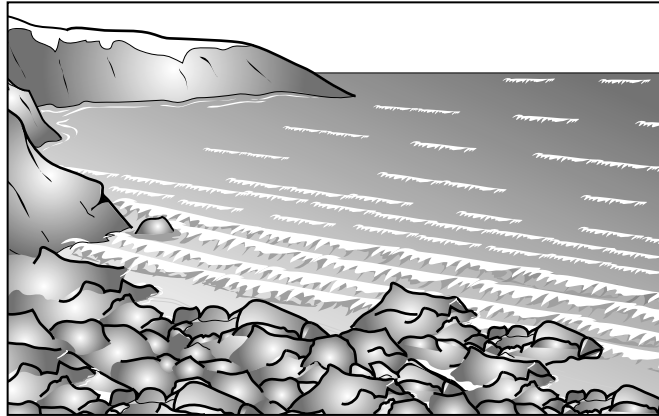


Answer **all** the questions.

1 Students are planning a scientific investigation on a rocky seashore.



Before they start, they have been told to produce a risk assessment for their activity.

Which **two** of the following hazards are the most likely on a rocky seashore?

Put ticks (✓) in the boxes next to the **two** correct answers.

- cut off by the tide
- electrocution
- poisonous plants
- slipping over
- snake bites

[2]

- 2 Farmers may earn more money from their land by using it for alternative methods of producing electricity. One way of doing this is by growing willow trees. The branches are harvested and burnt to produce heat to drive turbines.

This method could be described as being:

- A fuel crop
- B ground source heating
- C solar power
- D wind power

Answer **A, B, C** or **D** [1]

- 3 A **loam** soil contains similar proportions of three main components.

What are these **three** main components?

- 1
- 2
- 3

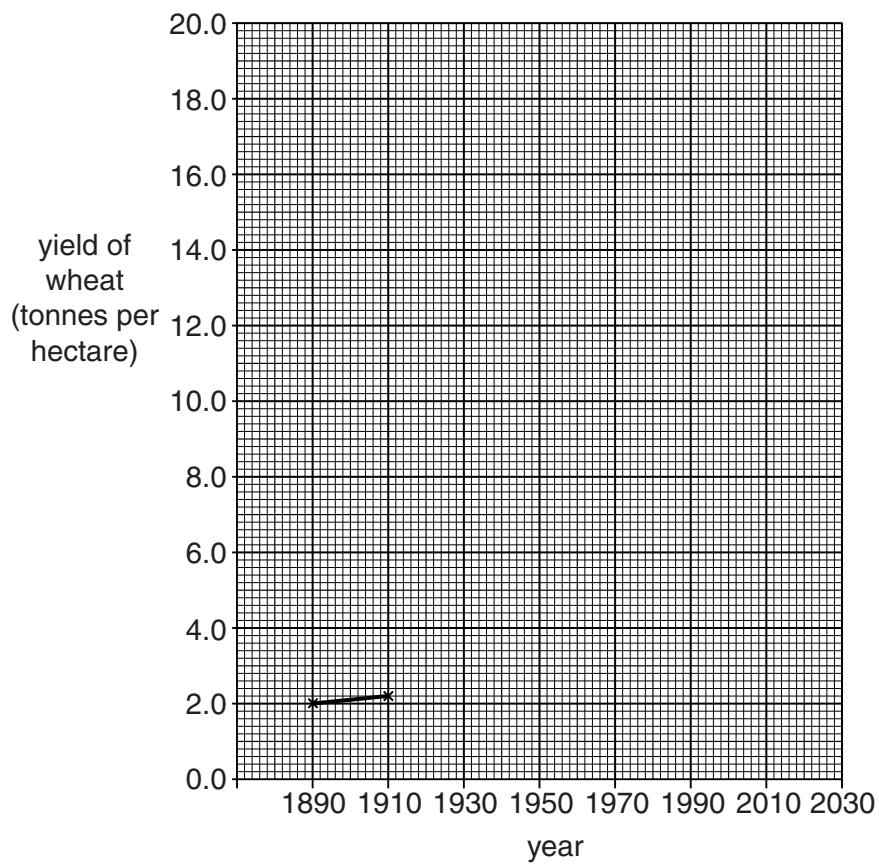
[3]

4 The table shows the mean (average) yield of wheat in the UK.

Year	Yield of wheat (tonnes per hectare)
1890	2.0
1910	2.2
1930	2.4
1950	2.8
1970	3.9
1990	6.0
2010	8.7

(a) (i) Plot this data onto the graph below.

The first two points have been done for you.



[3]

(ii) Use the graph to predict the yield of wheat for 2030.

predicted yield in 2030 = tonnes per hectare [1]

(iii) Suggest **three** reasons for the large increase in wheat yield in the UK.

Reason 1

.....

Reason 2

.....

Reason 3

.....

[3]

(b) In 2010, experts stated that the mean yield of wheat across the world was only 33.3% of that of the UK.

Calculate the mean yield of wheat across the world in 2010.

mean yield = tonnes per hectare [1]

(c) The mean yield of wheat per hectare across the world is significantly less than that of the UK. Suggest **two** reasons why.

Reason 1

.....

Reason 2

.....

[2]

7 Commercial production of animals and plants may be **extensive** or **intensive**.

Complete the table below with an example of each method of production.

The first one has been done for you.

	Example of EXTENSIVE method of production	Example of INTENSIVE method of production
Trees	harvesting ancient woodlands	conifer plantations
Poultry		
Fish		
Farm animals		
Plant crops		

[4]

9 Farmers and growers provide nutrients to their crops.

They may compost organic matter to supply nitrates.

The process that releases these nutrients for the plants is called:

- A addition
- B decay
- C fixation
- D nitrification

Answer **A, B, C** or **D** [1]

10 A school keeps records of temperature, sunlight and rainfall from a weather station.

This data is recorded and stored so it may be used for future reference.

The school farm is planning to cultivate some land and sow a crop in spring.

Suggest **two** ways the weather data may be useful to the school farm.

1

.....

2

.....

[2]

12 Which one of the following is **not** involved in soil formation?

- A conduction
- B deposition
- C erosion
- D weathering

Answer **A, B, C** or **D** [1]

13 Large machines used on farms can damage the soil.

Suggest **three** ways large machines can damage the soil.

- 1
- 2
- 3

[3]

14 A market garden has been left unattended for many months.

It has become overgrown with weeds.

Which of the following is the **best** reason for removing these weeds before a crop is grown?

- A Weeds will encourage biodiversity.
- B Weeds may be used as an alternative fuel crop.
- C Weeds will reduce the amount of light for the crop.
- D Weeds will stop crops from being picked.

Answer **A, B, C** or **D** [1]

15 Some students sample the pH of the soil at different places in a wood.

Their results are shown below.

Student	A	B	C	D	E	F	G	H
pH of sample	7.2	7.1	7.2	6.9	7.0	6.5	7.0	7.1

(a) What is the mean (average) soil pH in this wood?

..... [1]

(b) All of the students have used the same technique.

Suggest a possible reason why student F's result is so different.

.....
 [1]

END OF QUESTION PAPER

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