Science 14 Unit Outline

Program of Studies: https://education.alberta.ca/media/3069383/pos_science_14_24.pdf
Understanding by Design Unit Planning Template: http://jaymctighe.com/resources/downloads/

<table>
<tr><th colspan="3">Stage 1 - Identify the Desired Results (Programs of Study)</th></tr>
<tr><td rowspan="6">ESTABLISHED GOALS
Social and Environmental Emphasis:
• Issues/decisions relating to how science and technology are applied
• Skill emphasis on the use of research and inquiry skills to inform decision-making processes
• Students seek to analyze information and consider a variety of perspectives

(Science 14 Program of Studies, pp. 7 & 10)</td><td colspan="2">Transfer</td></tr>
<tr><td colspan="2">Students will be able to independently use their learning to…
GLO 1: Describe how the flow of matter in the biosphere is cyclical along characteristic pathways and can be disrupted by human activity
GLO 2: Analyze a local [water] ecosystem in terms of its biotic and abiotic components, and describe factors of the equilibrium
(Science 14 Program of Studies, p. 26)</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>UNDERSTANDINGS
Students will understand that…
• Energy from the Sun sustains living systems and maintains equilibrium in the biosphere
• Matter and energy are recycled along natural pathways
• Human activity has an impact on the movement of matter and energy in the biosphere, raising global concerns about sustainability
(Science 14 Program of Studies, p. 26)</td><td>ESSENTIAL QUESTIONS
• How is human activity influencing the natural flow of matter and energy in the biosphere?
• Should humans as a species be concerned about the effects of their activities on other species and the environment?
(Science 14 Program of Studies, p. 26)</td></tr>
<tr><td colspan="2">Acquisition</td></tr>
<tr><td>Students will know…
• See student learning outcomes in Science 14 Program of Studies, p. 26</td><td>Students will be skilled at…
• See student learning outcomes in Science 14 Program of Studies, pp. 27-29</td></tr>
<tr><th colspan="3">Stage 2 – Determine the Evidence of Student Learning (Assessment)</th></tr>
<tr><th>Evaluative Criteria</th><th colspan="2">Assessment Evidence</th></tr>
<tr><td>Rubric</td><td colspan="2">PERFORMANCE TASK(S):
• Water Action Project</td></tr>
<tr><td>Teacher Identified</td><td colspan="2">OTHER EVIDENCE:
• Teacher identified (may include anecdotal records, observations, conversations, lab reports, posters, presentations, public service announcements, quizzes, tests, etc.)</td></tr>
<tr><th colspan="3">Stage 3 – Design Instruction (Lesson Sketches)</th></tr>
<tr><td colspan="3">Outlined in next section</td></tr>
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