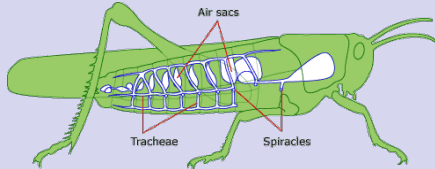


Mammals

Fish

Insects



Key Factors/Parts and Descriptions

Spiracles	opens and closes to minimize water loss. Air intake in through the thorax. Air output through the body.
Hairs around spiracles	Traps humidity to minimize water loss. Allows to keep a lower concentration gradient of water vapor so that the rate of diffusion is not so high.
Trachea	The major tube that runs along the length of the insect.
Tracheoles	A very thin tube that squeezes between individual cells. Lacks Chitin
Air Sacks	Present in larger insects. Inflates and deflates to help movement of air
Muscular Pumping	rings of muscles around the trachea squeeze in succession to force air along
Metabolic Rate	Relatively High
Chiton Rings	Rings of chiton support trachea.
Availability of oxygen	21% O ₂ in air
Surface Area	Tracheal tubes connecting directly to cells. Massive SA:V ratio
Fluid along the tracheoles	Increases diffusion rate