

Health and Disease 2

Q:1 Our diet affects our health.

(a) List A gives the names of three different conditions.

List B gives information about the effect of these conditions on the body.

Draw a line from each condition in List A to the correct effect on the body in List B.

List A Condition	List B Effect on body
Diabetes	High blood pressure
High level of salt in food	Arthritis
Lack of food	Irregular periods
	High blood sugar

(3 marks)

(b) A doctor advises an obese woman to lose weight.

Give two different things the obese woman could do to lose weight.

1 _____

2 _____

(2 marks)

Body mass index (BMI) is a measure of a person's obesity category.

(c) A person's BMI is calculated using the formula

$$\text{BMI} = \frac{\text{body mass}}{\text{height} \times \text{height}}$$

(c) (i) A woman has a body mass of 90 kg and a height of 1.8 m. Calculate her height height.

height = _____ m²

Use your answer to calculate her BMI.

BMI = _____

(3 marks)

(c) (ii) The table shows the relationship between a person's BMI and the obesity category.

BMI	Obesity category
less than 18.5	underweight
18.5 – 24.9	normal
25.0 – 29.9	overweight
30.0 and over	obese

Use your answer from part (c)(i) to give the obesity category of the woman.

Obesity category

(1 mark)

Q:2 In the 1800s, many women died from disease after giving birth.

Dr Semmelweis compared the death rates of women in two hospital wards, Ward A and Ward B.

Table 1 shows some of the results.

Table 1

Year	Percentage (%) of women who died	
	Ward A	Ward B
1834	7.7	7.4
1836	7.5	7.8
1844	8.4	2.1
1846	11.3	2.8

Before 1840

Doctors and nurses worked in Ward A and in Ward B.

The doctors often worked in other wards with patients who had diseases.

The doctors did not wash their hands.

After 1840

Doctors only worked in Ward A and not in Ward B.

Only nurses worked in Ward B.

The nurses did not work in other wards with patients who had diseases.

(a) (i) Look at the data for Ward A and Ward B after 1840.

Describe the effect on death rate of having only nurses working in Ward B and not doctors.

To gain full marks you must refer to the data in Table 1.

(2 marks)

(a) (ii) Suggest an explanation for the difference you described in part (a)(i).

(2 marks)

(b) In 1847, Dr Semmelweis told the doctors to wash their hands each time before they began to work in Ward A.

Table 2 shows the death rates in the two wards, after 1847.

Table 2

Year	Percentage (%) of women who died	
	Ward A	Ward B
1848	2.7	2.8
1849	2.0	1.9

Dr Semmelweis was right to tell the doctors to wash their hands.

What evidence is there to support Dr Semmelweis telling the doctors to wash their hands?

Use information from Table 1 and Table 2 in your answer.

(3 marks)

(c) In modern hospitals less than 0.1% of women die from disease after giving birth.

Medical understanding has improved since the 1850s to reduce the death rate.

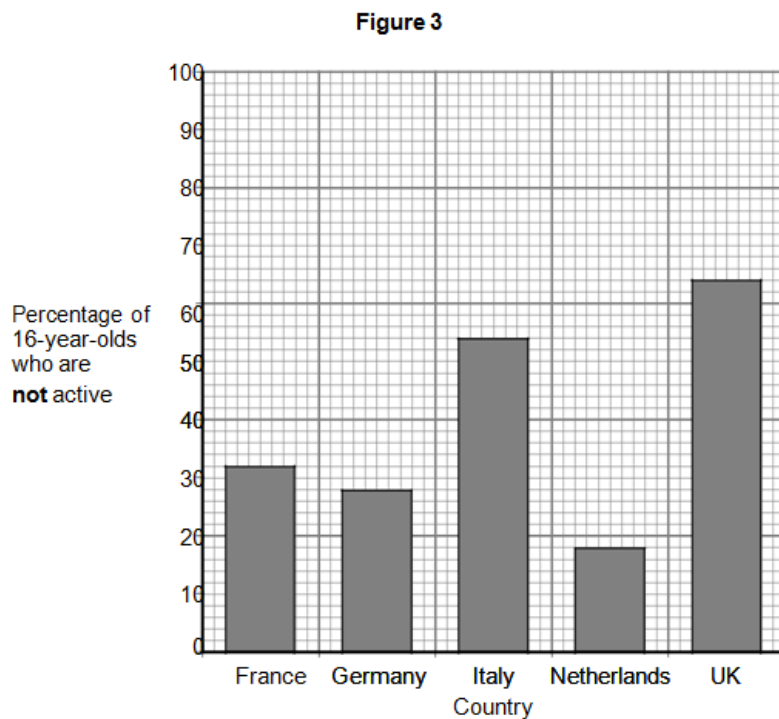
Other than improvements in hygiene, give two reasons for the low death rate from infectious diseases in modern hospitals.

(2 marks)

Q:3 Scientists investigated the effect of different factors on health.

(a) People who are not active may have health problems.

Figure 3 shows the percentage of 16-year-olds in some countries who are not active.



(a) (i) What percentage of 16-year-olds in the UK are not active?

_____ %

[1 mark]

(a) (ii) What percentage of 16-year-olds in the UK are active?

_____ %

[1 mark]

(a) (iii) A newspaper headline states:

People in the UK are the laziest in the world.

Information in Figure 3 does not support the newspaper headline.

Suggest one reason why the newspaper headline may be wrong.

[1 mark]

(b) Doctors gave a percentage rating to the health of 16-year-olds.

100% is perfect health.

Table 2 shows the amount of exercise 16-year-olds do and their health rating.

Amount of exercise done in minutes every week	Health rating as %
Less than 30	72
90	76
180	82
300	92

What conclusion can be made about the effect of exercise on health?

Use information from Table 2.

[1 mark]

(c) Inherited factors can also affect health.

Give one health problem that may be affected by the genes someone inherits.

Draw a ring around the correct answer.

being having a high having a
malnourished cholesterol level deficiency disease

[1 mark]

(d) White blood cells are part of the immune system.

Use the correct answer from the box to complete each sentence.

antibiotics	antibodies	pathogens	vaccines
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(d) (i) When we are ill, white blood cells produce _____ to kill
microorganisms.

[1 mark]

(d) (ii) Many strains of bacteria, including MRSA, have developed resistance to drugs called

[1 mark]

TOTAL MARKS=25