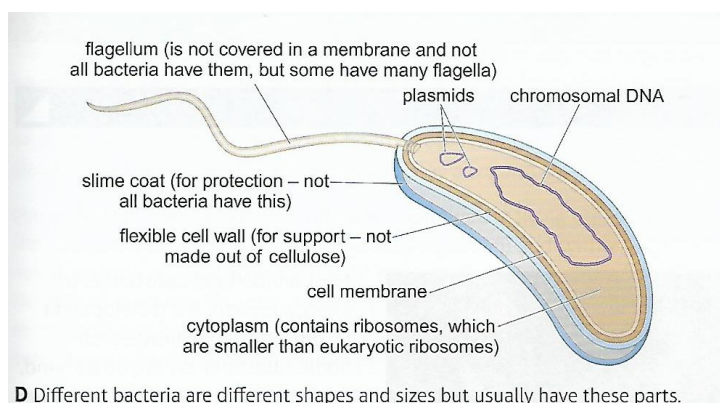


## Topic 1 – Key Concepts in Biology



D Different bacteria are different shapes and sizes but usually have these parts.

### SB1e – Enzymes and Nutrition:

Most animals get substances for energy, growth and development by digesting food inside their bodies.

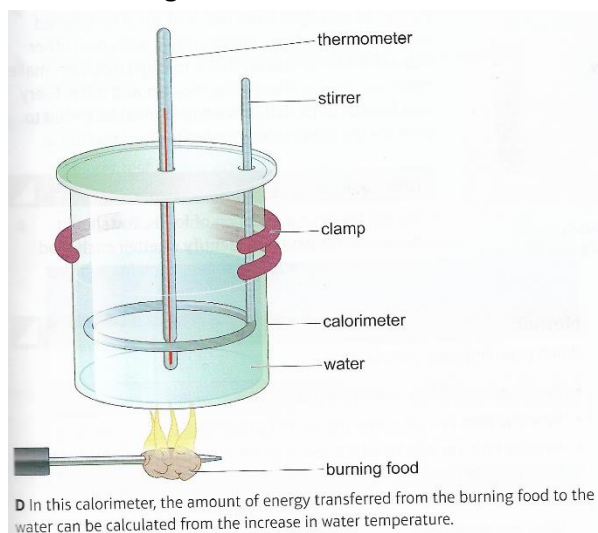
Bacteria, on the other hand, release digestive enzymes into their environments and then absorb the digested food into their cells.

In humans, digestive enzymes turn the larger molecules in our food into the smaller subunits they are made of. The digested molecules are then small enough to be absorbed by the small intestine.

Enzymes are biological catalysts that increase the rate of reactions and speed up breakdown. Enzymes are a special group of proteins that are found throughout the body. The substances that enzymes work on are called substrates, and the substances that are produced are called products.

| Enzyme                      | Where it is found                     | What it does                                               |
|-----------------------------|---------------------------------------|------------------------------------------------------------|
| Carbohydrase (e.g. amylase) | Saliva, pancreas and small intestine  | Breaks down carbohydrates and starch into sugar molecules. |
| Protease                    | Stomach, pancreas and small intestine | Breaks down proteins into amino acids.                     |
| Lipase                      | Pancreas and small intestine          | Breaks down fat into glycerol and fatty acids.             |

### SB1f – Testing Foods:



Food provides us with energy and we can measure the amount of energy in a food by burning it in a calorimeter.