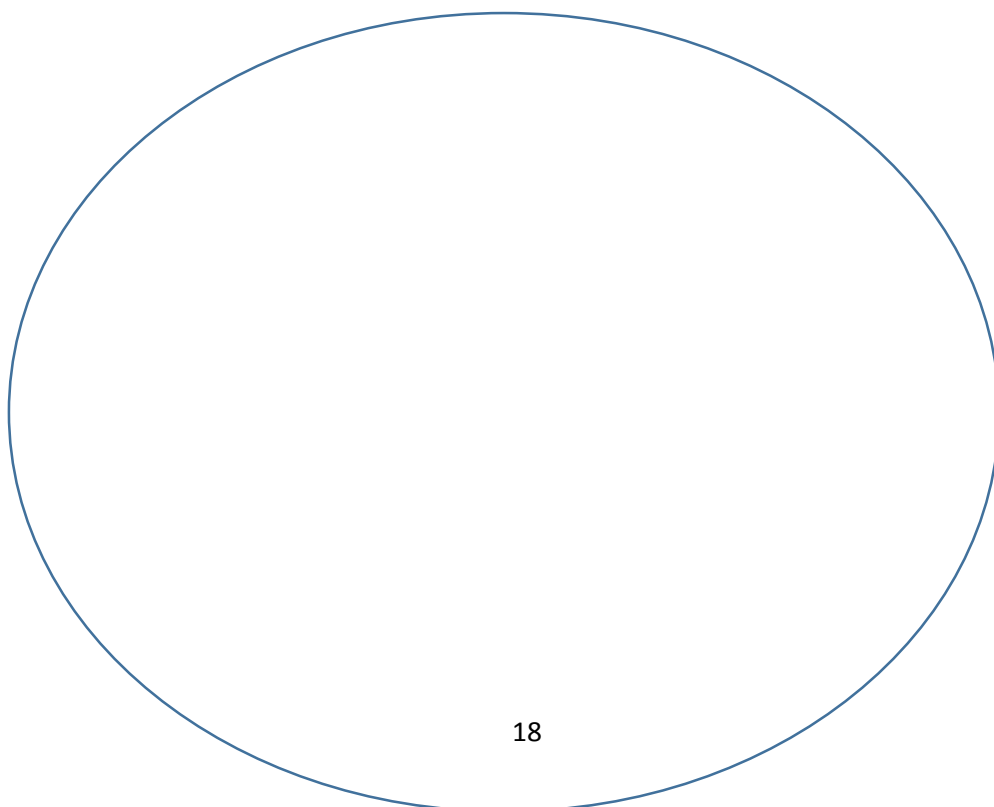
Vitamins and minerals help the body to function properly. They maintain the **efficient working of the body systems** and help to ensure good **general health**.

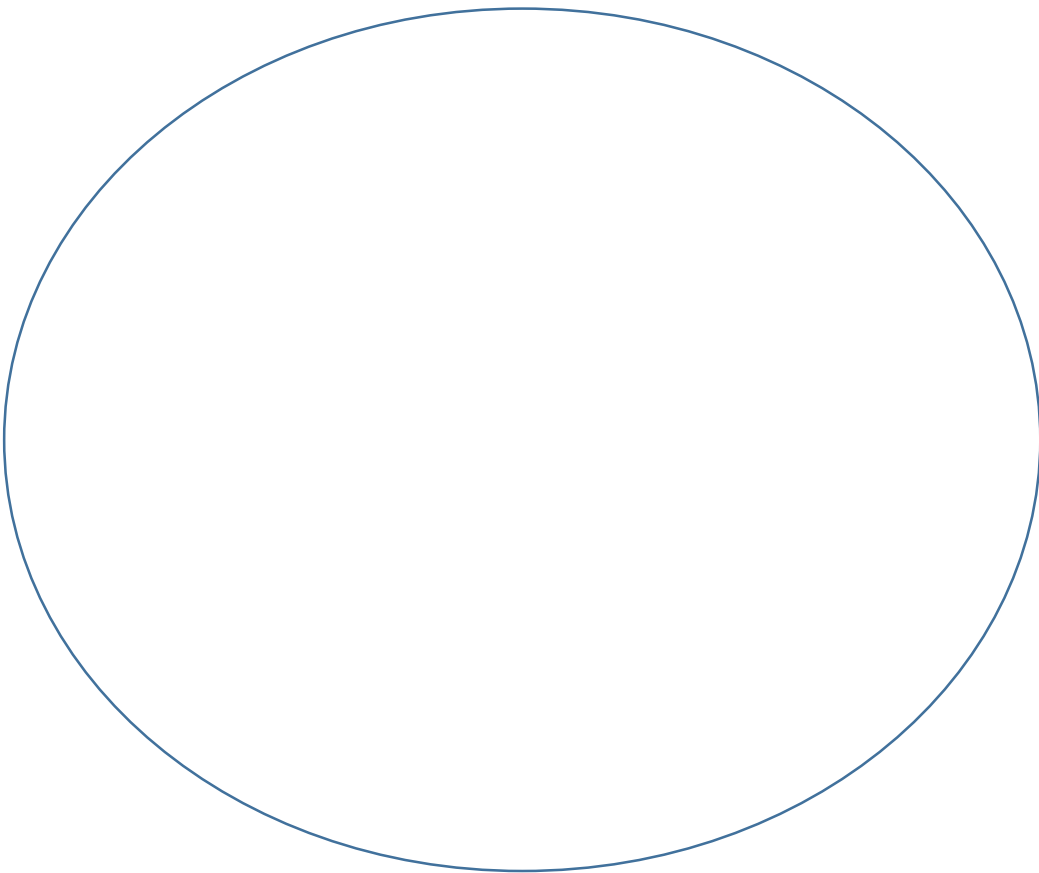
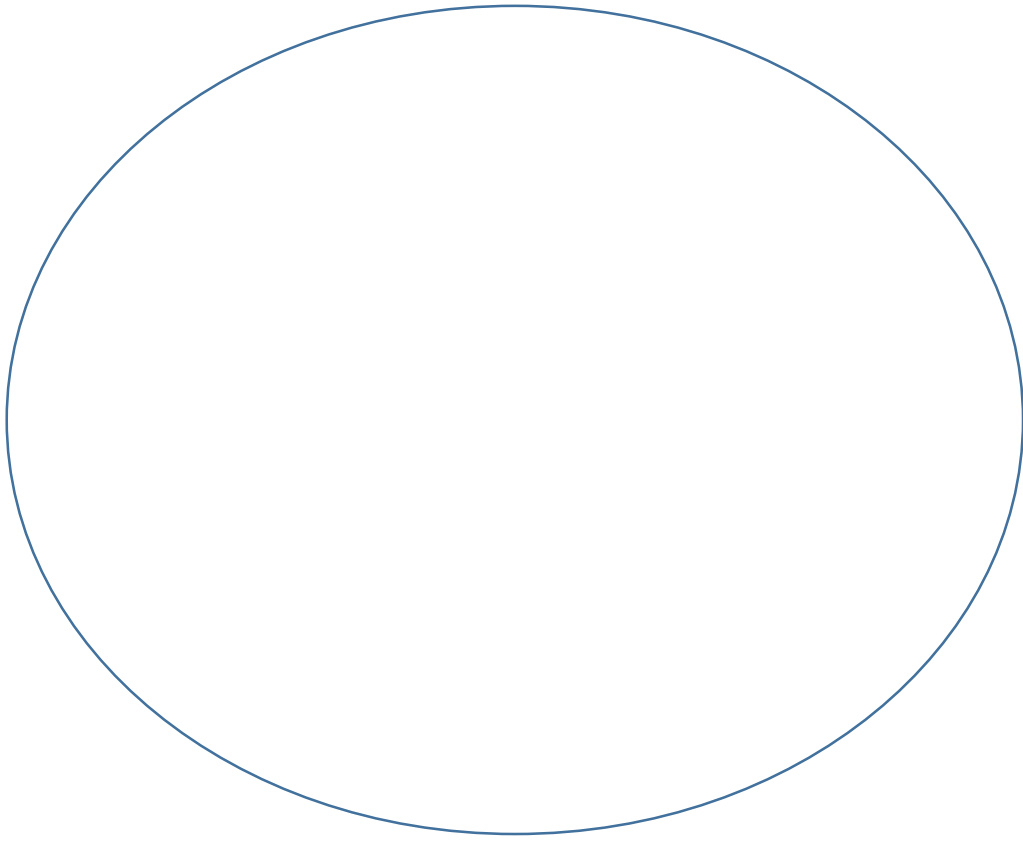
A balanced diet should include:

- 55 – 60% of Carbohydrates
- 25-30% of Fat
- 15-20% Protein
- A very small amount of Vitamins & Minerals

Using the below shapes, create 3 pie charts to show the above food types displayed in the following diets:

1. Your diet
2. The diet of a weight lifter
3. The diet of a premier league football player





A balanced diet is important so that:

- Suitable energy can be available for activity
- The body has the nutrients for energy, growth and repair



Some performers will adapt their diet to suit their sport.

Why would a weightlifter choose to take in excess protein throughout an intense training programme?

Why would a marathon runner choose to take in excess carbohydrates the night before a race?

Maintaining Water Balance/Hydration:

Water balance/hydration must be regular in order to prevent **dehydration**.

Dehydration is a condition that can occur when the loss of body fluids, mostly water, exceeds the amount that is taken in.

Dehydration is dangerous and has a negative effect on performance in sport. Pick a sport that you take part in and complete the table below to explain the effects of dehydration.

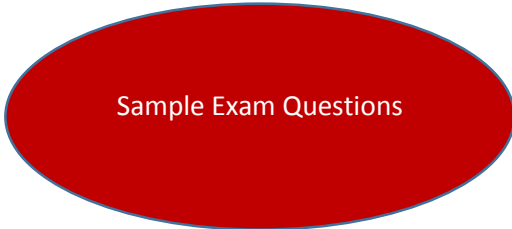


Effects of Dehydration	How this effects performance in _____
Blood Thickening (Increased viscosity), which slows blood flow	
Irregular heart rate	
Increase in body temperature	
Slowing of reactions	
Muscle Fatigue/Cramps	

On rare occasions, some sportspeople actively look to lose water.

Why might boxers and jockeys sometimes take part in heavy exercise which causes sweating, but then choose not to take on water?

What are the dangers of doing this?



Which one of the following is an example of a sedentary lifestyle?

- A) Not maintaining a balanced diet
- B) Not exercising on a regular basis
- C) Not sleeping for 10 hours every night
- D) Exercising for 30mins every day

Complete the following statements **(2 marks)**:

Participation in physical activity can provide emotional health benefits, for example

Improving hear function, however, is an example of a _____ health benefit.

Regular participation in physical activity can reduce the risk of obesity, which in turn can lead to heart attacks. Describe 3 other ways that obesity can lead to poor **physical** health. **(3 marks)**

How does leading a sedentary lifestyle effect the daily amount of calories required for an individual? **(2 marks)**

Key Terms:

Health – A state of complete emotional, physical and social well-being and not merely the absence of disease and infirmity

Fitness – The ability to meet the demands of the environment

Serotonin – A natural chemical released during exercise

Sedentary Lifestyle – a lifestyle where there is little, irregular or no physical activity.

Obesity - The state of being grossly fat or overweight

Somatotype – The body shape of an individual

Endomorph –A person with a soft round build of body and a high proportion of fat tissue.

Ectomorph – A person with a lean and delicate build of body.

Mesomorph – A person whose build is compact and muscular

Dehydration – When the amount of water lost from the body exceeds the amount that is taken in.

Viscosity – The thickening of the blood, caused by dehydration