



Food is made up of *nutrients*:

- sugars (carbohydrates)
- fats (lipids)
- proteins
- vitamins
- minerals
- water

Sugar, fats and proteins must be broken down in smaller, useable forms.

Chemical digestion

- *Chemical digestion* takes place when large food molecules are chemically broken down into smaller molecules

ex: starch (a complex sugar) is found in foods like bread.
As you chew, the starch begins breaking down into smaller sugars (such as glucose)

Digestion

- During digestion, food is broken down into forms the body can use.
- The process involves both *physical* and *chemical* changes.

physical changes: change in properties like size, shape, color... No new substances are created.

chemical changes: new substances are created, like burning wood, cooking food, etc...

Mechanical digestion

- The physical breakdown of food into smaller pieces.
- *Mechanical digestion* breaks large pieces into smaller ones, but does not change the actual substances (*physical change*)
- *Chewing* and *grinding* are two ways food is mechanically digested.
- Mechanical digestion starts in the mouth, but continues in the stomach.

In the digestive system, enzymes are released.

enzymes are proteins that control chemical reactions in the body, including the chemical breakdown of food.

Enzymes speed up chemical reactions.

Each enzyme can only break down one specific kind of food molecules.