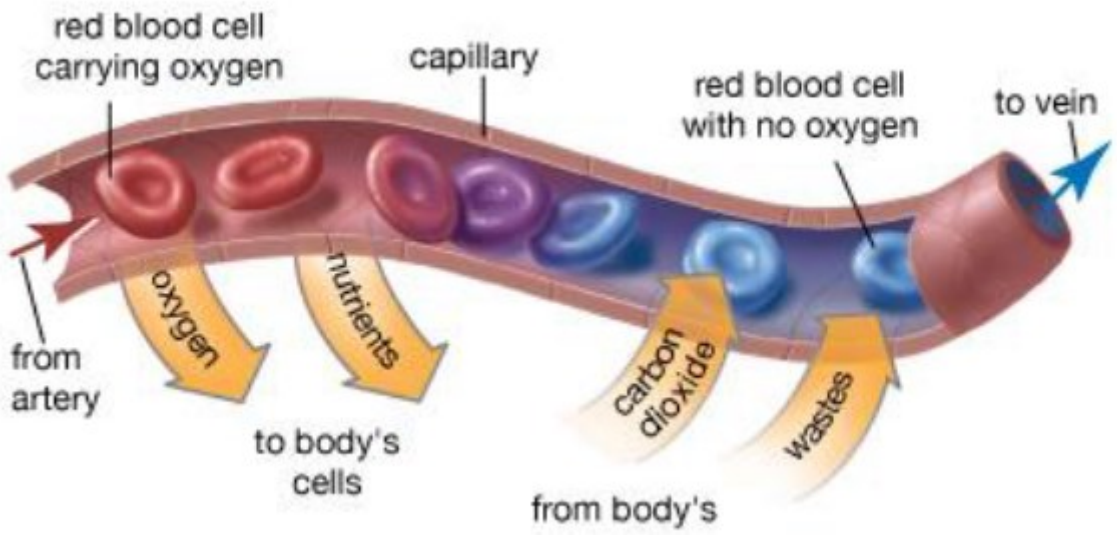
Unit 2 Key Area 7 Absorption of Materials

Oxygen and nutrients from food must be absorbed into the bloodstream to be **delivered to cells for respiration**.

Waste materials, such as **carbon dioxide**, must be **removed** from cells **into the blood-stream**.



Tissues contain capillary networks to allow the exchange of materials at cellular level.

Surfaces involved in the absorption of materials have certain features in common:

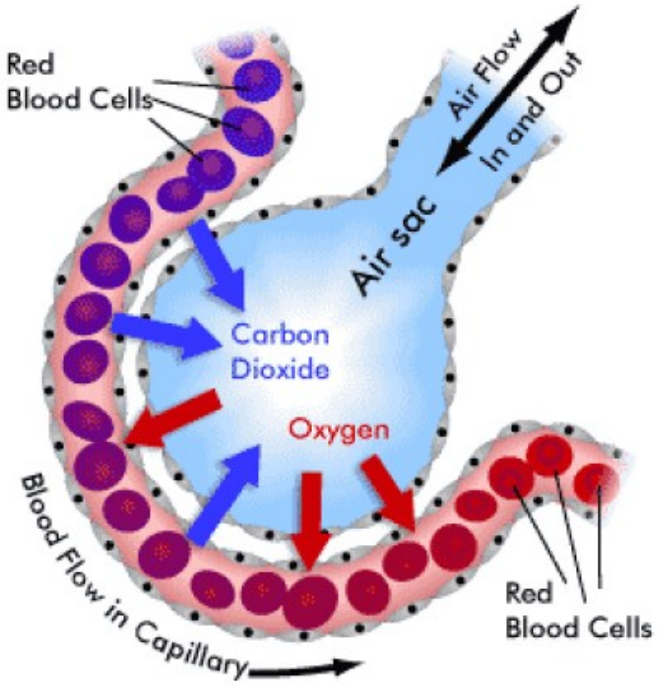
Large surface area

Thin walls

Extensive blood supply.

Lungs

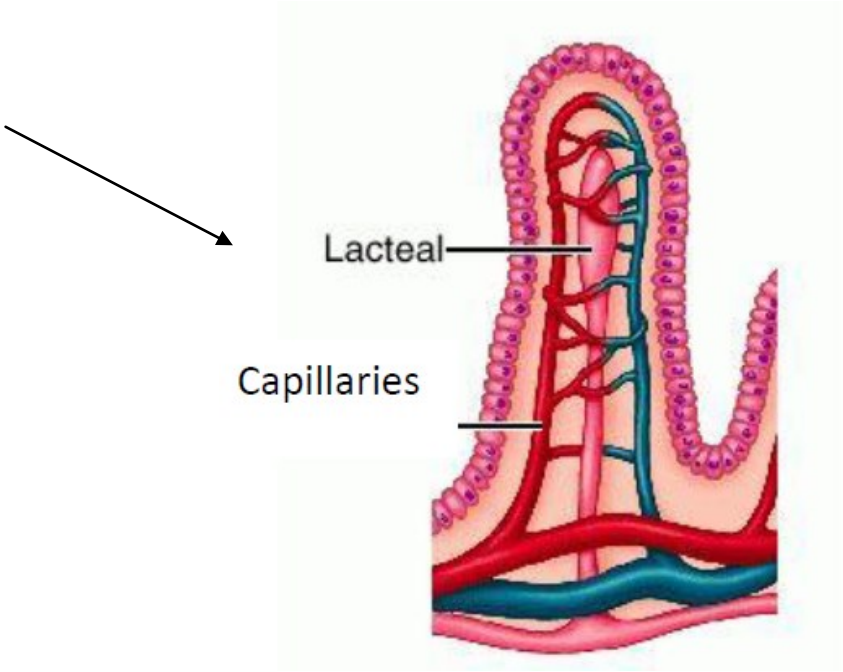
Lungs are **gas exchange** organs. They consist of a **large number of alveoli** providing a **large surface area**. **Oxygen and Carbon Dioxide** are absorbed through the thin alveolar walls to or from the many blood capillaries.



Small Intestines

Nutrients from food are absorbed into the **villi in the small intestine**. The **large number** of **thin walled** villi provides a **large surface area**.

Villi in small intestines



Each villus contains a network of **capillaries** to absorb **glucose** and **amino acids.**

The **lacteal** absorbs **fatty acids** and **glycerol**.