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| **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 |  |