# What is the Function of the Respiratory System?

Worksheet

The respiratory system's function is to bring oxygen into the body and expel carbon dioxide through breathing, with gas exchange occurring in the lungs' alveoli.

## Questions

1. What is the primary function of the respiratory system?

A) Digest food
B) Exchange oxygen and carbon dioxide
C) Pump blood
D) Filter waste from blood

2. Where does gas exchange between air and blood occur?

A) Trachea
B) Bronchi
C) Alveoli
D) Larynx

3. Tidal volume = 500 mL and rate = 12 breaths/min. What is minute ventilation?

A) 6 L/min
B) 500 mL/min
C) 12 L/min
D) 60 L/min

4. Which muscle contracts to allow inhalation?

A) Bicep
B) Diaphragm
C) Quadriceps
D) Heart

5. An adult breathes 14 times per minute at rest. How many breaths occur in one hour?

6. Tidal volume (air per breath) is about 500 mL. Calculate the volume of air moved in 1 minute at 14 breaths/min (minute ventilation).

7. During exercise, breathing rate rises to 30 breaths/min and tidal volume to 700 mL. Find minute ventilation.

8. Define: What is the main function of the respiratory system?

9. Define: Where does gas exchange occur?

10. Define: What muscle drives breathing?

# Answer Key

1. B) Exchange oxygen and carbon dioxide - The respiratory system's core job is bringing in oxygen and removing carbon dioxide.
2. C) Alveoli - Gas exchange only happens in the alveoli, where walls are thin enough for diffusion.
3. A) 6 L/min - 500 mL 12 = 6,000 mL = 6 L/min.
4. B) Diaphragm - The diaphragm contracts downward, expanding the chest cavity so air flows in.
5. 14 breaths/min 60 min = 840 breaths per hour
6. 500 mL 14 breaths = 7,000 mL 7,000 mL = 7 L per minute
7. 700 mL 30 = 21,000 mL = 21 L per minute Compare to resting 7 L/min - a 3 increase
8. To bring oxygen into the body and remove carbon dioxide through breathing and gas exchange.
9. In the alveoli, tiny air sacs in the lungs surrounded by capillaries.
10. The diaphragm, a dome-shaped muscle beneath the lungs.