

MULTICELLULAR ORGANISMS



SYLLABUS CHECKLIST

This is the knowledge that you should understand upon completing this section:

5.1 CELLS, TISSUES, ORGANS AND SYSTEMS

- Multicellular organisms have a hierarchical structural organisation of cells, tissues, organs and systems.

5.2 RESPIRATORY SYSTEMS

- In animals, the exchange of gases between the internal and external environments of the organism is facilitated by the structure of the exchange surface/s including spiracles, gills, alveoli and skin.

5.3 DIGESTIVE SYSTEMS

- In animals, the acquisition and processing of nutrients is facilitated by the structures of the digestive system; animals may have a gastrovascular cavity with one opening or a specialised alimentary canal with two opening; specialisation of alimentary canals is related to diet, for example, herbivores and carnivores.

5.4 CIRCULATORY SYSTEMS

- In animals, the transport of materials within the internal environment for exchange with cells is facilitated by the structure of open and closed circulatory systems according to the different metabolic requirements of organisms and differing environments.

5.5 TRANSPORT IN VASCULAR PLANTS

- In vascular plants, gases are exchanged via stomata and the plant surface and does not involve the plant transport system.
- In vascular plants, transport of water and mineral nutrients from the roots occurs via xylem involving root pressure, capillary action transpiration (adhesion and cohesion of water molecules); transport of the products of photosynthesis and some mineral nutrients occurs by translocation in the phloem. Terrestrial Australian plants are adapted to minimize water loss in an arid environment.

