



**Unit 2: Physics** – Electric current is the flow of electric charge (Current Electricity) – (BC Science Probe 9, Chapters 9 to 11)

- How and why do electric charges flow within a circuit?
- What is required to make an electric circuit?
- What is the difference between AC (alternating current) and DC (direct current)?
- Types of circuits: Series and Parallel circuits
- Ohm's Law (relationship between voltage, current, and resistance)
- Electrical Safety (voltage and current)

**Unit 3: Biology** – Cells are derived from other cells (Reproduction) – (BC Science Probe 9, Chapters 2 to 4)

- Asexual reproduction – Mitosis: fission, budding, cloning, spores, grafting
- Sexual reproduction – Meiosis: human sexual reproduction and genetic diversity

**Unit 4: Earth Systems** – The biosphere, geosphere, hydrosphere and atmosphere are interconnected as matter cycles and energy flows through them – (BC Science Connections 9, Unit 4)

- Effect of solar radiation on the cycling of matter and energy: S
- Solar radiation provides the energy required for most life on Earth; root cause of wind and ocean currents which distribute energy and nutrients around the planet, as well as the energy sources for the water cycle (interrelationship between matter and energy)
- Matter cycle within biotic and abiotic components of the ecosystems (e.g. Water cycle, Carbon cycle, Nitrogen cycle, Phosphorous cycle)
  - bioaccumulation and biomagnification
  - Interrelationships of Biotic organisms and Abiotic factors
  - Sustainability of systems – interrelationship and dynamic equilibrium of earth systems
  - human impacts on sources and sinks (e.g. climate change, deforestation, agriculture, etc)
- Sustainability of systems: Interrelationship and dynamic equilibrium of earth systems (e.g. carbon as a key factor in climate change, greenhouse effect, water cycle, etc)

### **Assessment – Evidence of Understanding**

Throughout the course you will demonstrate your learning and understanding in a variety of ways, including:

- Assignments, activities, project(s)
- Tests, quizzes
- Major Projects that engage students in inquiry and analysis:
  - Science Fair [*Terms 1 and 2: Due in February*]
  - Science First Peoples Project – focus on a plant or animal species [*Terms 2 and 3: Due in June*]

**Note:** If you are away on the day of a test or quiz you must e-mail your teacher to arrange an alternate date/time to write the test.