

Gr 7 Natural Science

TERM 1: LIFE AND LIVING THINGS

Biodiversity:

- Biosphere
- Biodiversity
- Producers, Primary consumers, Secondary consumers
- 5 Kingdoms: Monera, Protista, Fungi, Plants, Animalia
- Vertebrates: Fish, Amphibians, Reptiles, Birds, Mammals
 - Reproduction
 - Structure of an egg
- Invertebrates:
 - Arthropoda: Insects,
Arachnidas (spiders)
Myriapodas (millipedes, centipedes)
Crustaceans (crabs and lobsters)
- Annelida: - Reproduction, Digestion, Breathing
- Mollusk: - Giant squid and Snail

Plant and animal cells:

- Similarities and differences
- Angiosperm
- Root systems
- Processes in the plant: - Photosynthesis and Respiration

TERM 2: MATTER AND MATERIAL

- Atoms and molecules
- 4 phases of matter
- Properties of solids, liquids, gases
- Phase changes: Melt, freeze, evaporate, condense
- Physical and Chemical changes
- Elements, compounds and mixtures

Chemistry:

- Periodic table
- Elements
- Metals, non-metals and metalloids (semi-metals)
- Chemical symbols
- Meaning of atomic number
- Atoms, molecules and compounds

TERM 3: ENERGY

- Energy laws
- What is a fuel?
- Renewable – and non-renewable energy sources
- Advantages and disadvantages of fossil fuels
- Sources of renewable energy:
 - Wind
 - Sun
 - Hydro
 - Biomass
 - Geothermal
- Carbon footprint
- Energy sources in SA:
 - Nuclear power
 - Wind power
- Energy transfer: Potential and Kinetic energy
- Heat energy: Conduction, Convection, Radiation
- Structures:
 - Rules to keep a structure stable
 - Functions of a structure
- Types of structures:
 - Shell structures: properties + examples of man-made & natural shell structures
 - Frame structures: properties + examples of man-made & natural frame structures
 - Solid structures: properties + examples of man-made & natural shell structures
 - Mixed structures
- Igloo
- Tallest buildings in the world
- Types of walls, joints and fasteners
- Attachment points: different types of joints

TERM 4: TECHNOLOGY AND SPACE

- Types of drawings in the design process: Two-dimensional 2D-drawing
Three-dimensional 3D-drawing
- Characteristics of a 3D-drawing
- Perspective drawings:
 - Single vanishing point perspective drawing
 - Two Point Perspective drawing
- Design process: Research, Design, Make, Evaluate, Communicate

Space:

- Planets and Stars
- Big Bang theory
- Sun and Planets
- Comets, Meteor, Meteorite, Meteoroid and Asteroids
- Inside planets and Outside planets
- Moon and tides