

Organisation

Principles of organisation

Cell: basic building block

Tissue

Similar cells Same function

Organ

Several tissues Specific function

Organ system

Organs work together

Organism

Size and scale

Cell, tissue, organ, system 1 mm = 1000 μm

Animal tissues and organ systems

Digestive system

Enzymes and active site Amylase, protease, lipase Bile

Food tests and pH practical

Heart

Double circulation Pacemaker Coronary arteries

Lungs

Trachea, bronchi, alveoli Capillary network

Gas exchange adaptations

Blood vessels

Artery Vein Capillary Blood flow rate

Blood

Plasma Red cells White cells Platelets

Coronary heart disease

Fatty build-up Stents and statins Valves Transplants

Health and disease

Interactions Risk factors Lifestyle effects Costs

Cancer

Uncontrolled division Benign Malignant

Plant tissues and systems

Plant tissues

Epidermis Palisade Spongy Meristem

Leaf organ

Stomata and guard cells

Root hair cells

Osmosis Active transport

Xylem

Water and minerals Lignin

Phloem

Translocation Dissolved sugars

Transpiration

Temperature Humidity Air movement Light