

1. Which are features of a good gas exchange surface? (Select all that apply.)

- ☐ thin (short diffusion distance)
- ☐ thick and dry
- ☐ large surface area
- ☐ good blood supply

Tick every correct option.

2. When you breathe in, the diaphragm:

- ☐ disappears
- ☐ flattens (contracts)
- ☐ makes oxygen
- ☐ domes up (relaxes)

3. Gas exchange in the lungs happens in the:

- ☐ alveoli
- ☐ ribs
- ☐ trachea
- ☐ diaphragm

4. Air rushes into the lungs when the pressure inside the chest:

- ☐ stays the same
- ☐ falls below the outside air pressure
- ☐ rises above the outside
- ☐ becomes zero

5. At the alveoli, oxygen diffuses:

- ☐ not at all
- ☐ from the air into the blood
- ☐ from the blood into the air
- ☐ in both directions equally

6. Compared with inhaled air, exhaled air has:

- ☐ more oxygen

- ☐ the same composition
- ☐ no carbon dioxide
- ☐ less oxygen and more carbon dioxide

7. Gas exchange occurs by diffusion, which is different from breathing.

- ☐ True ☐ False

8. During inhaling, the rib muscles pull the ribs down and in.

- ☐ True ☐ False

9. A large _____ area speeds up the diffusion of gases.

10. The movement of air in and out of the lungs is called _____ (breathing).

IGCSE Biology

1. **thin (short diffusion distance); large surface area; good blood supply**

A thick, dry surface would slow diffusion.

2. **flattens (contracts)**

The diaphragm flattens to increase chest volume.

3. **alveoli**

Alveoli are the tiny air sacs where gases exchange.

4. **falls below the outside air pressure**

Lower internal pressure draws air in.

5. **from the air into the blood**

Oxygen moves down its gradient into the blood.

6. **less oxygen and more carbon dioxide**

Oxygen is used and carbon dioxide added.

7. **True**

Breathing ventilates; gas exchange is diffusion across the surface.

8. **False**

False. During inhaling the external intercostal muscles lift the ribs up and out, expanding the chest and lowering the pressure inside.

9. **surface**

More surface area means faster gas exchange.

10. **ventilation**

Ventilation keeps the gas-exchange gradient steep.