

GCSE PE – Revision Booklet

Applied Anatomy and Physiology

Physical Factors Affecting Performance

The Structure and Function of the Respiratory System
Student Book



Respiratory System

What the Specification Says:

Learners must understand the pathway of air through the respiratory system.

Learners must know the role of respiratory muscles used in breathing.

Learners must know the definitions of:

- breathing rate;
- tidal volume;
- minute ventilation.

Learners must understand about alveoli and gaseous exchange.

Definitions:

breathing rate – _____

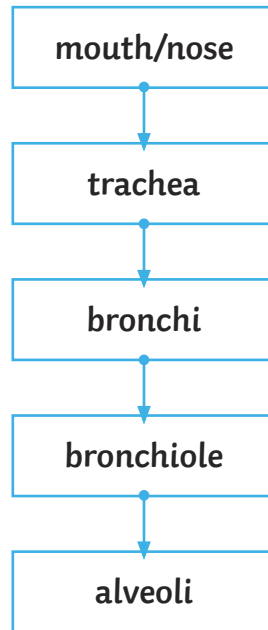
_____ – the volume of air that is inhaled per breath.

minute ventilation – _____

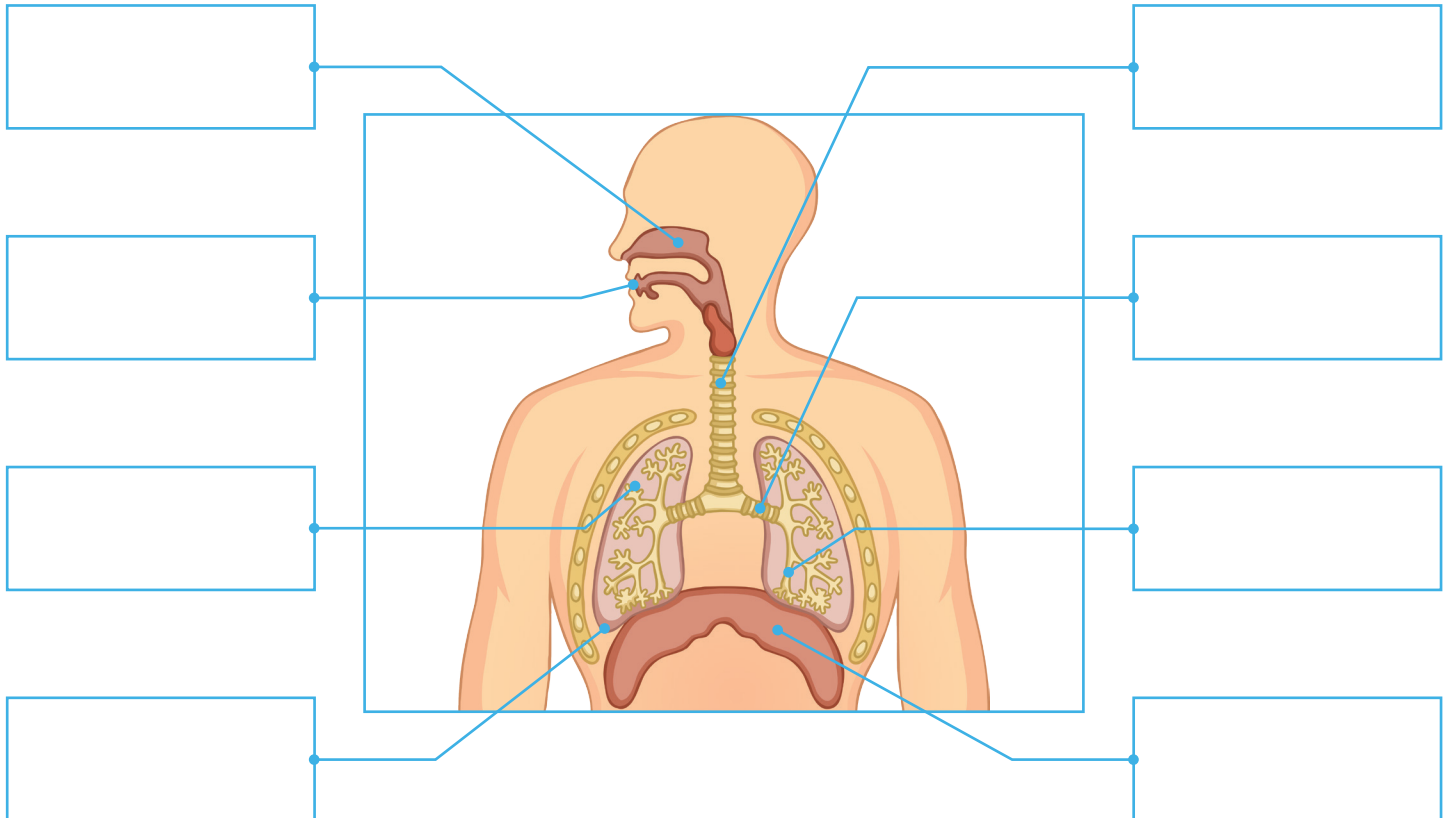


The Pathway of Air

Air travels through the respiratory system in the following way:



Can you label the diagram?



The Role of Respiratory Muscles in Breathing

The key muscles involved in breathing in (inspiration) and breathing out (expiration) are:

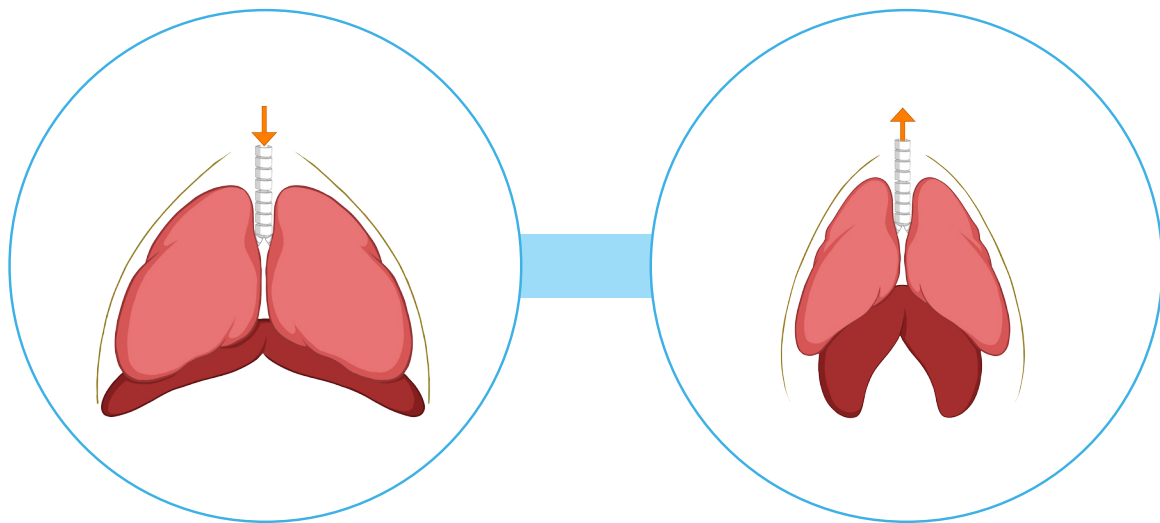
- _____
- _____

When you breathe in (inhale):

The respiratory muscles _____. The intercostal muscles move the ribs _____ and _____. The diaphragm contracts and moves _____.

When you breathe out (exhale):

The respiratory muscles _____. The intercostal muscles move the ribs _____. The diaphragm relaxes and moves _____.



Extension Task: Draw a simple diagram of the respiratory system and add arrows to show the movements made by the different muscles involved in **inhalation** and **exhalation**.

Alveoli and Gaseous Exchange

Alveoli are responsible for _____.

Blood arriving at the alveoli has high levels of _____ and lower levels of _____.

Blood leaving the alveoli has high levels of _____.

What type of athlete would benefit from having a greater ability to diffuse oxygen?

