

Sec 2 Science – Ch. 3 Key Concepts

3.0 Species, Animal Cell components (p52-53)

Animal and plant cells, Cell membrane, Cytoplasm, Nuclear membrane, nucleus, chromosome, mitochondrion (p53)

Cell (p54)

3.1 Chromosomes and Genes (p55-60)

Hereditary Information, hereditary diseases, which characteristics are hereditary, chromosomes, genes, DNA, shape of chromosomes, number of human chromosomes (46), and number of chromosome pairs (23), number of chromosomes of sex cells (23)

3.2 Diffusion and Osmosis (p61-95)

Cell membrane – controls exchanges between inside and outside of cell (p61)

Diffusion – From high to low concentration (p62-63)

Osmosis – From low to high concentration across membrane (p64-65)

3.3 Inputs and Outputs of cells (p68-69)

Plant cells use sunlight to make sugar to store energy

Inputs: Water, CO₂, Sunlight (energy)

Outputs: Glucose, oxygen

Animal cells use respiration to use sugar for energy

Inputs: Glucose, oxygen

Outputs: Water, CO₂, Energy

3.4 Photosynthesis and Respiration (p71-73)

Inputs and outputs of each.

Photosynthesis occurs in chloroplasts of plants.

Cellular respiration occurs in mitochondria of both animal and plant cells.

Practice: problems in 3.1, 3.2, 3.3, & 3.4