

Year 7, Study Guide, Semester 2, 2010 (*page references are for the new Science textbook*)

Unit 4: Classification (pp. 83 to 113)

What is classification? Why is it necessary?

- Constructing and using dichotomous keys
- Diagrammatic keys
- Descriptive keys
- The 5 Kingdom classification system to categorise living things
- Classification of animals
- Research mammalian groups
- Classification of invertebrates
- Classification of plants
- Reflect on the 'arbitrary' nature of classification. Other models to the 5 Kingdom system.

Unit 5: Cells (pp. 114 to 142)

The link between the development of microscopy & the development of cell theory (timeline)

- compare and contrast light microscopes (monocular & stereo) with electron microscopes
- how to set up a microscope for the viewing of slides
- how to observe and draw microscope specimens – drawing cells
- the need to stain specimens
- the cellular differences between the 5 kingdoms of living things
- the structure and function of basic organelles and cellular structures: cell wall, cell membrane, nucleus, vacuole, chloroplast, mitochondria.
- Specialisation of cells, tissues, organs in plants and animals
- Provide arguments for viruses being classed as living or non-living (optional).
- Research beneficial and harmful microbes, including bacteria, fungi & viruses

Unit 6: Forces (pp. 143 to 171)

- identify forces about us, what forces can do
- calculation of speed
- distinguish push or pull forces, contact and non-contact forces
- electrostatic forces, magnetism, buoyancy, surface tension, friction, gravity
- technological developments to reduce friction
- comparing mass and weight
- transport safety, seat belts, head rests, helmets, air bags, crumple zones...

Unit 7: The Earth and our Solar System (pp. 172 to 226)

- Earth's structure (cross-section)
 - Layers in the atmosphere, gases including ozone
 - Greenhouse effect
 - sunrise and sunset
 - seasons
- The Solar System
 - the planets
 - gravity and orbiting bodies
 - debate possible life on other planets
 - debate whether billions should be spent upon a space program.

Unit 8: Seeing and Hearing (pp. 244 to 257)

- Comparing light with sound
- How come light can travel through a vacuum but sound cannot?
- What is sound?
- How do we see?
 - The structure of the eye
- How do we hear?
 - The structure of the ear