

Pearson BTEC Level 3 Nationals Extended Diploma

Monday 11 January 2021

Paper Reference **31824H**

Sport and Exercise Science

**Unit 13: Nutrition for Sport and Exercise Performance
Nutritional Principles Information Booklet**

Insert

You do not need any other materials.

Instructions

- You will need the information in this booklet to answer Activities 1 and 2.
- Read the information carefully.
- You must **not** write your answers in this booklet.
- Only your answers given in the task and answer booklet will be marked.

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Nutritional principles information sheet

Nutritional programme

The table below places some of the foods from the nutritional programme into specific food groups.

| Food | Food group |
|-----------------|--|
| Bacon | Protein – a type of processed meat |
| Cheese | Dairy – made from milk |
| Crisps | Fats and sweets – fried thinly sliced potato |
| Ham | Protein – a type of processed meat |
| Omelette | Protein – made with eggs |
| Pepperoni pizza | Bread – dough base Dairy – cheese topping Protein – processed meat (pepperoni) |
| Sausage | Protein – a type of processed meat |
| Steak | Protein – a type of meat |
| Tuna | Protein – a type of fish |

Energy content of macronutrients

1 g protein provides **4 kcal**

1 g carbohydrate provides **4 kcal**

1 g of fat provides **9 kcal**

Harris Benedict equation to calculate basal metabolic rate (BMR)

Males = $66.5 + (13.75 \times \text{weight in kg}) + (5.003 \times \text{height in cm}) - (6.755 \times \text{age in years})$

Females = $655.1 + (9.563 \times \text{weight in kg}) + (1.85 \times \text{height in cm}) - (4.676 \times \text{age in years})$

Activity levels

Sedentary: $\text{BMR} \times 1.2$

Lightly active: $\text{BMR} \times 1.375$

Moderately active: $\text{BMR} \times 1.55$

Very active: $\text{BMR} \times 1.725$

Extra active: $\text{BMR} \times 1.9$

Body mass index equation

Body mass index (BMI) = $\frac{\text{Weight in kg}}{\text{Height in m} \times \text{Height in m}}$



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Please check the examination details below before entering your candidate information

Candidate surname

Other names

Pearson BTEC
Level 3 Nationals
Extended
Diploma

Centre Number

Learner Registration Number

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Monday 11 January 2021

Morning (Time: 3 hours)

Paper Reference **31824H**

Sport and Exercise Science
Unit 13: Nutrition for Sport and Exercise
Performance

Part S

You must have:

A calculator
Nutritional principles information booklet (enclosed)

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and learner registration number.
- Answer **all** activities.
- Answer the activities in the spaces provided
– *there may be more space than you need.*
- This booklet contains material for the completion of the set task under supervised conditions.
- This booklet is specific to each series and this material must only be issued to learners who have been entered to undertake the task in the relevant series.
- This booklet must be kept securely until the start of the 3-hour supervised assessment session.

Information

- The total mark for this paper is 50.
- A nutritional principles information booklet is supplied.
- The marks for **each** activity are shown in brackets
– *use this as a guide as to how much time to spend on each activity.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every activity.
- Check your answers if you have time at the end.

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Instructions to Teachers/Tutors

The set task should be completed during the three-hour session as timetabled by Pearson.

The set task must be carried out under supervised conditions.

Learners must complete this set task in the task and answer booklet.

Teachers/tutors should note that they are responsible for maintaining security and for reporting issues to Pearson. In particular:

- only permitted materials for the set task can be brought into the supervised environment
- during any permitted break and at the end of the session, materials must be kept securely, and no items removed from the supervised environment.

Maintaining security

- During supervised assessment sessions, the assessment areas must only be accessible to the individual learners and to named members of staff.
- Learners can only access their work under supervision.
- Any work learners produce under supervision must be kept securely.
- Learners are not permitted to have access to the internet or other resources during the supervised assessment period.

After the session, the teacher/tutor will confirm that all learner work was completed independently as part of the authentication sheet submitted to Pearson.

This paper must be read in conjunction with the unit information in the specification and the *BTEC Nationals Instructions for Conducting External Assessments (ICEA)* document.

See the Pearson website for details.

Outcomes for submission

Each learner must submit:

- a completed task and answer booklet.

Learners must complete a declaration that the work they submit is their own.

DO NOT WRITE IN THIS AREA



Guidance for Learners

Read the set task information carefully.

In this booklet you will be asked to carry out specific activities using the information given.

The supervised assessment task must be taken in a single session of three hours. You may be provided with a supervised break during the assessment in addition to the specified hours.

You must plan your time and work independently throughout the three-hour supervised assessment period.

You will complete the activities within the set task under supervision and your work will be kept securely during any breaks taken.

You must work independently and must not share your work with other learners.

Your teacher/tutor may clarify the wording that appears in this task but cannot provide any guidance on completion of the task.

Outcomes for submission

You must submit:

- a completed task and answer booklet.

You must complete a declaration that the work you submit is your own.



Set Task Information

You should read the case study carefully looking at the client's personal information, their current typical nutritional programme and how these relate to each other.

You will need to spend at least **30 minutes** on this before you start the activities in the set task.

The nutritional principles information booklet gives extra information on nutritional values that will help you with Activities 1 and 2. You should study this information carefully.

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Client Information

Personal details

Ellie takes part in long-distance open water swimming events. She usually takes 90 minutes to complete an event. The events are in cold water.

Her nutritional programme represents what she typically consumes during a seven-day period.

| | |
|------------------------|-------------------|
| Age | 18 years old |
| Gender | Female |
| Height | 1 m 70 cm |
| Weight | 58 kg |
| BIA result | 18% |
| Activity levels | Moderately active |

Performance details

Sports event

Ellie is taking part in a long-distance open water swimming event. This event usually takes at least 90 minutes to complete and is in cold water.

Her nutritional programme indicates what she eats and drinks, and the activities she completes each day.

Phase of event

Ellie is in the 'pre-event' phase. The 'pre-event' phase is in the time frame on the day before the start of the race.





| Current typical nutrition programme | | | | | | | | | |
|-------------------------------------|---|---|--|---|---------------------------|------------|--|-----------------------------------|--|
| Day | Breakfast 8 am | Lunch 12.30 pm | Dinner 8 pm | Fluids throughout the day | Snacks throughout the day | Calories | Macronutrients | Activity levels and timings | |
| Monday | White bread toasted with butter | Cheese sandwich on white bread Crisps 1 chocolate biscuit | Fried steak and small portion of chips | 2 litres of water 1 glass of orange juice 2 cans of diet cola | 1 orange | 1406 kcals | Carbohydrates 120g Fat 70g Protein 74g | 6 am 60-minute pool swim | |
| Tuesday | None | Ham sandwich on white bread Crisps | Fried chicken and small portion of chips | 2 litres of water 1 glass of orange juice 2 cans of diet cola | None | 1428 kcals | Carbohydrates 125g Fat 72g Protein 70g | | |
| Wednesday | 1 fried egg White bread toasted with butter | Tuna sandwich on white bread 1 chocolate biscuit | Fried fish and small portion of chips | 2 litres of water 1 glass of orange juice 2 cans of diet cola | None | 1566 kcals | Carbohydrates 150g Fat 74g Protein 75g | 6 am 60-minute open water swim | |
| Thursday | 1 boiled egg White bread toasted with butter | Ham sandwich on white bread Crisps | Fried sausage and small portion of chips | 2 litres of water 1 glass of orange juice 2 cans of diet cola | 1 apple | 1610 kcals | Carbohydrates 165g Fat 70g Protein 80g | | |

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| Day | Breakfast 8 am | Lunch 12.30 pm | Dinner 8 pm | Fluids throughout the day | Snacks throughout the day | Calories | Macronutrients | Activity levels and timings |
|----------|---------------------------------|---|--|---|---------------------------|------------|--|--------------------------------------|
| Friday | None | Tuna sandwich on white bread 1 chocolate biscuit | 2 small slices of pepperoni pizza | 2 litres of water 1 glass of orange juice 2 cans of diet cola | None | 1356 kcals | Carbohydrates 110g Fat 68g Protein 76g | 6 am 60-minute pool swim |
| Saturday | White bread toasted with butter | Cheese sandwich on white bread | Roast chicken Roast potatoes Peas Carrots | 2 litres of water 1 glass of orange juice 2 cans of diet cola | None | 1409 kcals | Carbohydrates 115g Fat 69g Protein 82g | 4 pm 90-minute open water swim |
| Sunday | None | 2 egg omelette with bacon | Fried chicken and small portion of chips | 2 litres of water 1 glass of orange juice 2 cans of diet cola | None | 1439 kcals | Carbohydrates 125g Fat 71g Protein 75g | 3 pm 60-minute stretching session |



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Set Task

You must read the information carefully.

Complete all your work in the task and answer booklet in the space provided.

Activity 1

Interpret Ellie's current nutritional programme in relation to nutritional intake for health and wellbeing.

Use the nutritional principles information booklet to support your answer.

(Total for Activity 1 = 20 marks)

Activity 2

Modify the nutritional programme based on nutritional strategies, in relation to Ellie's sports event.

Use the nutritional principles information booklet to support your answer.

(Total for Activity 2 = 20 marks)

Activity 3

Recommend nutritional guidance for Ellie based on her phase of event.

The phase of event is 'pre-event' – this covers the time frame on the day before the start of the race.

(Total for Activity 3 = 10 marks)



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(Total for Activity 1 = 20 marks)



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Handwriting practice area with 20 horizontal dotted lines.

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

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(Total for Activity 2 = 20 marks)



DO NOT WRITE IN THIS AREA

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(Total for Activity 3 = 10 marks)

TOTAL FOR TASK = 50 MARKS





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