

Simple squamous  
epithelium

Function- Diffusion,  
filtration, osmosis

Found in- Walls of blood  
and lymph vessels and  
air sacs of lungs

Simple cuboidal  
epithelium

Function- Secretion and  
absorption

Found in- Tubules in the  
nephrons and glandular  
ducts, surface of ovaries

Simple columnar  
epithelium

Function- Secretion,  
protection and absorption

Found in- Uterus,  
stomach and intestinal  
lining

Ciliated epithelium

Columnar or cuboidal cells having cilia

Function- Directional movement of mucus or particles

Found in- Inner surface of bronchioles and fallopian tubes

Unicellular glandular epithelium

Goblet cells

Multicellular glandular epithelium

Salivary glands

## Compound epithelium

Function- Protection against mechanical and chemical stress

Found in- Dry surface of skin, moist surface of buccal cavity, inner linings of pancreatic and salivary ducts

## Pseudostratified columnar epithelium

Function- Protection, movement of mucus and cells

Found in- Respiratory passage and reproductive tract lining

## Stratified squamous epithelium

Function- Protection

Found in- Outer skin surface, inner lining of buccal cavity, vagina and anal canal

Stratified cuboidal  
epithelium

Function- Protection and  
secretion

Found in- Male urethra  
and pharynx

Transitional  
epithelium

Function- Protection and  
distensibility

Found in- Inner lining of  
urinary bladder and  
urinary tract

Fibres secreted by  
cells of connective  
tissue

Collagen

Elastic (elastin)

Reticular (collagen and  
glycoproteins)

Loose connective  
tissue

Adipose tissue- store fats

Areolar tissue- contains  
fibroblast, macrophages and  
mast cells

Reticular tissue- supports  
internal framework of liver,  
spleen, lymph nodes

Dense regular tissue

Tendons- join bones to  
muscles

Ligaments- join two  
bones

Dense irregular  
tissue

Dermis of the skin

Smooth muscle

Fusiform, non-striated and involuntary

Found in- internal organs, stomach, intestine, blood vessels

Skeletal muscle

Striated, voluntary, bundled together, parallel

Cardiac muscle

Striated, involuntary, intercalated discs present at fusion points.

Peristomium

1st segment of the body of an earthworm

Clitellum

Segment 14-16 of earthworm, covered with glandular tissue and forms cocoon

Sense organs of earthworm

Gustatory and olfactory- buccal receptors  
Photoreceptors- present on dorsal skin surface, no eyes  
Tangoreceptors (sense of touch)- epidermal receptors

## Alimentary canal of earthworm

Buccal chamber- 1 to 3  
Pharynx- 4 to 5, contains Chromophil cells in pharyngeal glands  
Oesophagus- 6 to 7  
Gizzard- 8  
Stomach- 9 to 13/14, contains calciferous glands  
Intestine- 15 to last

## Spermatheca

Four pairs- 6 to 9 segments  
store sperms during copulation

## Reproductive system of earthworm

Hermaphrodite, protandrous and cross-fertilisation

Testes- 2 pairs (10-11)

Ovaries- 1 pair at segment 13



## Sense organs in cockroach

Auditory receptors- anal cerci

Photoreceptors- simple and compound eyes

Thigmoreceptors- antennae

Chemoreceptors- maxillary and labial palps, labium and hypo pharynx

## Mouth parts of cockroach

Mandibulate- biting and chewing type

labrum- upper lip

labium- lower lip

maxillae- one pair, resemble leg

mandibles- one pair

hypo pharynx- tongue

## Cockroach digestive system

Foregut (stomodaeum)- buccal chamber, pharynx, oesophagus, crop and gizzard

Midgut (mesenteron)

Hindgut (proctodaeum)- ileum, colon, rectum