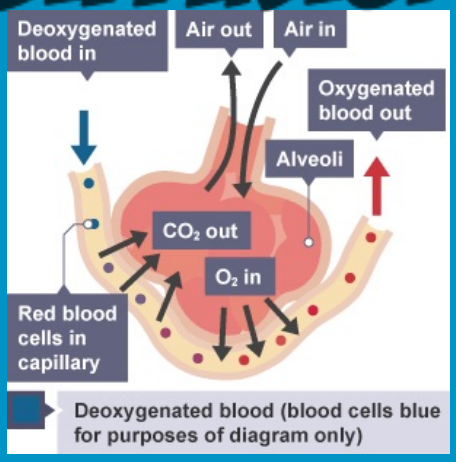
Cardio-Respiratory System

Respiratory rate - How many breaths taken in one minute

DIFFUSION



Tidal volume - amount of air taken in our out with EACH BREATH

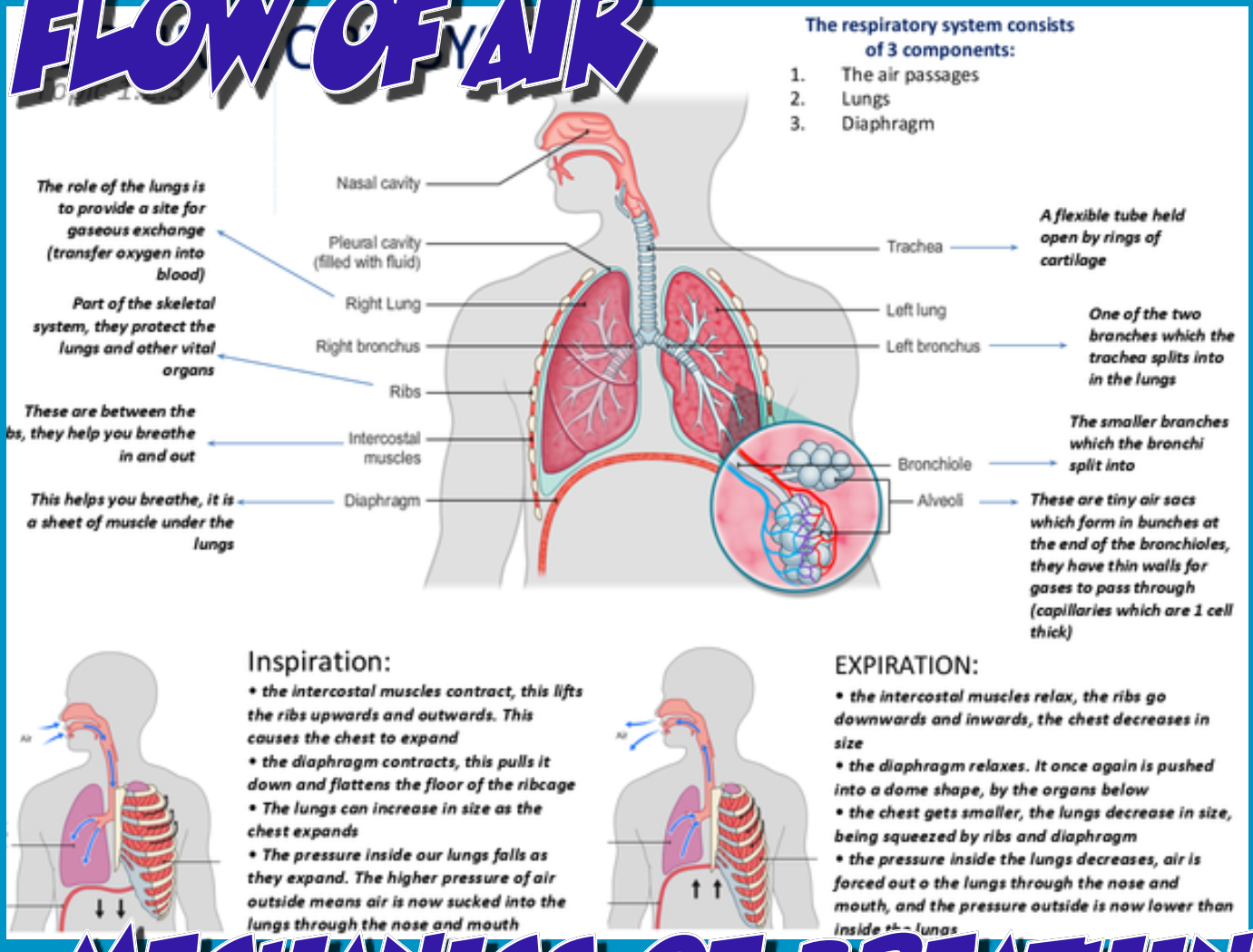
Minute volume - amount of air breathed in, in one minute
MV = TV x RR

Vital capacity - maximum amount of air that can breathed out after breathing in as deeply as you can.

Residual volume - the lungs are never empty, air that is left is the residual volume

Total lung capacity = vital capacity + residual volume

FLOW OF AIR



Inspiration:

- the intercostal muscles contract, this lifts the ribs upwards and outwards. This causes the chest to expand
- the diaphragm contracts, this pulls it down and flattens the floor of the ribcage
- The lungs can increase in size as the chest expands
- The pressure inside our lungs falls as they expand. The higher pressure of air outside means air is now sucked into the lungs through the nose and mouth

EXPIRATION:

- the intercostal muscles relax, the ribs go downwards and inwards, the chest decreases in size
- the diaphragm relaxes. It once again is pushed into a dome shape, by the organs below
- the chest gets smaller, the lungs decrease in size, being squeezed by ribs and diaphragm
- the pressure inside the lungs decreases, air is forced out o the lungs through the nose and mouth, and the pressure outside is now lower than inside the lungs

MECHANICS OF BREATHING