**[Definition and scope of food science](https://hmhub.me/definition-and-scope-of-food-science/)**

**• It’s inter-relationship with food chemistry, food microbiology and food processing.**

Food is defined as anything solid or liquid which when swallowed, digested and assimilated nourishes the body.  
Food Science is the systematic study of the nature of food materials and the scientific principles underlying their modification, preservation and spoilage.  
It is the study of characteristics of foods including chemical, biochemical, physical, physio chemical and biological properties and effect of these on the quality of the product. It also covers application of this information in development of new products and efficient processing techniques.

**Relationship with other Sciences**All foods are chemical compounds which undergo various chemical reactions at all stages from production to consumption. These reactions are based on the laws of chemistry. Many processes used while preparing food involve physical changes too. The three states of matter- solid, liquid and gaseous can be observed during food preparation.

**FOOD CHEMISTRY**  
It is the science that deals with the composition, structure and properties of food along with the chemical reactions. It forms a major part of food science and is closely related to food microbiology. The chemical composition of food tells which micro-organism can grow on it and the changes that take place in food because of their growth. Changes can be desirable and undesirable which can lead to contamination of the food and further leads to food poisoning, food infection or just spoiling and thus rendering it unfit for consumption.

**FOOD MICROBIOLOGY**Microbiology is the study of micro-organisms. They are very small, usually single celled organisms which are not individually visible to the naked eye. If they are present in large number in food, can lead to food poisoning. They also serve useful role in making of bread and yogurt etc. A knowledge of the factors that favours or inhibits the growth of micro-organisms is essential to understand the principle of food spoilage and preservation.  
Food chemistry and Food microbiology are intimately related to food processing as the processes to which food needs to be subjected to improve its texture, flavour and aroma depends on its composition and ingredients. The time and temperature for food processing depends not only on the chemical composition of food but also on its microbial load and the type of packaging to be used.

**FOOD PROCESSING**Food processing is the transformation of cooked ingredients, by physical or chemical means into food, or of food into other forms. Food processing combines raw food ingredients to produce marketable food products that can be easily prepared and served by the consumer. Food processing typically involves activities such as mincing and macerating, liquefaction, emulsification, and cooking (such as boiling, broiling, frying, or grilling); pickling, pasteurization, and many other kinds of preservation; and canning or other packaging

**Food technology**

 is a branch of [food science](https://en.wikipedia.org/wiki/Food_science) that deals with the production processes that [make foods](https://en.wikipedia.org/wiki/Food_manufacture).