CONCEPT: MODELS OF ENZYME ACTION

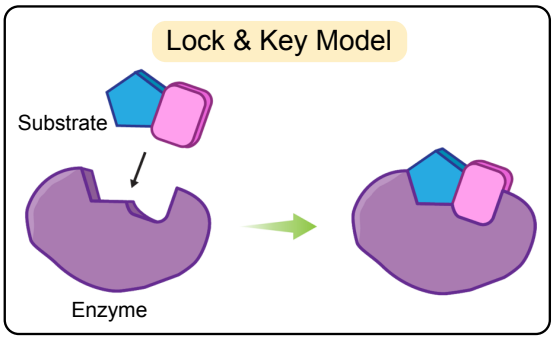
● 2 models describe how enzymes interact with substrate: (1) _____ & _____, (2) _____ fit model.

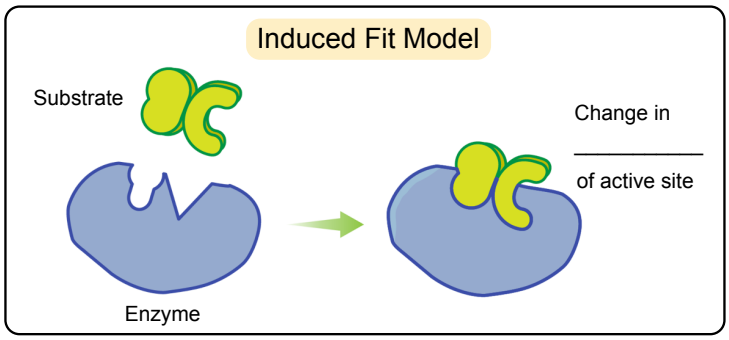
(1) **Lock & Key:** active site is _____ and unchanging; substrate fits in like key into a lock.

- Active site is _____ to substrate.

(2) **Induced Fit:** active site is _____ and changes _____ to accommodate the substrate.

- Active site _____ substrate.
- A more _____ model of enzyme action.





EXAMPLE: Which correctly describes the lock and key model?

a) Enzyme undergoes a change in shape to accommodate the substrate at the active site.

b) Enzyme irreversibly binds to the substrate to form products.

c) Active site of enzyme has a fixed shape that perfectly matches the shape of the substrate.

d) Enzyme is able to interact with many different substrates.

PRACTICE: Match each model with correct descriptions: (a) Induced fit model, (b) Lock and key model.

_____ Active site undergoes changes in shape during reaction.

_____ Enzyme is specific only to one substrate.

_____ Shape of active site is similar to that of substrate.

_____ Enzyme model that more accurately describes substrate-enzyme interactions.