

# 6.4 Gas Exchange

## Question Paper

Course	DP IB Biology
Section	6. Human Physiology
Topic	6.4 Gas Exchange
Difficulty	Easy

**Time allowed:** 10  
**Score:** /5  
**Percentage:** /100

### Question 1

Which row of the table describes the best overall conditions for gas exchange in the lungs?

	Surface Area	Diffusion Pathway	Concentration Gradient
<b>A.</b>	Large	Long	Steep
<b>B.</b>	Large	Short	Steep
<b>C.</b>	Large	Short	Shallow
<b>D.</b>	Small	Short	Shallow

[1 mark]

### Question 2

Which row of the table shows the events of inspiration in the correct sequence?

	1	2	3	4
<b>A.</b>	Diaphragm and external intercostal muscles contract	Volume of thorax increases	Thorax pressure drops	Air is drawn into the lungs down its pressure gradient
<b>B.</b>	Thorax expands	Thorax pressure drops	Diaphragm and external intercostal muscles contract	Volume of thorax increases
<b>C.</b>	Air is drawn into the lungs down its pressure gradient	Diaphragm and external intercostal muscles contract	Thorax pressure drops	Volume of thorax increases
<b>D.</b>	Thorax pressure drops	Volume of thorax increases	Thorax expands	Air is drawn into the lungs down its pressure gradient

[1 mark]

### Question 3

Which of the following is a feature of forced expiration?

- A. The diaphragm contracts.
- B. The thorax undergoes a drop in pressure.
- C. The internal intercostal muscles contract.
- D. The external intercostal muscles contract.

[1 mark]

### Question 4

Which aspects of ventilation are assisted by the solution secreted by type II pneumocytes?

- I. Dissolving of oxygen gas.
  - II. Recoil of alveolar walls during expiration.
  - III. Preventing alveoli from collapsing.
  - IV. Diffusion of carbon dioxide gas into the alveoli.
- A. I, II, and IV only.
  - B. I and IV only.
  - C. I, III, and IV only.
  - D. I and III only.

[1 mark]

### Question 5

Patients with emphysema are often prescribed oxygen cylinders to breathe from. The oxygen concentration in a cylinder is around 90%, compared to 21% in atmospheric air.

How does breathing concentrated oxygen increase the effectiveness of the lungs?

- A. Increases concentration gradient.
- B. Assists expiration of stale air.
- C. Makes breathing easier.
- D. Decreases diffusion pathway.

[1 mark]