



Rewarding Learning

General Certificate of Secondary Education
2025

Centre Number

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Candidate Number

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Double Award Science: Biology

Unit 7 Practical Skills
Booklet B
Foundation Tier



[GDW72]

GDW72

MONDAY 9 JUNE, MORNING

TIME

30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

You must answer the questions in the spaces provided.

Do not write outside the boxed area on each page or on blank pages.

Complete questions in black ink and use a dark HB pencil for drawings and graphs.

Do not write with a gel pen.

Answer **all three** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 35.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

You may use a scientific calculator.

Quality of written communication will be assessed in Question **3(b)**.

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16GDW7201

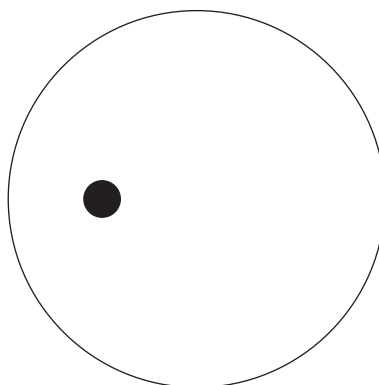
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1 (a) The diagram shows an animal cell.



The scale drawn below the cell is given in mm.

(i) Use the scale to measure the diameter of the **cell**.

_____ mm [1]

(ii) Use the scale to measure the diameter of the **nucleus**.

_____ mm [1]

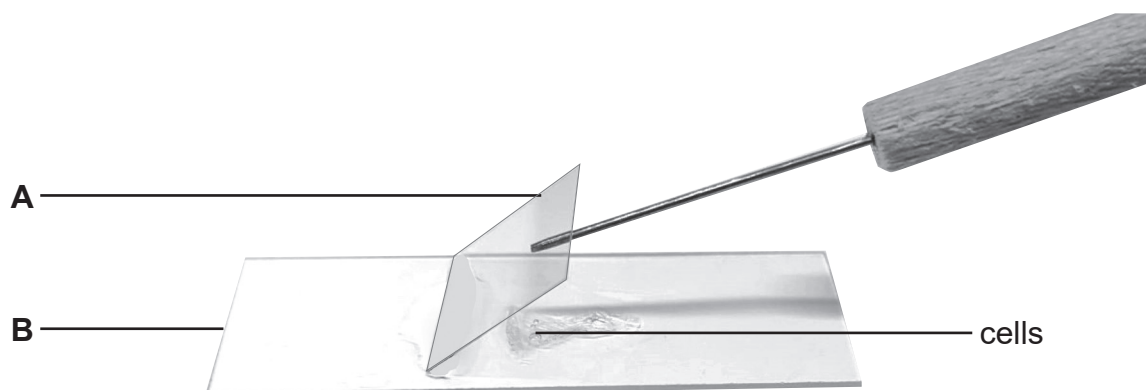
(iii) Give the **simplest** ratio of the diameter of the cell to the diameter of the nucleus.

_____ to _____ [1]



(b) Microscopes are used to view cells.

The photograph shows cells being prepared for viewing under a microscope.



(i) Name **A** and **B**.

A _____

B _____

[2]

Stains are used when preparing cells for viewing under a microscope.

(ii) In the list below, circle the stain used for viewing cells under a microscope.

ethanol

iodine

sodium hydroxide

[1]

(iii) Stains are used to colour cells. What is the reason for colouring cells?

[1]



(c) There are two types of lenses on a microscope.

One type of lens is the objective lens.

(i) Name the other type of lens.

_____ [1]

(ii) Cells were viewed using a microscope.

The **total** magnification was **×100**.

The objective lens had a magnification of **×10**.

Calculate the magnification of the other type of lens.

Show your working out.

_____ [2]

[Turn over]



2 (a) Food tests can be used to identify different substances present in food samples.

(i) Name the reagent used to test for fat.

[1]

(ii) Name the reagent used to test for reducing sugar.

[1]

(iii) Complete the sentence below.

The reagent used to test for reducing sugar requires

_____ to change colour.

[1]



The table gives the results of food tests carried out on three food samples, **A**, **B** and **C**.

Food sample	Initial colour of reagent	End colour of reagent
A	yellow-brown	blue-black
B	yellow-brown	yellow-brown
C	yellow-brown	yellow-brown

A	blue	blue
B	blue	blue
C	blue	lilac / purple

A	blue	blue
B	blue	brick red precipitate
C	blue	blue

A	colourless	colourless
B	colourless	white emulsion
C	colourless	colourless

(b) Use the results to complete the table below.

Use a tick (✓) to show which substance(s) are present in the food samples **A**, **B** and **C**.

Food sample	Substance(s) present			
	fat	reducing sugar	protein	starch
A				
B				
C				

[4]

[Turn over



- 3 (a) A group of students investigated the number of different plant species present at five locations from the edge of a woodland to a grassy area.

They also measured various factors at each location.

The five locations, **A**, **B**, **C**, **D** and **E**, are shown in the diagram.



The students measured the temperature, soil water content and soil pH at each location.

- (i) What type of factors are temperature, soil water content and soil pH?

_____ [1]

- (ii) Give **one other** factor that the students could have measured.

_____ [1]

- (iii) What would the students have used to measure temperature?

_____ [1]



- (b)** Describe the method the students would have used to carry out the investigation to find the **number of different plant species** present at five locations, from the edge of the woodland to the grassy area.

In this question you will be assessed on the quality of your written communication skills, including the use of specialist scientific terms.

[illegible]

[Turn over

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(c) The table shows some of the students' results.

(i) Complete the last two columns of the table for location **B** by writing in the empty boxes.

Location	Names of plant species present	Tally of different plant species present	Number of different plant species present
A	grass plantain clover moss dandelion buttercup bluebell		7
B	grass plantain clover moss dandelion daisy		
C	grass plantain clover moss daisy		5
D	grass plantain clover daisy		4
E	grass plantain daisy		3

[2]



Use the table to answer the following questions.

- (ii) Name the plant species found at locations **A**, **B**, **C** and **D**, but not at location **E**.

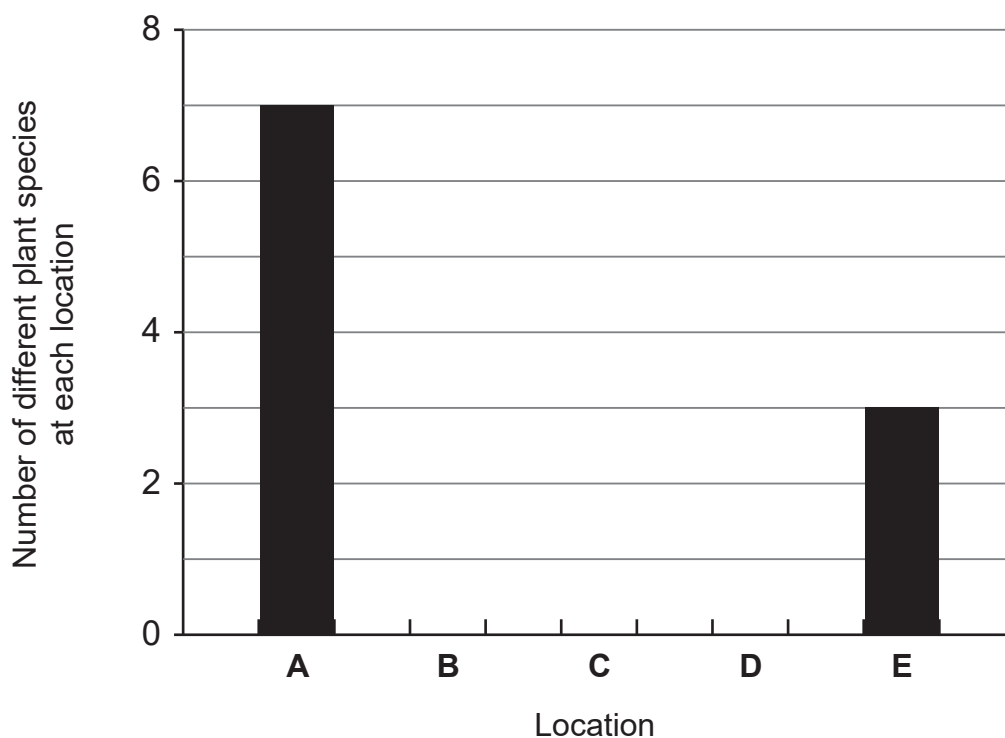
[1]

Bluebell is one plant species found **only** at the edge of the woodland.

- (iii) Name the **other** plant species that is found only at the edge of the woodland.

[1]

- (d) The students drew a bar chart of the number of different plant species at locations **A** and **E**.



- (i) Draw the bars for the number of different plant species at locations **B**, **C** and **D**.

Shade the bars you have drawn.

[2]

[Turn over]



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- (ii) Describe the trend for the number of different plant species from location **A** to location **E**.

[1]

The table shows the results of the factors that the students measured.

Location	Soil pH	Soil water content	Temperature /°C
A	6.6	moist	13
B	6.7	dry	14
C	6.6	dry	15
D	6.6	very dry	17
E	6.6	very dry	17

- (e) Use all the information given to identify the **two** conditions that result in the **least** number of different plant species.

Circle the **two** conditions in the list below.

moist	15 °C	17 °C
pH 6.7	13 °C	very dry

[2]



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SOURCES

Question 1(b): Chair of Examiners
Question 3(a): Adapted from Thinkstock

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Question Number	Marks
1	
2	
3	

Total Marks	
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Examiner Number

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