1 Which process releases water and energy?

A aerobic respiration

B osmosis

C photosynthesis

D protein synthesis

[1]

[Total: 1]

2 The plant *Mimosa pudica* has leaves that fold in when touched.

This demonstrates movement and which other characteristic?

A excretion

B growth

C nutrition

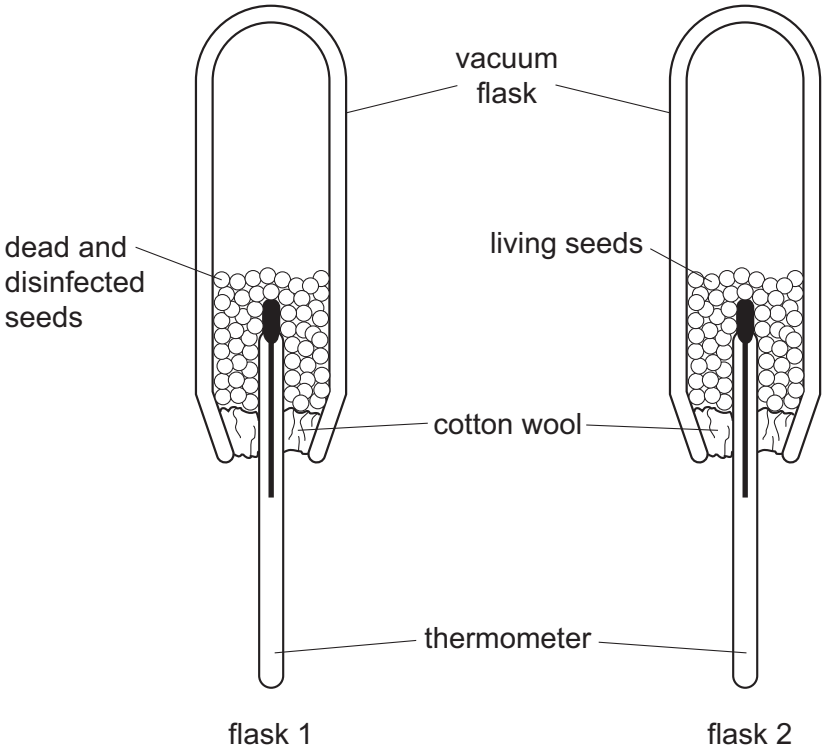
D sensitivity

[1]

[Total: 1]

3 The diagram shows the apparatus at the beginning of an investigation into temperature change during the germination of seeds. The temperature at the start of the investigation was 25 °C in both flasks.

After two days the temperature in flask 1 is 25 °C. The temperature in flask 2 is 28 °C.



Which characteristic of living organisms is shown in this experiment?

A excretion

B growth

C reproduction

D respiration

[1]

[Total: 1]

4 All living organisms show the same seven characteristics.

State **four** of the characteristics of living organisms.

1 .....

2 .....

3 .....

4 ..... [4]

[Total: 4]

5 Reproduction is a characteristic of all living organisms.

State **two** other characteristics of all living organisms.

1 .....

2 ..... [2]

[Total: 2]

6 Excretion is a characteristic of living organisms.

Growth is another characteristic of living organisms.

Define the term *growth*.

.....

.....

..... [2]

[Total: 2]

7 State **three** characteristics of living organisms other than excretion and growth.

1 .....

2 .....

3 ..... [3]

[Total: 3]

8 One stage in the development of a flowering plant is the germination of seeds.

Define the term *development*.

.....

.....

..... [1]

[Total: 1]

9 The kidney is one of the main excretory organs of the body.

Define the term *excretion*.

.....

.....

.....

.....

..... [3]

[Total: 3]

10 Which components make up most of the dry mass of a balanced diet?

A calcium compounds, carbohydrates and fats

B carbohydrates, fats and proteins

C fats, proteins and vitamins

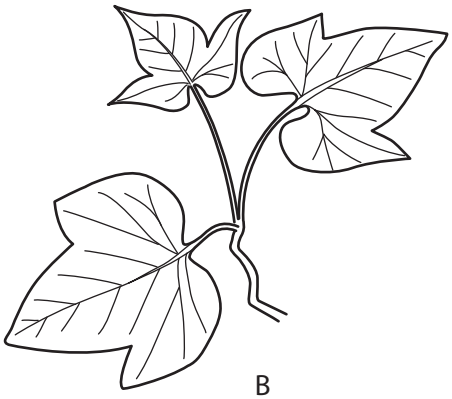
D proteins, vitamins and calcium compounds

[1]

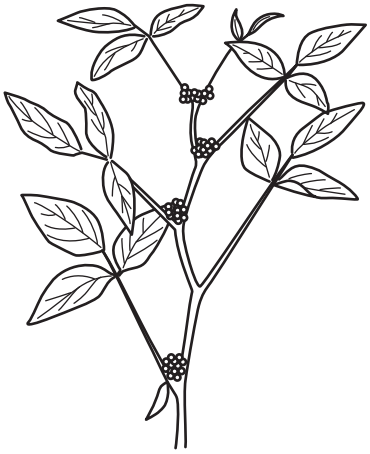
[Total: 1]

11 The diagram below shows seven plant species that are important crops.

A



B

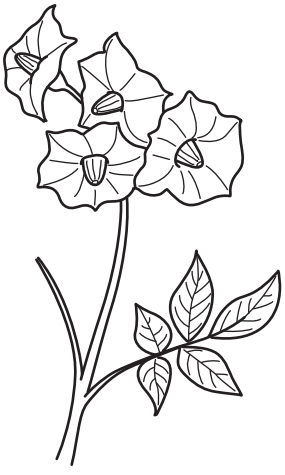


C

D

E

F



G

not drawn to scale

(a) **(i)** Use the key to identify each species. Write the letter of each species (**A** to **G**) in the correct box beside the key. One has been done for you.

1 (a)	branched veins on leaves	go to 2	
(b)	parallel veins (not branched) on leaves	go to 3	
2 (a)	leaves divided into leaflets (look like small individual leaves)	go to 4	
(b)	leaves not divided into leaflets	go to 5	
3 (a)	flowers grouped tightly together at the top of the stalk	*Triticum aestivum*	
(b)	flowers grouped loosely together at the top of the stalk	go to 6	
4 (a)	large flowers located at top of stem	*Solanum tuberosum*	
(b)	small flowers located along the stem	*Glycine max*	
5 (a)	leaves have five lobes	*Manihot esculenta*	**F**
(b)	leaves have three lobes	*Ipomoea batatas*	
6 (a)	flowers above youngest leaf	*Zeamays*	
(b)	flowers bend down below youngest leaf	*Oryza sativa*	

[3]

(ii) The pattern of the veins on the leaves was used in the key to separate the monocotyledonous crop plants and eudicotyledonous (dicotyledonous) crop plants shown in the diagram.

State **one** other feature that could be used to identify monocotyledonous plants from eudicotyledonous plants.

..... [1]

[Total: 4]

12 What may be defined as an 'increase in dry mass'?

A growth

B nutrition

C reproduction

D respiration

[1]

[Total: 1]

13 Define the term *excretion*.

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.....

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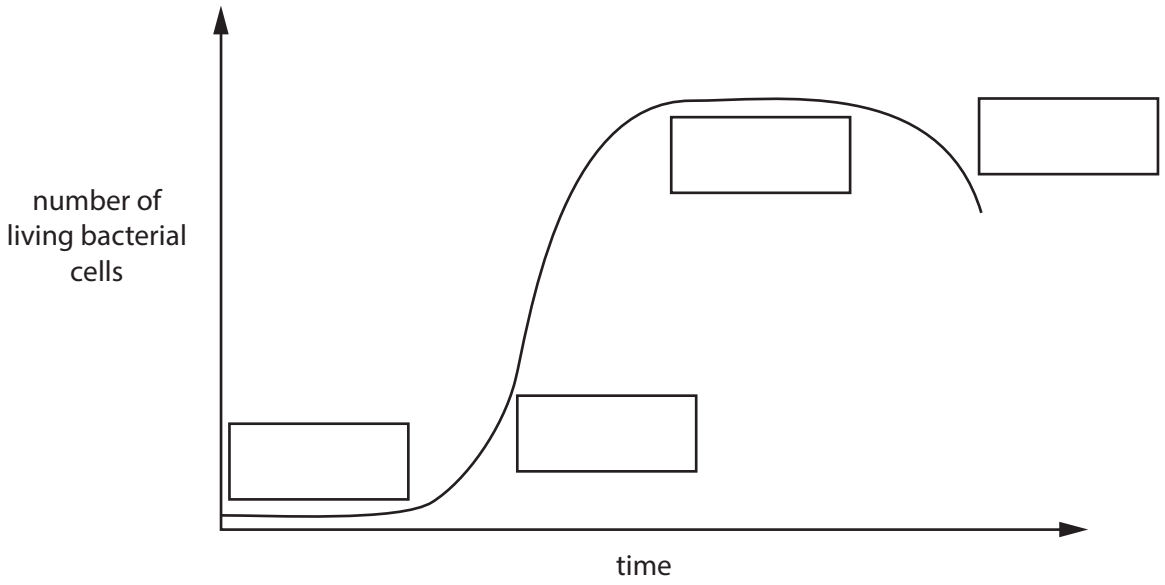
.....

[Total: 3]

14 The bacterium, *Lactobacillus bulgaricus*, are added to milk to make yoghurt.

The graph below shows the changes in a population of *L. bulgaricus* during fermentation to make yoghurt.



(a) **(i)** Name the stages shown on the graph above. Write your answers in the boxes on the graph.

[4]

(ii) Explain why the population of *L. bulgaricus* does not continue to increase during the fermentation to make yoghurt.

.....

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.....

..... [2]

(b) The curve shown in the graph is a sigmoid population growth curve.

Define the term *growth*.

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..... [2]

[Total: 8]