|  |  |  |
| --- | --- | --- |
| **opportunity for growth** | **performance meets standard of learning (Grade 9)** | **advanced** |
|  | Big Ideas and Content at a glance* Cells are derived from cells.
* The electron arrangement of atoms impacts their chemical nature.
* Electric current is the flow of electric charge.
* The biosphere, geosphere, hydrosphere, and atmosphere are interconnected, as matter cycles and energy flows through them.
* characteristics of life
* asexual reproduction (mitosis, different forms)
* sexual reproduction (meiosis, human sexual reprod.)
* element properties as organized in the periodic table
* arrangement of electrons determines the compounds formed by elements
* circuits —must be complete for electrons to flow
* voltage, current, and resistance
* effects of solar radiationon cycling matter & energy
* matter cycles (biotic & abiotic components)
* sustainability of systems
* First Peoples: interconnectedness and sustainability
 |  |
| Learning: Takes Time and Patience, Experiential, Embedded in Story, . . . |
|  | Questioning and predicting* Demonstrate a sustained intellectual curiosity
* Make observations aimed at identifying own questions about natural world
* Formulate multiple hypotheses and predictions
 |  |
|  | Planning and conducting* Collaboratively and individually plan, select and use appropriate investigation methods
* Assess risks and address issues
* Select and use appropriate equipment
* Ensure safety and ethical guidelines are followed
 |  |
|  | Processing and analyzing data and information* Experience and interpret the local environment
* Apply First Peoples perspectives & knowledge, other ways of knowing, and local knowledge
* Seek & analyze patterns & connections in data
* Construct & analyze graphs/models/diagrams
* Draw conclusions consistent with evidence
* Analyze cause-and-effect relationships
 |  |
|  | Evaluating* Evaluate methods and experimental conditions
* Describe ways to improve methods
* Evaluate limits of model or analogy
* Demonstrate awareness of assumptions
* Consider changes in knowledge over time
* Connect to careers in science
* Consider social/ethical/environ. implications
* Critically analyze validity of secondary sources
 |  |
|  | Applying and innovating* Contribute to care for self, others, community
* Transfer and apply learning to new situations
* Generate and introduce new or refined ideas
* Contribute to finding solutions through inquiry
* Consider role of scientists in innovation
 |  |
|  | Communicating* Formulate physical or mental theoretical models
* Communicate ideas, claims, information
* Express & reflect on experiences & perspectives
 |  |