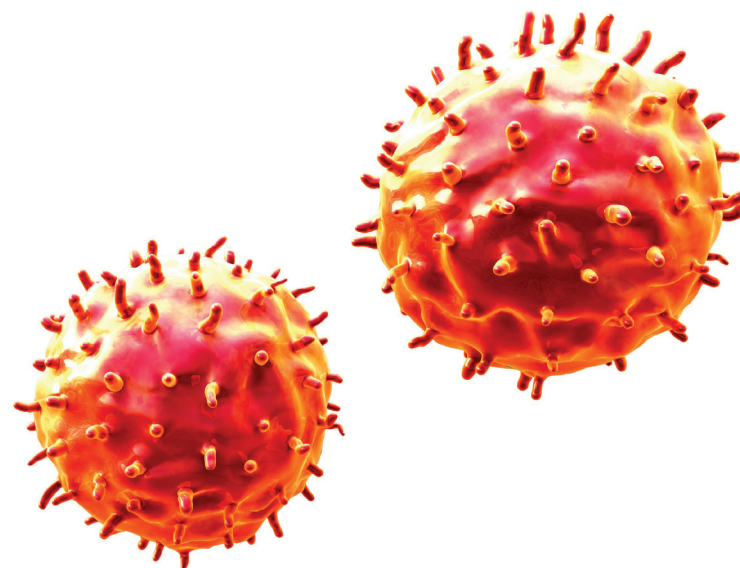


Interactive Example Candidate Responses

Paper 3 (May / June 2016), Question 1

Cambridge IGCSE™
Biology 0610



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1 Fig. 1.1 shows an animal cell.

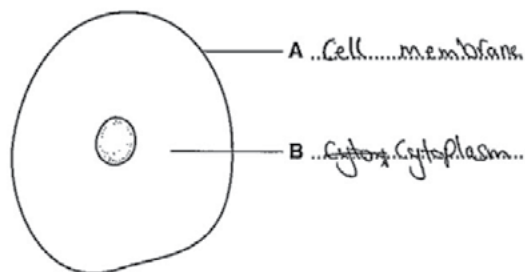


Fig. 1.1

(a) (i) Name the features labelled A and B.

Write your answers on Fig. 1.1.

[2]

(ii) The nucleus of living cells contains genetic material.

Name the **chemical** that this genetic material is made from.

.....Chromosomes.....[1]

(b) The cell in Fig. 1.1 carries out aerobic respiration.

Name **one** chemical that diffuses into an animal cell **and** one chemical that diffuses out of a cell during aerobic respiration.

chemical that diffuses inOxygen.....

chemical that diffuses outCarbon dioxide.....[2]

(c) The process of active transport occurs in some cells.

Outline **one** way in which diffusion is different to active transport.

.....Diffusion is movement of molecules down concentration gradient while active transport is movement of molecules against concentration gradient.....[1]

Select page

Your Mark

1(a)(i)

1(a)(ii)

1(b)

1(c)

1(d)(i)

1(d)(ii)

Q1 Mark scheme

(a)(i)	A – membrane/cell membrane/plasma membrane ; B – cytoplasm ;	2 marks
(a)(ii)	DNA;	1 mark
(b)	diffuses in: oxygen/glucose ; diffuses out: carbon dioxide/water ;	2 marks
(c)	(diffusion) does not need oxygen/respiration/energy (but active transport does); A diffusion is passive (diffusion) involves movement (of particles) from high to low concentration/down a concentration gradient (but opposite for active transport);	1 mark

Fig. 1.2 shows a cell from the palisade mesophyll layer of a leaf.

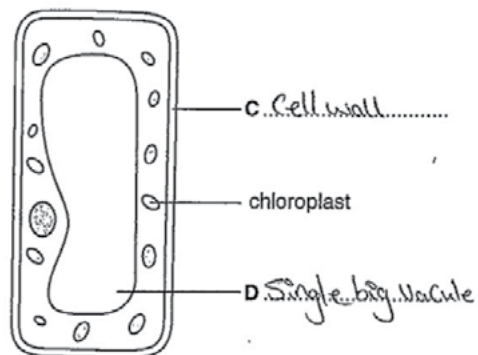


Fig. 1.2

- (d) (i) Name the features labelled C and D.

Write your answers on Fig. 1.2.

[2]

- (ii) Name the process carried out by the chloroplasts **and** explain why all animal life depends on this process.

name of process photosynthesis

explanation Chloroplasts contain green pigments which absorb sunlight and change it into light energy into chemical energy and make photosynthesis to produce (take Carbon dioxide, water and light) to produce glucose for their food and oxygen. all animals depend on plants for nutrition. plants are the producers of all food chains for any food chain so they are essential. also plants give out oxygen during photosynthesis, oxygen is responsible for respiration of all animals and removal of Carbon dioxide

[Total: 13]

Select page

Your Mark

1(a)(i)

1(a)(ii)

1(b)

1(c)

1(d)(i)

1(d)(ii)

Q1	Mark scheme	
(d)(i)	C – cell wall; R cell membrane	
	D – vacuole;	2 marks
(d)(ii)	process: <u>photosynthesis</u> ; AW throughout. Mark independently. 1 other named process	1 mark
	animal dependence: 1 (chloroplasts contain chlorophyll) absorb/use/trap, light/energy ; If respiration/another process is named, mark the explanation and award points relating to photosynthesis 1 sun (alone)	
	2 (to) produce glucose/carbohydrate/food, or plants are producers ;	
	3 (photosynthesis) removes carbon dioxide (from atmosphere) or adds oxygen (to the atmosphere) ;	
	4 primary consumers/herbivores/animals, gain energy or food/as they eat plants/producers ; 1 reference to food chain/web unqualified	
	5 secondary consumers/carnivores eat herbivores/primary consumers/other animals ; mp 2 and 3 (only) can be obtained from an equation.	
	6 (animals) need/use oxygen for respiration ; chemical equation must be correct and balanced	4 marks

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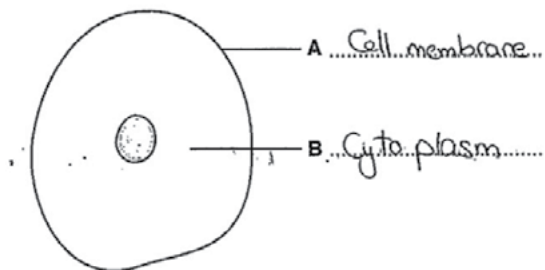


Fig. 1.1

(a) (i) Name the features labelled A and B.

Write your answers on Fig. 1.1.

[2]

(ii) The nucleus of living cells contains genetic material.

Name the **chemical** that this genetic material is made from.

~~Cell sap~~ DNA [1]

(b) The cell in Fig. 1.1 carries out aerobic respiration.

Name **one** chemical that diffuses into an animal cell **and** one chemical that diffuses out of a cell during aerobic respiration.

chemical that diffuses in water

chemical that diffuses out glycogen [2]

(c) The process of active transport occurs in some cells.

Outline **one** way in which diffusion is different to active transport.

diffusion is movement of gas particles from high concentration gradient to low concentration gradient [1]

Select page

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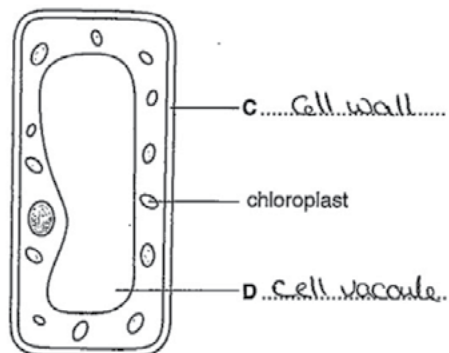


Fig. 1.2

(d) (i) Name the features labelled C and D.

Write your answers on Fig. 1.2.

[2]

(ii) Name the process carried out by the chloroplasts and explain why all animal life depends on this process.

name of process Photosynthesis

explanation when Photosynthesis is produced in plant

herbivours eat it and then Carnivours eat

the herbivours so it is the main food supply

because if it wasn't present herbivours and

Omnivours would decrease in number too

Leading to decrease in number of Carnivours

and Photosynthesis is

the main food supply

for all animals

because they need it for energy

[5]

[Total: 13]

Select
page

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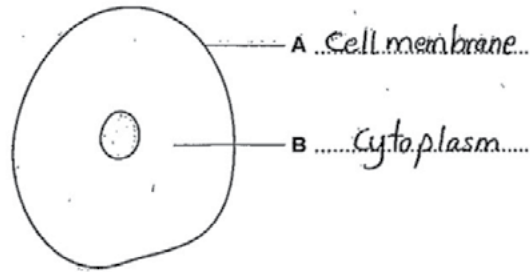


Fig. 1.1

(a) (i) Name the features labelled A and B.

Write your answers on Fig. 1.1.

[2]

(ii) The nucleus of living cells contains genetic material.

Name the **chemical** that this genetic material is made from.

.....protein.....[1]

(b) The cell in Fig. 1.1 carries out aerobic respiration.

Name **one** chemical that diffuses into an animal cell **and** one chemical that diffuses out of a cell during aerobic respiration.

chemical that diffuses inglucose + oxygen.....

chemical that diffuses outwater / Carbon dioxide.....[2]

(c) The process of active transport occurs in some cells.

Outline **one** way in which diffusion is different to active transport.

Diffusion is movement from high concentration to low concentration that different to active transport.[1]

Select
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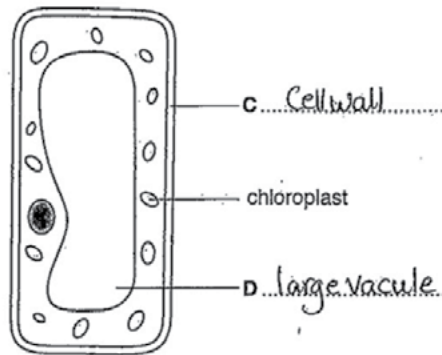


Fig. 1.2

(d) (i) Name the features labelled C and D.

Write your answers on Fig. 1.2.

[2]

(ii) Name the process carried out by the chloroplasts and explain why all animal life depends on this process.

name of process Energy / protein / glucose
 explanation Animal life take more energy from
 the chloroplasts and more protein which
 help in growth and development,
 take high percentage of glucose.

[5]

[Total: 13]

Select
page

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Mark

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Cambridge Assessment International Education
The Triangle Building, Shaftesbury Road, Cambridge, CB2 8EA, United Kingdom
t: +44 1223 553554
e: info@cambridgeinternational.org www.cambridgeinternational.org

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