



Teacher Answer Booklet

Health, Fitness & Well-Being



Topic	Description from Specification	Pupil comments – How confident do you feel on this topic?
Health, Fitness & Well-Being	Know what is meant by health, fitness & well-being. Understand the different health benefits of physical activity and consequences of a sedentary lifestyle.	
	Physical – Injury, coronary heart disease, blood pressure, bone density, obesity, type 2 diabetes, posture, fitness Emotional – Self-esteem, stress management, image Social – Friendship, belonging to a group, loneliness	
	Apply the above to different age groups Respond to data about health, fitness and well-being	
Diet & Nutrition	Know the definition of a balanced diet Know the components of a balanced diet – carbohydrates, proteins, fats, minerals, vitamins, fibre, water & hydration	
	Understand the effect of diet and hydration on energy use in physical activity Apply practical examples from physical activity and sport to diet and hydration	

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

Well-Being:

The state of being comfortable, happy and healthy

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. E.g. to spend time with friends/family
2. E.g. to challenge myself to improve
3. E.g. to improve my cardiovascular fitness



Physical Health:

One of the reasons we exercise is to improve our physical, emotional and social health. Put the statements below into the correct column within the table.

Enables people to maintain a healthy weight. Improves self image.
 Causes a sense of belonging to a group. Improves the strength of bones.
 Helps us to 'feel good'. Helps maintain a healthy weight. Strengthens the heart/cardiac muscle.
 Results in the removal of cholesterol from the walls of the arteries.
 Strengthens core muscles (around abdomen) and mobilises the spine

How can exercise improve physical health?	How can exercise improve emotional health?	How can exercise improve social health?
Exercise enables people to maintain a healthy weight	Exercise helps us to 'feel good'	Physical activity can help with friendships and social mixing
Exercise improves the strength of bones	Exercise can help overcome mental challenges	Physical activity can cause a sense of belonging to a group
Exercise can result in the removal of cholesterol from the walls of the arteries.	Exercise improves self image	
Exercise strengthens the heart/ cardiac muscle		
Exercise helps maintain a healthy weight		
Exercise helps strengthen core muscles (around abdomen) and mobilises the spine		
Exercise strengthens muscles, bones and joints		
Physical activity improves fitness		

The impact of fitness on well-being:

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

Well-being can be defined as:

The state of being comfortable, healthy or happy.

The ability to meet the demands of the environment.

Using the words below the table, fill in the gaps to outline the positive and negative effects of fitness on well-being.

Positive Effects	Negative Effects
Helps you cope with the psychological side of life	Puts you at risk of sport-related injury
Exercise improves life expectancy ; how long you live for	Time off to recover from injury can lead to psychological problems such as depression
Lowers risk of physical illness	Competition pressure can lead to psychological problems such as depression
Lowers risk of heart problems	Early specialisation in one sport can reduce chances in others
Makes you less likely to use drugs or smoke	Stressors in a particular sport can lead to long-term health problems such as having a weakened immune system
Means you are less likely to be off work with sickness	Can lead to obsessive interest in body image or composition, which leads to OCD and anxiety.
Gives you lower blood pressure and resting heart rate	
Can help weight control	

psychological specialisation injury competition blood pressure drugs
work stressors physical weight smoke sickness psychological
resting heart rate heart body shape life expectancy

Sample Exam Question

A cricketer has decided to stop playing the sport due to stress and anxiety.

Discuss the positive and negative impacts of sport and physical activity on the **emotional health** of an individual. (6 marks)



Sport can have the emotional health benefit of increasing self-esteem and confidence. This is evident in the mentality of performers who have mastered an activity. For example a cricket player who has mastered the skill of batting, will often score runs, which will increase his confidence. This results in higher self-esteem, not only in a cricket setting but also universally. This means an individual becomes happier due to the effects of sport.

Sport can also have the emotional health benefit of helping us to 'feel good'. This is because taking part in physical activity, one example being cricket, releases endorphins as well as producing the chemical serotonin. Endorphins and serotonin both result in a person feeling happy. Therefore catharsis occurs whereby stress is reduced due to the physical activity that has taken place, hence having a positive impact on an individual.

However the pressures of elite competition can lead to a negative effect on an individual's mental health. For example an elite cricket player has the pressure of performing in front of thousands of people, with one mistake whilst batting leading to them being labelled a failure. Therefore sport can actually result in a performer becoming anxious and even depressed, even when stepping away from the sports field. At a certain level the costs of continuing to perform can at times outweigh the benefits.

Sample Exam Questions

Which one of the following is most likely to reduce the risk of osteoporosis in the legs? (1)

- A) Squats
- B) Cycling
- C) Rowing
- D) Swimming

Complete the following statements:

Participation in physical activity can provide emotional health benefits, for example **Mark One -**

Decreasing the chances of depression

Improving fitness, however, is an example of a **physical (one mark)** health benefit.

Regular participation in physical activity can reduce the risk of heart attacks. Explain how one other risk to **long-term health** can be reduced through regular participation in **aerobic exercise** (3)

Mark One - Another risk to long term health is the development of type II diabetes.

Mark Two - This can be prevented through aerobic activity because exercise reduces the body's need for insulin.

Mark Three - Therefore an individual can maintain a healthy weight and obesity is also less likely to occur.

Which one of the following is a physical health benefit of participation in physical activity? Put a tick (✓) in the box next to the correct answer.

- (A) Can lead to a better self-image.
- (B) Bone density is decreased as a result of physical activities.
- (C) You are less likely to suffer from Type 2 diabetes.
- (D) The more sport you play, the more friends you make.

Give two practical examples of how exercise can increase a person's sense of well-being. (2 marks)

1

2

Any two from:

1. playing netball can increase confidence
2. exercising regularly can make you feel more energetic / healthy
3. training can improve body shape/image
4. playing hockey can lead to more friendships / sense of belonging / less loneliness
5. after an exercise class you may feel sense of accomplishment
6. playing a sport and winning leads to pride in achievements

accept any other appropriate responses

A Balanced Diet: A diet that contains the correct proportions of carbohydrates, fats, proteins, vitamins, minerals, and water necessary to maintain good health.

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

Carbohydrates – Bread, pasta, rice

Fats – Nuts, avocado, cheese

Proteins – Meat, fish

Vitamins – Fruits, vegetables

Minerals – Milk (calcium), red meat (iron), bananas (potassium)

Water - Water

Fibre – Oats, cereal

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

Macronutrients are the foods which are required in large amounts in your diet. These include:

- Carbohydrates
- Proteins
- Fats

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

Complex Carbohydrates (starch):

These are found in natural foods such as **pasta, rice and brown bread**.

Simple Carbohydrates (sugars):

These are found in their natural form in **fruit and vegetables**. They are found in their refined form in **chocolate/sweets**.

Carbohydrates are stored in the **muscles and liver** as glycogen. This can be converted into glucose to provide **energy** quickly. Energy produced by **complex carbohydrates** will last for longer than energy produced by **simple carbohydrates**. Examples of sports performers who require lots of carbohydrates are **footballers/800m runners**.



Fats are important because they provide **energy** slowly. They are also important for insulation. Fats are found in foods such as **cheese, nuts, avocados**.

Examples of sports performers who require lots of fats are **marathon runners**.

Proteins are important for **growing** muscle and **repairing** damaged tissue. If all carbohydrate and fat resources have been used up, protein can also be used as **energy**.

Examples of sports performers who require a lot of protein include **weight lifters/rugby players**.

Micro-nutrients are the part of your food that you need for normal growth, but only in small amounts.

They include:

- **Vitamins**

- **Minerals**

Vitamins help the body to function properly. Research the following vitamins in order to fill out the table below:

Vitamin	Foods found in	What it helps with
A	Carrots	Maintains healthy skin and teeth. Helps with night vision.
B1	Cereal, beans, nuts	Dietary supplement, digestions and memory
C	Oranges, berries, tomatoes	Antioxidant. Protects cells from damage. Forms and maintains tissue.
D	Fatty fish e.g. tuna. Cheese.	Absorb calcium and promote bone growth.
E	Spinach	Metabolism and can prevent



Minerals are essential for a healthy body. . Research the following minerals in order to fill out the table below:

Mineral	Foods found in	What it helps with
Calcium	Milk, yoghurt, cheese	Strengthening bones
Iron	Red meat	Red blood cell production
Sodium	Salad dressing, bacon, table salt	Water balance
Potassium	Salmon, bananas, avocado	Flush excess waste from your cells
Zinc	Spinach, cereal, sea food	Immunity



Water and Fibre

Water accounts for approximately half of your body weight. It helps to transport nutrients, waste and hormones.

Water is also important for controlling body **temperature** and helps to replace **fluids** after sweating during exercise. Athletes must take on water regularly in order to prevent dehydration.

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

This is because it can sometimes be advantageous to lose weight in these sports. For example boxers may need to lose weight just before a 'weigh in' in order to get into a certain weight category. Jockeys who lose weight shortly before a race carry may find that they are more likely to win a race.

What are the dangers of doing this?

Dehydration leading to vomiting

Fibre (also known as roughage) adds bulk to your food and also **aids digestion**.

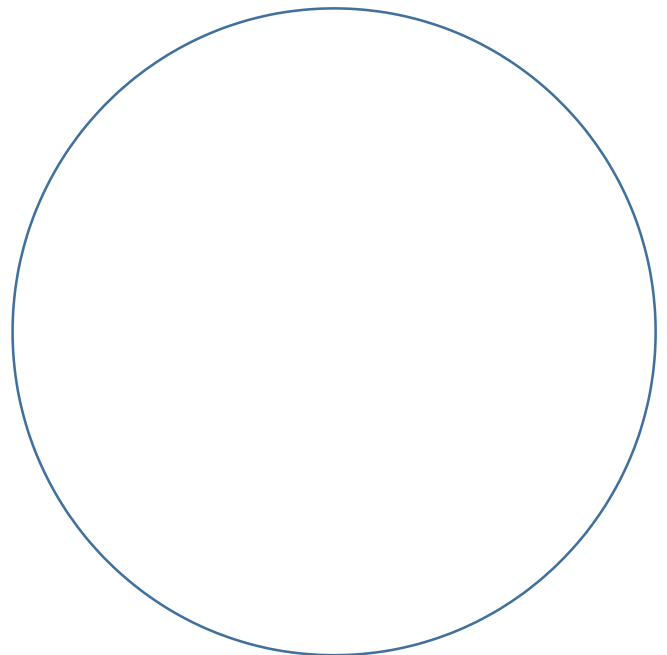
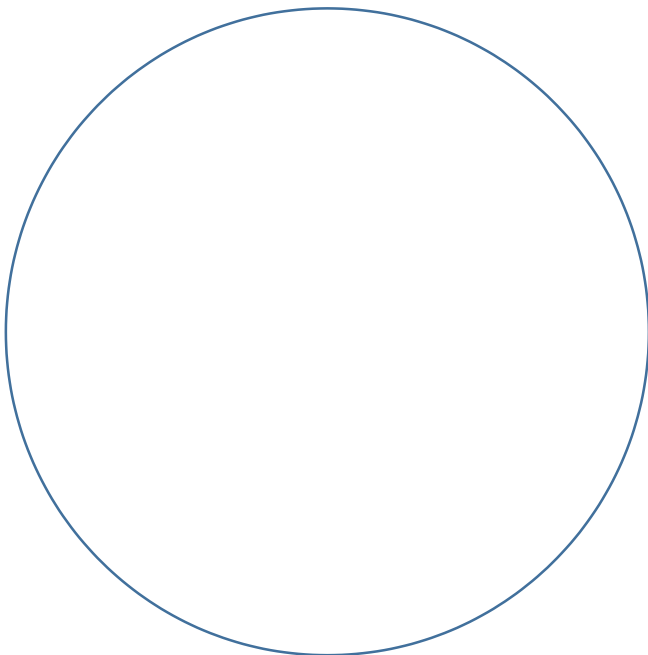
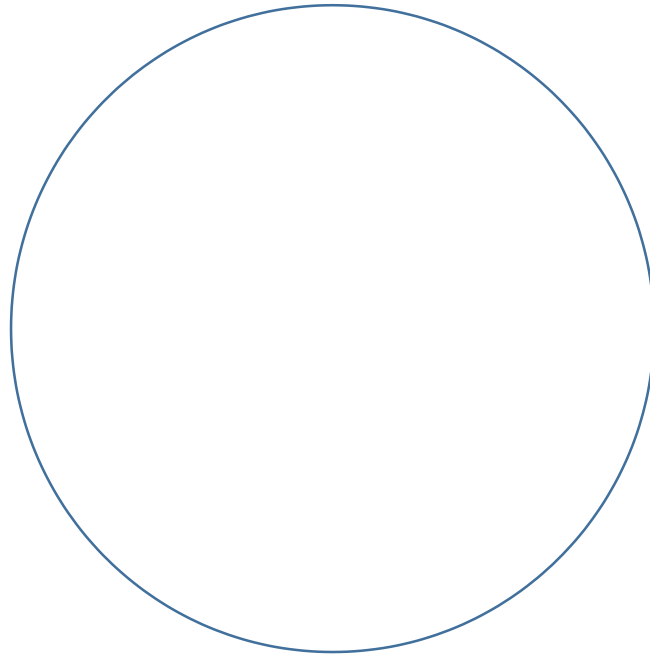
Name 3 types of food that are high in fibre:

1. **cereal**
2. **dried fruit**
3. **nuts**



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

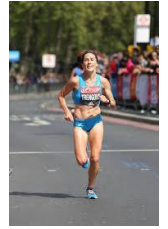
1. Your diet
2. The diet of a weight lifter
3. The diet of a premier league football player



Weight Lifter:
This should show a higher than normal amount of protein – for the repairing and growth of muscles

Premier league footballer:
This should show a higher than normal amount of complex carbs and fats, as a football player will require the slow release of energy throughout training and matches

6 Mark Question



Assess the relative importance of a high protein diet for a weight lifter and a marathon runner.

Example Answer:

Protein is very important for a weightlifter This is because it helps them to repair and grow muscle following heavy training and weight lifting competitions. Therefore muscular hypertrophy will occur which will help them to become stronger and lift heavier weights, giving them a better chance of winning competitions. The timing of this protein intake is also important as it is required immediately after training and competitions.

Protein is important for a runner, but not as important as other food types such as carbohydrates and fats. It is important because it helps to repair the muscles in legs following continuous training sessions, which can result in minor damage to muscle cells. Therefore, if protein is taken on following long training sessions, the runner will recover quicker and be able to run again sooner. More training will then result in better cardiovascular fitness and more chance of winning events or competitions.

If a marathon runner runs out of carb/fat, protein will be important as a reserve energy store This could be especially important for a first-time marathon runner who is not used to having the correct stores of carbohydrates and fats ready for energy. Therefore even if the run out of other macro-nutrients they will still have enough energy to complete the race effectively. Without this protein as a reserve energy store, they could 'hit the wall' and fail to finish a marathon.

Hydration

It is important for any sportsperson to stay **hydrated** in order to perform at the best of their ability. When you exercise you can lose up to a litre of fluid every hour through sweating and breathing.

Maintaining correct hydration levels before performance:

Test the colour of your urine. If it is pale, you are hydrated. If it is dark yellow or orange, you need to take on water without delay.

Drink at regular intervals throughout the day. Try to drink 500ml of _____ at least four hours before you exercise.

10-15 minutes before you exercise, aim to take on about 250ml of fluids.

During Exercise:

Stop for regular water breaks, particularly in hot weather. If you are thirsty, you are already becoming .

Dehydration leads to **dizziness** and **fatigue** which can **negatively impact performance**.

After Exercise:

Take on lots of water immediately after exercise

Avoid **diuretics** such as tea and coffee. .



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

Give one possible consequence of a lack of hydration when performing in sport. **(1 mark)**

One mark from:

- 1. tires/fatigues/slow down/stops the performer
- 2. skill level decreases
- 3. become thirsty
- 4. leads to loss of motivation
- 5. increase in body temperature
- 6. decrease in sweating
- 7. (muscle) cramps
- 8. (in extreme cases) death

Regular participation in physical activity can reduce the chance of developing diabetes. Explain how 2 other risks to long-term health can be reduced through regular exercise.

(3 marks)

More serotonin is released during exercise (1) which can lead to a person becoming happier (1) and decreasing the chances of depression/stress (1).

(3 marks)

Exercise reduces the chances of coronary heart disease (1) as it clears the arteries of fatty acids (cholesterol) (1) and reducing the chances of a heart attack (1).

Which of the following is the main function of carbohydrates? Tick (✓) the correct box. **(1 mark)**

- (A) To deliver oxygen to working muscles.
- (B) To provide energy for movement.
- (C) To enable bones to grow and repair.
- (D) To provide roughage for the digestive system.

Carbohydrates are 1 component of a healthy diet. Give 3 other components of a healthy diet.

(3 marks)

Three from:

- 1. proteins
- 2. Fats
- 3. minerals
- 4. Vitamins
- 5. fibre
- 6. Water

Key Terms:

Sedentary Lifestyle – Where there is little, irregular or no physical activity

Depression – A persistent feeling of sadness and loss of interest in life

Coronary Heart Disease – A disease in which plaque builds up in the coronary arteries

High Blood Pressure/ Hypertension– Too great a force of blood pushing against the arteries

Diabetes – A disease whereby your body cannot regulate the levels of glucose in the blood

Osteoporosis – Medical condition whereby bones become brittle and fragile

Metabolic Rate – The rate at which the body uses up energy

Hydrate – Take on water

Energy balance – The amount of calories taken in minus the amount 'burned off'

Well-Being - The state of being comfortable, healthy or happy.

Self-Esteem – The degree to which we feel confident and see ourselves as valuable