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Topic Guide 6: Health, Fitness and Well-being

GCSE (9-1) Physical Education

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Physical Education (1PE0)

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Physical Education (Short Course) (3PE0)

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Topic Guide: GCSE Physical Education 2016 and 2017 – Health, Fitness and Well-being

Contents

Introduction

This topic guide gives an overview of the specification topic: Health, Fitness and Well-being. The guide is designed to give support by detailing content changes in relation to this topic and to give further clarity over the required breadth and depth that needs to be covered. The guide signposts possible resources to aid preparation and delivery and also gives some teaching ideas to assist with planning and delivery.

Content and content changes

Component 2, Topic 1 (Full Course) / Component 1, Topic 3 (Short Course): Health, Fitness and Well-being

Subject content	What learners need to learn
In this topic, learners will develop knowledge and understanding of the benefits of participating in physical activity and sport to health, fitness and well-being through the following content.	
1.1 **Physical, emotional and social health, fitness and well-being**	**1.1.1** Physical health: how increasing physical ability, through improving components of fitness, can improve health/reduce health risks and how these benefits are achieved
	1.1.2 Emotional health: how participation in physical activity and sport can improve emotional/psychological health and how these benefits are achieved
	1.1.3 Social health: how participation in physical activity and sport can improve social health and how these benefits are achieved
	1.1.4 Impact of fitness on well-being: positive and negative health effects
	1.1.5 How to promote personal health through an understanding of the importance of designing, developing, monitoring and evaluating a Personal Exercise Programme (PEP) to meet the specific needs of the individual
	1.1.6 Lifestyle choices in relation to: diet; activity level; work/rest/sleep balance; and recreational drugs (alcohol, nicotine)
	1.1.7 Positive and negative impact of lifestyle choices on health, fitness and well-being, e.g. the negative effects of smoking (bronchitis, lung cancer)

Subject content	What learners need to learn
1.2 The consequences of a sedentary lifestyle	**1.2.1** A sedentary lifestyle and its consequences: overweight; overfat; obese; increased risk to long-term health, e.g. depression, coronary heart disease, high blood pressure, diabetes, increased risk of osteoporosis, loss of muscle tone, posture, impact on components of fitness
	1.2.2 Interpretation and analysis of graphical representation of data associated with trends in physical health issues
1.3 Energy use, diet, nutrition and hydration	**1.3.1** The nutritional requirements and ratio of nutrients for a balanced diet to maintain a healthy lifestyle and optimise specific performances in physical activity and sport
	1.3.2 The role and importance of macronutrients (carbohydrates, proteins and fats) for performers/players in physical activities and sports, carbohydrate loading for endurance athletes, and timing of protein intake for power athletes
	1.3.3 The role and importance of micronutrients (vitamins and minerals), water and fibre for performers/players in physical activities and sports
	1.3.4 The factors affecting optimum weight: sex; height; bone structure and muscle girth
	1.3.5 The variation in optimum weight according to roles in specific physical activities and sports
	1.3.6 The correct energy balance to maintain a healthy weight
	1.3.7 Hydration for physical activity and sport: why it is important, and how correct levels can be maintained during physical activity and sport

Some of the content for this topic is covered in the current (2009) GCSE PE Specification, for example, topic 1.1.1 focuses on the benefits of engaging in physical activity, equivalent to content in the same numbered section in the 2009 specification. Where there are significant changes/additions these are highlighted below.

Subject content	Comments
1.1.6 Lifestyle choices in relation to: diet; activity level; work/rest/sleep balance; and recreational drugs (alcohol, nicotine)	The emphasis of this section is to note that people do have a choice about their lifestyle and the choices they make will impact on their health, fitness and well-being.
1.1.7 Positive and negative impact of lifestyle choices on health, fitness and well-being, e.g. the negative effects of smoking (bronchitis, lung cancer)	Having made a decision about lifestyle, this section looks at the impact of those decisions on health, fitness and well-being and, ultimately, performance in physical activity or sport.
1.2.2 Interpretation and analysis of graphical representation of data associated with trends in physical health issues	Questions in both written assessments could ask learners to interpret some data; therefore, learners should, wherever possible, practice analysing and evaluating data sets, wherever data is naturally occurring. For this part of the specification the analysis will be around physical health issues, e.g. obesity, smoking levels, alcohol consumption. Whatever the data, the skill required is the same, i.e. to interpret the data presented, to identify the trends in the data or the anomalies, to potentially predict future trends based on the data.
1.3.2 carbohydrate loading for endurance athletes, and timing of protein intake for power athletes	This is an area of extension from the 2009 specification. In addition to looking at the importance of macro and micronutrients, learners should also be aware of some ways where performers may use dietary manipulation to aid their performance. Learners will only be expected to know about carbohydrate loading and protein intake.
1.3.7 Hydration for physical activity and sport: why it is important, and how correct levels can be maintained during physical activity and sport	Another area of extension from the 2009 specification. This is designed to foster a basic understanding of the need to ensure appropriate hydration and how different types of activities may present different problems for performers, e.g. 100 m compared to a marathon, or playing extra time in an international football game in hot temperatures compared to a normal 90 min game in warm temperatures.

All specification topics have the same Assessment Objectives. This means any topic within Component 1 and Component 2 could be used to assess the learner's:

- knowledge and understanding of factors underpinning performance
- ability to apply their knowledge and understanding of factors underpinning performance
- ability to analyse and evaluate factors underpinning performance.

In this topic, learners will develop knowledge and understanding of the basic principles of health, fitness and well-being and their effect on performance in physical activity and sport through the following content.

Health, Fitness and Well-being

1.1, 1.2 Physical, emotional and social health, fitness and well-being, and the consequences of a sedentary lifestyle

Learners will be expected to **know and understand**:

- how increasing physical ability, through improving components of fitness can improve health or reduce health risks and how this is achieved
- how participation in physical activity can improve emotional health and how these benefits are achieved
- how participation in physical activity can improve social health and how these benefits are achieved
- the impact of fitness on well-being – overtraining having a negative effect on health, and positive effects
- the importance of a well designed and implemented Personal Exercise Programme (PEP) to bring about health gains.
- lifestyle choices – limited to diet; activity level; work/rest/sleep balance and recreational drug use
- positive and negative impacts of lifestyle choices
- the consequences of a sedentary lifestyle.

Note the change of terminology, to meet DfE subject criteria; emotional, rather than mental, health is considered. As learners progress through the course this topic should be revisited, for example, after learning about the long-term effects of training on the body systems, learners will be better equipped to explain/discuss the impact of fitness on well-being and the impact of lifestyle choices (i.e. to exercise regularly) on health.

Similarly section 1.1.5 makes reference to promoting personal health through a PEP. Once Component 4 is complete learners should be well equipped to deal with any written assessment on this topic. The recommendation is that this area of the specification is covered during PEP design, development, monitoring and evaluation, for learners to really understand the significance of each phase of the PEP.

Learners will be expected to **apply** their knowledge.

For example:

- explanation of benefits of participation for a given individual within the question context, e.g. the possible emotional benefits of participation for a 25 year old man returning to physical activity
- recommendation of appropriate adjustments to lifestyle choices for a given individual within the question context.

Learners will be expected to **analyse and evaluate.**

For example:

- the impact of lifestyle choices on performance.

Health, Fitness and Well-being

1.3 Energy use, diet, nutrition and hydration

Learners will be expected to **know and understand**:

- what constitutes a balanced diet – what should be in it, and how much of each nutrient there should be
- the role of macronutrients
- the process of carbohydrate loading
- when power athletes should intake protein
- the role of micronutrients
- the factors affecting optimum weight
- the variations in optimum weight due to roles in physical activity, e.g. sprinter versus long distance runner
- the correct energy balance for a healthy weight
- the importance of hydration
- how to maintain hydration levels during physical activity and sport.

Note the specification does not require learners to know examples of macronutrients or micronutrients although these may be covered during teaching to aid understanding. It is important, however, that where names of food are used learners are aware of the macronutrient or micronutrient they represent. For example, if referencing pasta, learners should know this is carbohydrate as this will be the language used in any assessment.

Learners should understand the term 'optimum' in relation to weight and how this will vary for sports performers. Although not covered in the specification it would be useful to consider the use of BMI as a measure, and its potential flaws, especially for sports performers.

Learners will be expected to **apply** their knowledge.

For example:

- why a sports performers 'balanced diet' may differ compared to someone who is less active
- how a sports performer may manipulate their diet to optimise their performance
- the additional relevance of macronutrients to sports performers.

Learners will be expected to **analyse and evaluate.**

For example:

- evaluate the need for a balanced diet
- analyse a meal plan and make recommendations for improvement (this would be a surface level, e.g. based on knowledge of ratio of nutrients within a balanced diet).

Health, Fitness and Well-being – activity ideas

What's in it for them? – activity 1

The following worksheet could have images to replace the text to make the worksheet more engaging for learners. (Images are not given here due to copyright.) Learners could consider each image or label and decide why they may participate in sport or physical activity.

Over 60 playing table tennis	
Ladies morning at the tennis club	
Under 21 National hockey squad	
Sunday football league player	

Activity 2

Matching cards could be used. Each learner or pair/small group receives one set of cards. The pack should contain three title cards: Physical, Emotional and Social. The remaining cards should have a benefit of participating in physical activity. Learners should place these cards with the correct title card. Once all cards are sorted they can explain why they placed the cards where they did.

Activity 3

Lifestyle choices – this topic could be introduced with a general discussion.

- How many learners have a parent or sibling that smokes?
- How much alcohol is drunk at home?
- Does anyone exercise?
- How do they get to school?
- Do they do any activity outside of school?
- If so, why?

This should allow the discussion to move to lifestyle being a choice.

Lifestyle questionnaires could be given to learners to complete, discussing their responses and lifestyle score once complete.

Activity 4

Learners could then be given the list of lifestyle choices from the specification and asked to research government recommendations, completing the table below regarding each of the choices. For example, no smoking or that some units of alcohol are seen as acceptable once over the legal drinking age. Once recommendations are known, learners could complete the second table to see how their choices measure up.

Table 1

Lifestyle choice	**Government Recommendations**
Diet	
Activity level	
Work/rest/sleep balance	Teenagers, 10 hours sleep U18 – 8 hours maximum work a day Leaves 6 hours for rest
Alcohol	
Nicotine	

Table 2

	Government Recommendations			
Lifestyle choice	those where you fall inside the government guidelines	those where you fall outside the government guidelines	If what is the positive impact of this choice?	If what is the negative impact of this choice?
Diet				
Activity level				
Work/rest/sleep balance				
Alcohol				
Nicotine				

Activity 5 - nutrition

(a) Ask learners to keep a record of their food intake in a typical day and complete Table 1.

Table 1

Food intake:			
07.00 – 11.00	**11.00 – 14.00**	**14.00 – 18.00**	**18.00 – 22.00**

(b) Using the packaging from the food, broadly categorise the food eaten to complete Table 2 using the reference intakes on the packaging of the food eaten as a guide (or research on the internet if no packaging).

(c) Using the data in Table 2 consider the following questions.

- How do you measure up to the NHS recommendations for a balanced diet?
- What other factors should be considered before evaluating your diet?
- Why might BMI be a misleading measure for sports performers?

Table 2

Food	Macronutrients			Micronutrients			
	Carbohydrates	Fats	Proteins	Vitamins	Minerals	Water	Fibre

Developing statements in written responses

To ensure learners acquire the ability to use their knowledge and understanding to develop any response to match the demands of the question, they should practice this skill. This skill can be developed in the classroom by giving a series of statements that need justifying. This idea can be applied to any theoretical topic in the specification. For example, learners could be given the following statements and asked to expand on them to develop the initial point being made.

- Smoking is a lifestyle choice and can have a negative impact on physical health….
- A sedentary lifestyle can have a negative impact on social health….
- Some long distance runners will carbo-load before an event….
- Due to the weight of muscle some sports performers will seem to weigh more than they should for their height….

Sample assessment questions

Assessment of knowledge:

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

(1)

A	Aerobics	[ ]
B	Cycling	[ ]
C	Rowing	[ ]
D	Swimming	[ ]

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

(1)

A	Not eating five portions of fruit and vegetables each day	[ ]
B	Sleeping eight hours every night	[ ]
C	Not exercising on a regular basis	[ ]
D	Playing football at work during lunch	[ ]

2 Complete the following statements about the benefits of regular participation in physical activity. **(2)**

Participation in physical activity can give social health benefits, for example

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An increase in self-esteem, however, is an example of a

---------- health benefit.

Assessment of ability to apply knowledge:

4 Regular participation in physical activity, such as aerobic exercise, could reduce the risk of obesity and osteoporosis.

Explain how **two** other risks to long-term health can be reduced through regular participation in aerobic exercise.

1

2

Assessment of ability to analyse and evaluate knowledge:

3 **Figures 2a and 2b** show childhood obesity trends for boys and girls from 1994 to 2014.

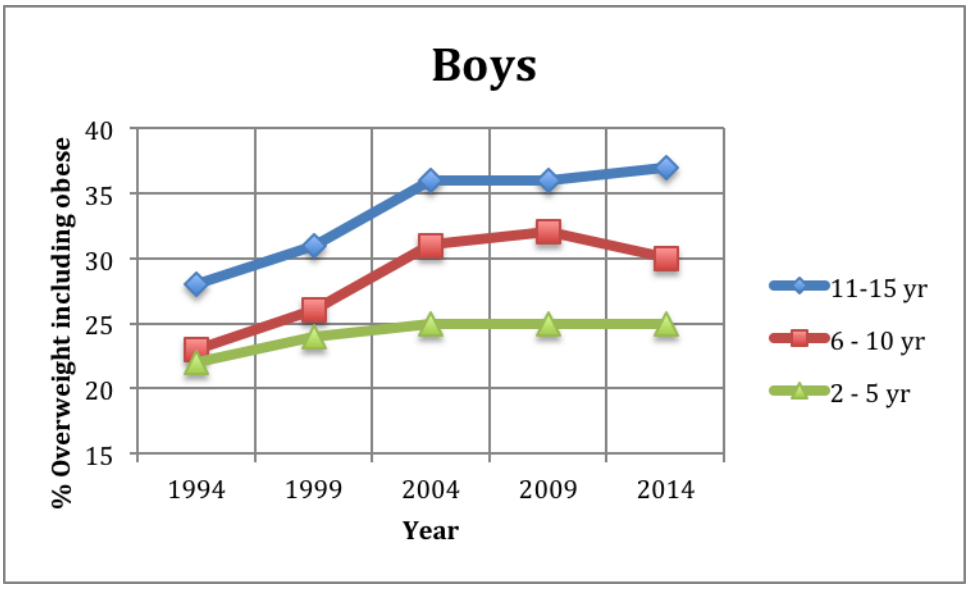

Figure 2a

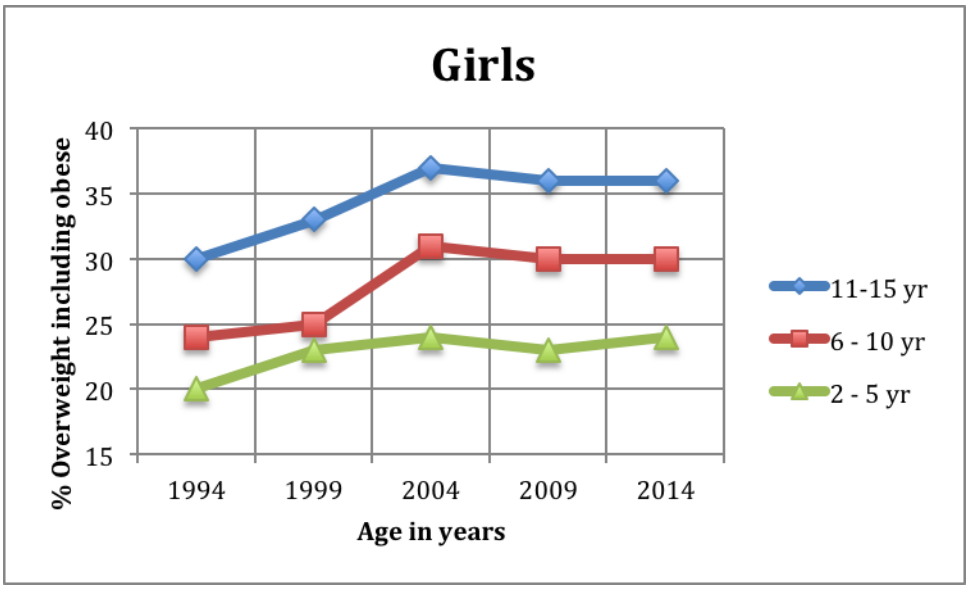

Figure 2b

(a) Analyse the data in **Figures 2a and 2b** to determine the changing patterns in obesity levels from 1994 to 2014 based on:

- age
- gender.

Age

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(2)

Gender

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(2)

(b) Using the data in **Figure 2a**, predict the **most** likely trend in obesity levels for 11–15 year-old boys in 2015.

(1)

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12 Evaluate the need for an endurance athlete to maintain a balanced diet.

(6)

Extended answer responses

In the new specification there will be two extended answer questions at the end of each paper. These questions will be marked out of 9 marks. The increase in the available number of marks should allow a better differentiation between learners, and give more opportunity to reward learners for the skills they demonstrate.

Each extended answer question will be used to assess the learner's ability to:

- demonstrate knowledge and understanding (AO1)
- apply their knowledge and understanding (AO2)
- analyse and evaluate relevant knowledge and understanding (AO3).

Each of these Assessment Objectives will be credited with a maximum of three of the nine available marks. This means that a learner who is very knowledgeable about a topic but unable to apply their knowledge could still gain 3 marks for their knowledge. If they were able to apply this knowledge the number of marks gained could increase to 6 marks. If they are able to form a judgement based on the knowledge presented they will be able to access the final 3 marks for these questions.

In this sample question, learners are asked to evaluate the need for an endurance athlete to maintain a balanced diet.

A learner that knows about the requirements of a balanced diet and responds by describing the components that make a balanced diet and/or describing the ratio required of nutrients could gain 3 marks (AO1).

Compare this to the learner who is able to link a balanced diet to the question context, i.e. an endurance athlete; for example, the learner could consider how the role of specific nutrients will link to performance. An example being: carbohydrates or fats could be used to provide energy to maintain performance over a long period of time so the athlete does not fatigue and have to reduce the intensity that they are working at (AO2). This learner could score up to 6 marks.

Finally, a learner that is able to analyse and evaluate would gain access to the last set of 3 marks. For example, while fats and carbohydrates are both used to provide energy, too much fat would increase weight, making it harder for the runner to compete due to the excess weight; therefore, they would be better to eat more carbohydrates. However, the body can only store a limited supply of carbohydrates therefore the performer might need to carbohydrate load to ensure the correct balance, which would mean eating carbohydrates in excess of the normal 'balanced diet' ratio (AO3). Further example statements that could gain credit are shown in the mark scheme on page 74 of the Sample Assessment Materials (SAMs).

Resources

Lifestyle choices

http://www.nhs.uk/choiceintheNHS/Lifechoices/Pages/Lifechoiceshome.aspx

Leaflets from Doctors surgeries

BTEC First Sport
Pearson Education Limited
2013
Unit 9 – Lifestyle and Well-being

Nutrition

http://www.nhs.uk/Livewell/Goodfood/Pages/Healthyeating.aspx

http://www.nhs.uk/Livewell/Goodfood/Pages/reference-intakes-RI-guideline-daily-amounts-GDA.aspx

Hydration

http://www.nutrition.org.uk/healthyliving/hydration/healthy-hydration-guide.html

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