

★ **HIGHER TIER ONLY** content is highlighted in blue. Foundation students — focus on the un-highlighted sections.

Organisation Hierarchy

CELLS	The basic unit of life (e.g. muscle cell, red blood cell)
TISSUES	Group of similar cells working together (e.g. muscle tissue)
ORGANS	Group of tissues with a specific function (e.g. heart, stomach)
ORGAN SYSTEMS	Group of organs working together (e.g. digestive system)

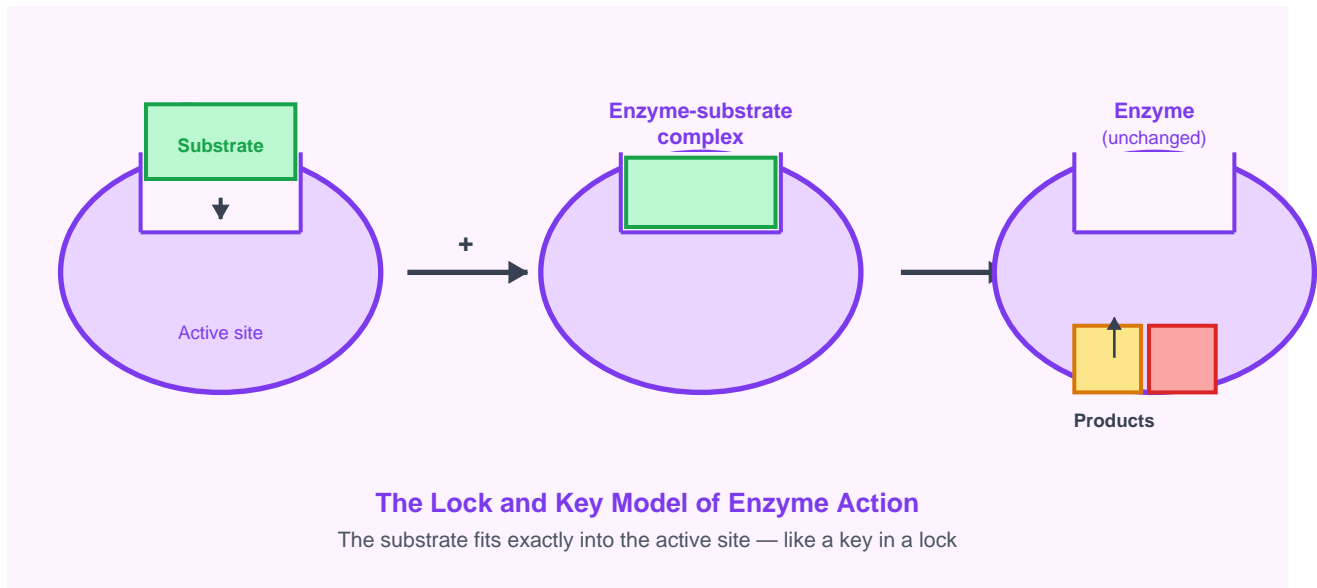


Fig: Each enzyme has a specific active site that only fits one substrate

■ **Exam Tip:** Remember: at **HIGH** temperatures the enzyme **DENATURES** — the active site changes shape permanently. At **LOW** temperatures the enzyme just slows down (not denatured).

Simplified Heart Cross-Section

NOTE: Left side has THICKER walls
because it pumps blood around the **WHOLE** body

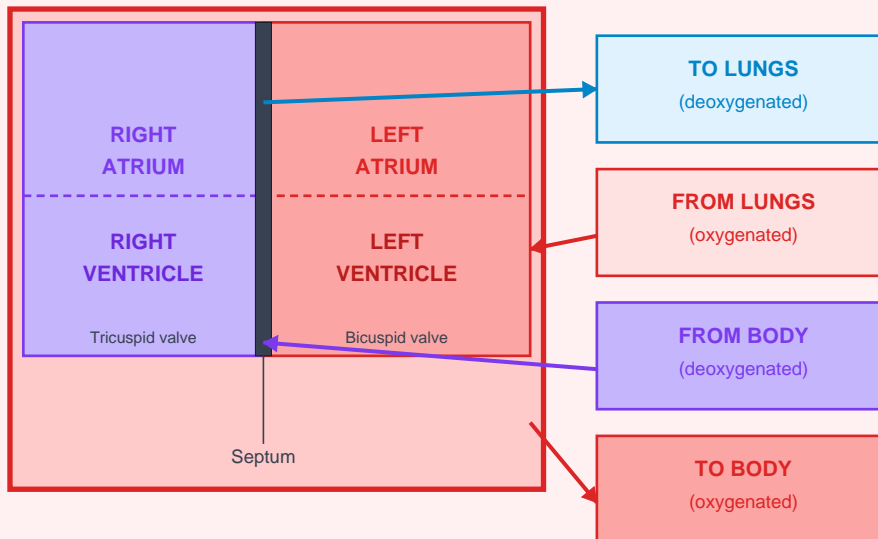


Fig: Simplified heart diagram — the right side pumps to lungs, left side pumps to body

■ **Exam Tip:** The LEFT side of the heart has THICKER walls — it pumps blood all the way around the BODY. The right side only pumps to the nearby lungs.

Blood Vessels Comparison

Feature	Arteries	Veins	Capillaries
Direction	Away from heart	To heart	Between cells
Wall thickness	THICK, elastic	Thin	One cell thick
Pressure	HIGH	Low	Very low
Valves?	No	YES	No
Contents	Oxygenated (mostly)	Deoxygenated (mostly)	Mixed