### Subject: Year 7 Science – Semester 1

#### Course Content

**Mixtures:** Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques.
- Understand that many common substances are in fact mixtures (eg. air, petrol, food, rocks, soil etc.)
- The key term (solvent, solution, dilute, concentrated, suspension etc)
- The use of practical techniques to separate mixtures (eg. filtration, decantation, evaporation, crystallisation, chromatography, distillation etc.)
- The applications of separation techniques in everyday life (eg coffee machine, drain taps, air conditioners, water softeners, pool filters etc.)

**Resources:** Some of Earth’s resources are renewable, but others are non-renewable.
- Understand the difference between renewable and non-renewable resources and describe the properties of each.
- Compare and contrast renewable (eg. Tidal, solar, wind etc.) and non-renewable energy sources and their various applications.
- Understand the features of the water cycle.
- Understand that human actions may disrupt the water cycle (eg. Dams, pollution, over-use, bores etc.) and the methods which can be used to manage the water cycle.

**Forces:** Changes to an object’s motion is caused by unbalanced forces acting on the object. Earth’s gravity pulls objects towards the centre of the Earth.
- What is a force (simple explanation of ‘push or pull’ followed by more in-depth definitions of specific forces: gravity, magnetic, friction, static etc.)
- Balanced and unbalanced, contact and non-contact, what a force can cause an object to do.
- Understand that gravity is responsible for everyday phenomena. The role of gravity in the solar system. Mass and weight.

#### Assessment

Assessment will include a range of the following, both as individual and group tasks:
- Tests
- Practical investigations
- Assignments
- Research
- Folios
- Other tasks as directed by the teacher