

Gaseous Exchange in Human

IGCSE Biology Topical Questions Paper 1

May/June 2005

22 Which features of an animal's skin make it suitable as a gaseous exchange surface?

	features of skin	
	large area compared with body size	well supplied with blood vessels
A	✓	✓
B	✓	x
C	x	✓
D	x	x

key

✓ = suitable

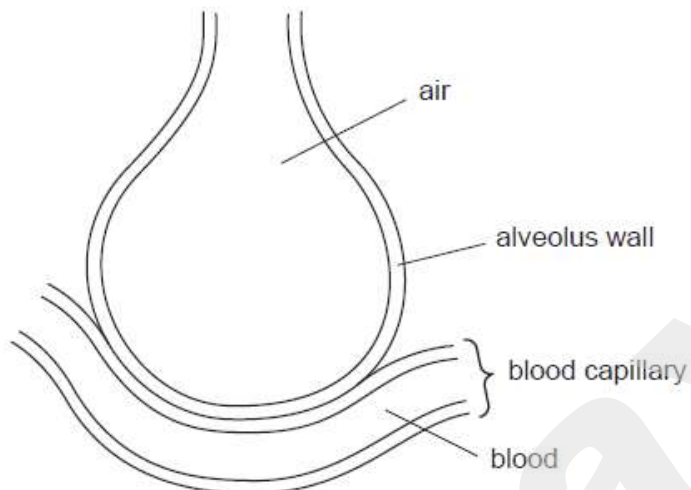
x = not suitable

Oct/Nov 2005

20 What happens to the depth and rate of breathing during increased physical activity?

	depth	rate
A	decrease	decrease
B	decrease	increase
C	increase	decrease
D	increase	increase

21 The diagram shows a gaseous exchange surface (alveolus) and part of a nearby capillary.

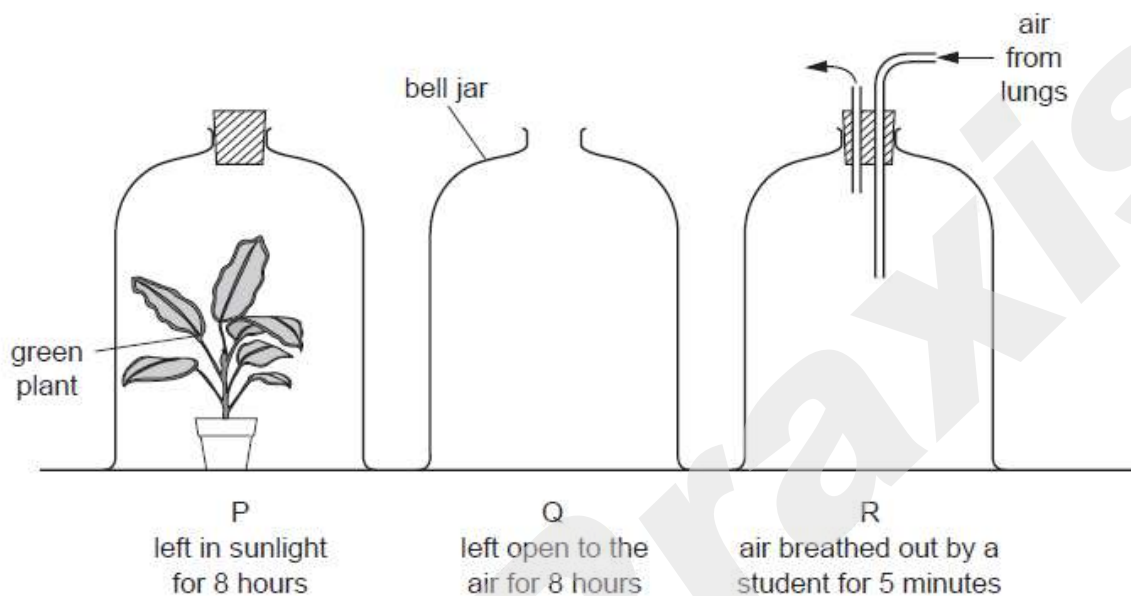


What would increase the rate of absorption of oxygen into the capillary?

- A increasing the thickness of alveolus wall
- B increasing the surface area of alveolus wall
- C lowering the concentration of oxygen in the alveolus
- D slowing down the rate of breathing

May/June 2006

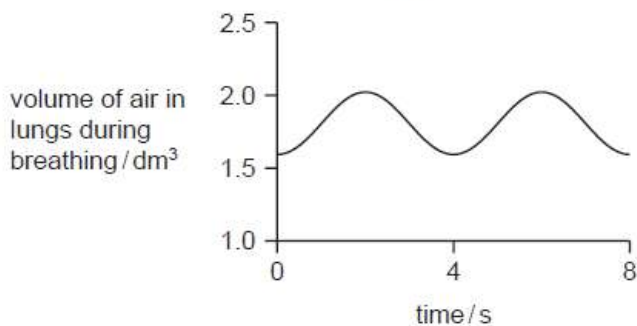
20 In an experiment three glass bell jars were set up as shown in the diagram.



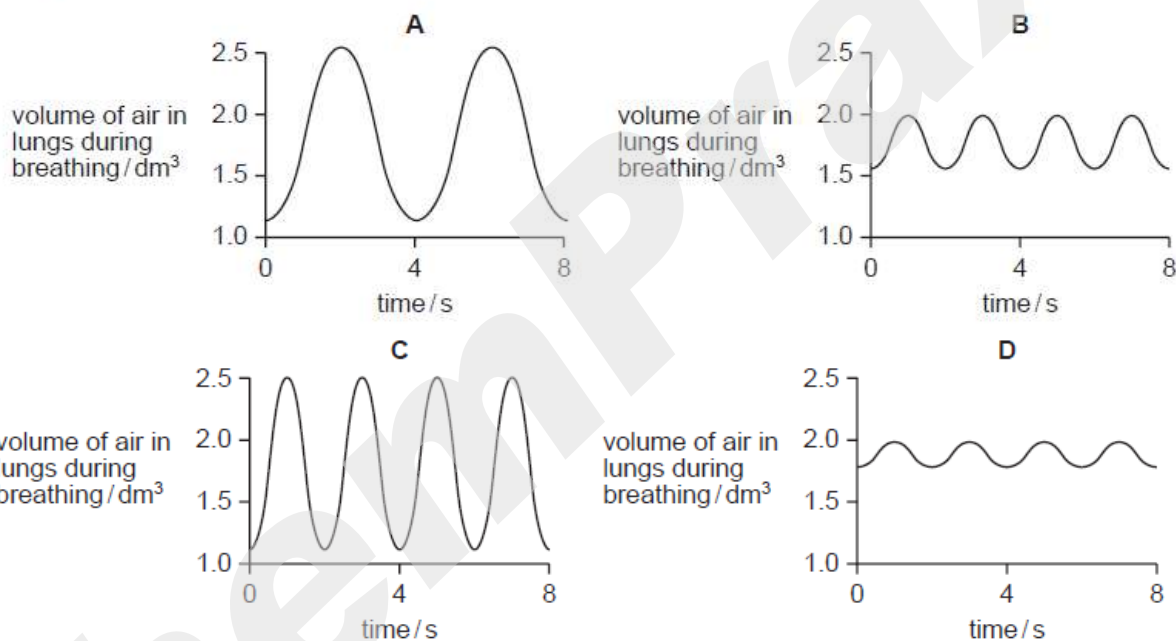
At the end of the experiment, which bell jar has the most oxygen and which has the least?

	most oxygen	least oxygen
A	P	Q
B	P	R
C	Q	P
D	R	P

21 The graph shows the rate and depth of breathing in a person before exercise.



Which graph shows the rate and depth of breathing of the same person immediately after a period of exercise?



Also came out in May/June 2011 (11) Q20 and May/June 2014 (11) Q19

May/June 2007

20 Which features are present in gaseous exchange surfaces?

	large surface area	moist	thick walls
A	✓	✓	x
B	✓	x	✓
C	x	✓	✓
D	✓	✓	✓

key

✓ = present

x = not present

Oct/Nov 2007

19 What are features of gaseous exchange surfaces in animals?

- A** thick-walled, dry, large area
- B** thick-walled, moist, small area
- C** thin-walled, dry, small area
- D** thin-walled, moist, large area

May/June 2008

19 Which route is taken by air passing into the lungs of a human?

- A** alveolus → trachea → bronchus
- B** bronchus → trachea → alveolus
- C** trachea → alveolus → bronchus
- D** trachea → bronchus → alveolus

Oct/Nov 2008

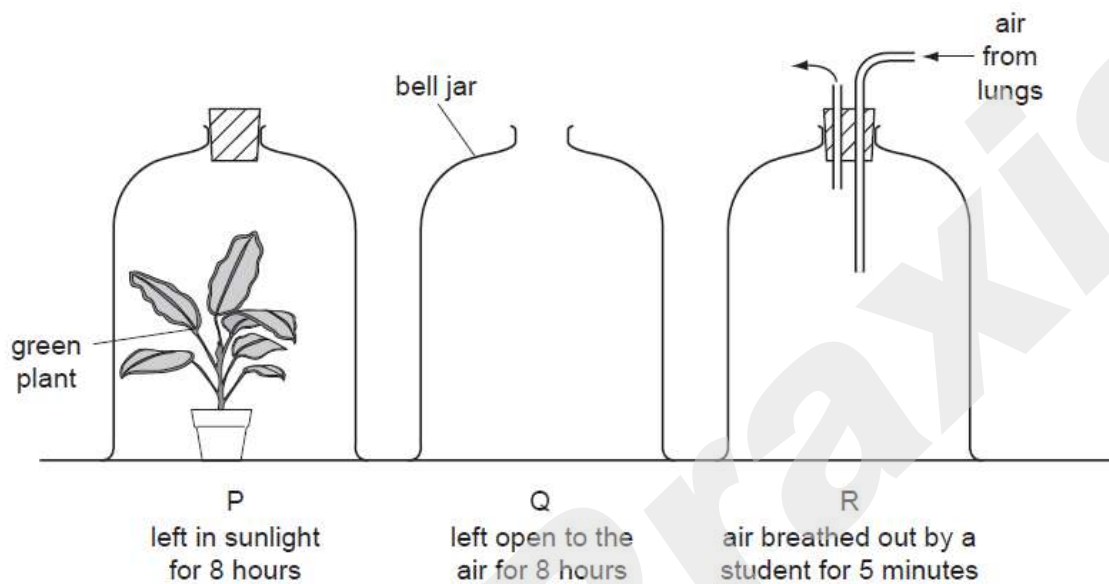
20 Gas exchange in annelid worms occurs through the whole of the skin surface.

What are the most likely characteristics of the skin surface?

	surface area to volume ratio	condition of surface
A	large	dry
B	large	wet
C	small	dry
D	small	wet

May/June 2009

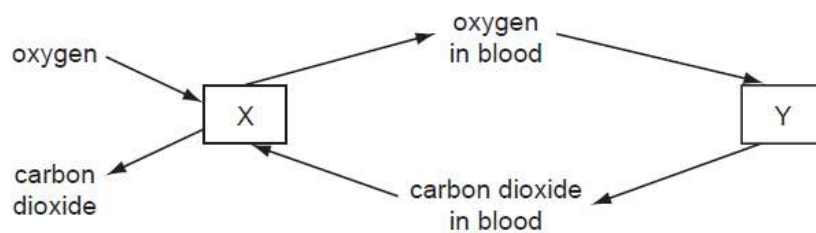
20 In an experiment, three glass bell jars were set up as shown in the diagram.



At the end of the experiment, which bell jar has the most oxygen and which has the least?

	most oxygen	least oxygen
A	P	Q
B	P	R
C	Q	P
D	R	P

- 21 The diagram represents the exchange of gases during breathing and during respiration in the body.



What is represented by X and by Y?

	X	Y
A	lungs	air
B	lungs	body cells
C	body cells	air
D	body cells	lungs