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Revision

From junk food to Jamaica: the dietary needs of an elite netballer (p. 11)

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The following nutrition activities can be used alongside the article on p. 11 of this issue to help with your revision or as a classroom activity.

Nutrients

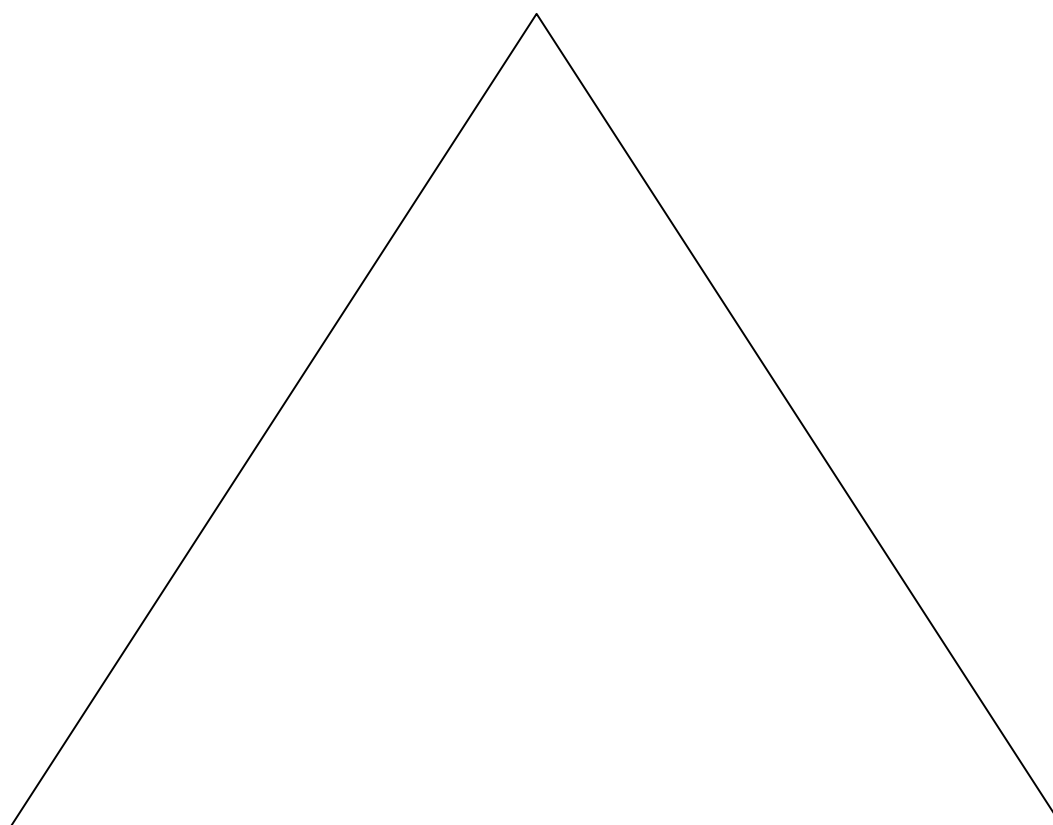
(1) Complete the table below giving the exercise-related role and food sources of each of the nutrients listed.

Nutrient	Exercise-related role	Food sources
Carbohydrate		
Fat		
Protein		
Vitamins		
Minerals		
Water		
Dietary fibre		

Your diet

(1) Using the information in the table below to help you, record the food that you consume in 1 day and construct your own personal nutrition pyramid. Don't forget to put the food group you consume the most of at the bottom of the pyramid and the food group you consume the least of at the top.

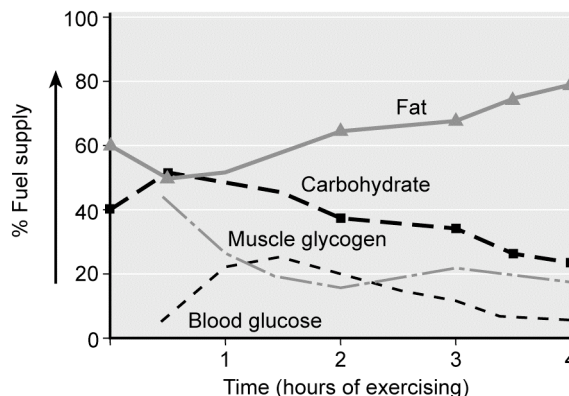
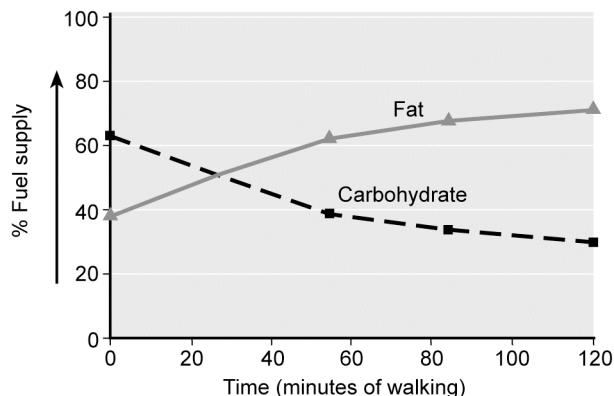
What is a portion?						
Food group	Fruit	Vegetables	Carbohydrate-rich foods	Calcium-rich foods	Protein-rich foods	Healthy fats
Portion size	One or more pieces about the size of a tennis ball	A large handful — typically about 80g	The size of the palm of your hand or clenched fist	Cup of milk or four slices of cheese	The size of the palm of your hand or clenched fist 2 eggs	2 tsp of olive oil ½ avocado 2 tbsp of nuts or seeds



Nutrition pyramid

(2) What can you change to improve your diet?

The diet of a marathon runner



(1) Using the two graphs above, explain the use of food fuels during a marathon.

(2) To ensure a marathon runner maximises their stores of muscle glycogen they will often undertake a period of glycogen loading. Complete the table below suggesting how this can be done during the week prior to a marathon.

Day 1	
Day 2	
Day 3	
Day 4	
Day 5	
Day 6	
Day 7	
Day 8	Competition

(3) In what ways should the diet of a marathon runner be different to that of a power athlete? Give reasons for your answer.

Energy balance

(1) Match up the following features of the energy balance equation:

Negative energy balance	energy input = energy expenditure
Neutral energy balance	energy input > energy expenditure
Positive energy balance	energy input < energy expenditure

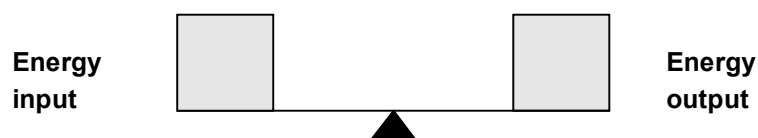
(2) Identify three factors that can influence energy expenditure.

(3) Calculate your energy input in 24 hours in kcals. You can estimate this by recording the quantity and energy provided by all of the food and drink consumed over a 24-hour period (your answers on page 2 will help). You can also visit the following website to help you: <http://caloriecount.about.com>

(4) Now estimate your energy expenditure during 1 day using the table below.

Activity	Energy expenditure (kcal/min)	Duration	Total
Sitting at rest	1.5		
Walking	5.4		
Jogging or swimming (moderate intensity)	10.5		
Rugby	11.1		
Squash	12.4		
Sleep	1.1		

(5) Record your total energy input and expenditure (output) on the scales below.



A balanced diet for a games player

A balanced diet for most games players is approximately 60% carbohydrate, 20% fat and 15% protein.

(1) Fill in the following diet sheet for a games player for 1 day listing all of the food and liquid that will be consumed.

Meal	Food	Liquid
Breakfast		
Lunch		
Dinner		
Supper		
Snacks		

Body composition

(1) The body mass index (BMI) is a simple method of assessing your body composition. Use the formula below to calculate your BMI.

$$\text{BMI} = \frac{\text{Weight in kg}}{\text{Height in m}^2}$$

$$\text{e.g. if you weigh 60kg and are 1.65m tall} = \frac{60}{1.65 \times 1.65} = \frac{60}{2.72}$$

(2) Given the following ratings:

- below 20 is underweight
- 20–25 is healthy
- 26–30 is overweight
- 30+ is obese

use your BMI from question (1) to give yourself a rating.

(3) What are the issues surrounding the use of BMI as a measure of body composition?

(4) Give two other methods of assessing body composition.