# Bow High School - Course Map

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| **Course Title: Environmental Science Spring** |
| **Department: Science** |

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| **Unit Name: Energy Consumption & Resources** |
| **Topics:**<br>● Resource Consumption & Humans<br>● Green Energy Sources<br>● Animal Survival and Adaptations - Engineered for Heating & Cooling<br>● Home Architecture - Low Energy Designs<br>● Insulation Types & Effectiveness<br>● Commercial Architecture - Low Energy Designs |
| **School Competencies:**<br>● Critical Thinking (Problem Solving & Analysis - Foundational)<br>● Interpretation (Problem Solving & Analysis - Foundational)<br>● Logical Processing (Problem Solving & Analysis - Foundational)<br>● Design Modification (Problem Solving & Analysis - Advanced)<br>● Reflection (Problem Solving & Analysis - Advanced)<br>● Synthesis (Problem Solving & Analysis - Advanced) |
| **Course Competencies:**<br>● Human Interactions & Energy |
| **Formative Assessments:**<br>● Getting Started Questions at the beginning of each class period<br>● Lab: Insulation & Heat Transfer<br>● Low Energy Model Home Design |
| **Summative Assessments:**<br>● Project: Low Energy Model Home Design & Build Challenge<br>● Exam: Reducing Energy Demands |

# Bow High School - Course Map

| **Unit Name: Oceans** |
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| **Topics:**<br>● Physical Factors<br>● Zones & Layers<br>● Biologic & Physical Carbon Pumps<br>● Nitrogen Cycle in Ocean Layers<br>● Primary Productivity in Ocean Layers<br>● Climate Change Impacts on Sea Level, Surface Temp, Currents, Weather Patterns, Acidification<br>● Ocean Pollution |
| **School Competencies:**<br>● Logical Processing (Problem Solving & Analysis - Foundational) |
| **Course Competencies:**<br>● Human Interactions & Ecosystems |
| **Formative Assessments:**<br>● Getting Started Questions at the beginning of each class period<br>● Documentary Connection Questions |
| **Summative Assessments:**<br>● Project: Marine Ecosystems StoryMap Project<br>● Exam: Oceans |

# Bow High School - Course Map

**Unit Name: Agriculture & the Environment**

**Topics:**

- Conventional Agriculture
- Modern, More Sustainable Agriculture
- Carbon Cycle
- Water Use
- Temperature
- Hydroponics
- Aquaponics
- Nitrogen Cycle
- Soil Health
- Soil Productivity (permeability, water holding, soil ions, ion exchange, soil type)
- Soil Components
- Plant Health

**School Competencies:**

- Interpretation (Problem Solving & Analysis - Foundational)
- Logical Processing (Problem Solving & Analysis - Foundational)
- Reflection (Problem Solving & Analysis - Advanced)
- Scientific Experimental Design (Problem Solving & Analysis - Advanced)

**Course Competencies:**

- Human Interactions & Ecosystems

**Formative Assessments:**

- Getting Started Questions at the beginning of each class period
- Lab: Soil Productivity
- Quiz: Agriculture & Environment

**Summative Assessments:**

- Project: Exploring Soil Productivity Lab
- Exam: Soil Productivity Scenario