

Cells - Tissues - Organs - Systems - Organisms

Cells : The basic units of which organisms are made

Tissues : Made of many cells grouped together

May be just one type of cell but usually a mixture of 2/3 types, working together.

Table 1 Tissues found in the human

Name of tissue	Main functions
Epithelial tissue	To line tubes and spaces and the skin
Connective tissue	To bind and connect other tissues together
Skeletal tissue	To support and protect the body and permit movement
Blood tissue	To carry oxygen and food substances round the body
Nerve tissue	To transmit and coordinate messages
Muscle tissue	To bring about movement

Table 2 Tissues found in the flowering plant

Name of tissue	Main functions
Epidermal tissue	To line and protect the surface of the plant
Photosynthetic tissue	To feed the plant by photosynthesis
Packing tissue (parenchyma)	To fill in spaces inside the plant
Vascular tissue	To transport water and food substances
Strengthening tissue	To support and strengthen the plant

Organs : Complex structures, made of several types of tissue

May perform only one task,

e.g. the heart only pumps blood

or may do many several different things

e.g. kidneys - remove poisonous wastes *and* regulate body water content

liver - known to perform 500 or more different reactions

Systems : Made of several different organs, each helping towards the function of the system

e.g. excretory system, where the kidneys, liver and bladder

all help to remove poisonous waste

Table 3 Systems in the human body

Name of system	Main organs in the system	Main functions
Digestive system	Gut, liver and pancreas	To digest and absorb food
Breathing system	Windpipe and lungs	To take in oxygen and get rid of carbon dioxide
Circulatory system	Heart, blood vessels	To carry oxygen and food round the body
Excretory system	Kidneys, bladder, liver	To get rid of poisonous waste substances
Sensory system	Eyes, ears, nose	To detect stimuli
Nervous system	Brain and spinal cord	To conduct messages from one part of the body to another
Musculo-skeletal system	Muscles and skeleton	To support and move the body
Reproductive system	Testes and ovaries	To produce offspring.

Organisms : Have several different systems in them (see the table above)