

Science 7

Type: Online

Course Description:

Earth Science: Climate change – a controversial topic and one that affects everyone. But does it affect everyone the same? What are the injustices that present themselves in the discussion around the topic of environmental change? Students will engage with the topics and decide for themselves which side of the fence they represent and do so by creating a collection of political artwork along with other activities throughout the module.

Biology: Become an explorer and board the HMS Beagle for a tour of the Galapagos Islands! As you embark you will learn how to prepare for such a journey, and then begin your tour of the incredible islands. While there you'll learn scientific art and become one with the birds, discover how they've adapted to their surroundings and why these adaptations have occurred. Then you'll take your knowledge and apply it to the creation of your own island with different plants and species.

Chemistry: Learn about the basic building blocks of our universe - the Atom! We will also see how atoms relate to elements and compounds and we will explore the Periodic Table, an icon in the world of chemistry.

Physics: Dive into the world of engineering as you explore how to help the town of Heritage Valley as they need a different green energy source! You'll create a tool to test three different sources of power and come to a conclusion of which one you feel is suitable for their needs. You'll have to take into consideration how electricity works, the pros and cons to the different sources of energy and overall cost of the building project! Hurry now, the town needs your help!

Major Units and Topics:

- Climate Change
- Theory of Evolution
- Scientific Process
- Environment
- Electricity
- Natural Resources
- Periodic Table

Assessment Requirements:



- Response questions
- Students must complete all lessons and assignments
- Various other lesson assignments
- Projects
- Quizzes
- Labs
- Each lesson designed to take approximately 30 - 45 minutes, with the exception of major projects and assignments

Learning Standards Overview:

Content <i>Students are expected to know the following:</i>				
Questioning and Predicting	Earth Science	Biology	Physics	Chemistry
Demonstrate a sustained curiosity about a scientific topic or problem of personal interest	✓	✓	✓	✓
Make observations aimed at identifying their own questions about the natural world	✓	✓	✓	✓
Identify questions to answer or problems to solve through scientific inquiry	✓	✓	✓	✓
Formulate alternative “If...then...” hypotheses based on their questions		✓	✓	
Make predictions about the findings of their inquiry		✓	✓	✓
Planning and Conduction	Earth Science	Biology	Physics	Chemistry
Collaboratively plan a range of investigation types, including field work and experiments, to answer their questions or solve problems they have identified		✓		
Measure and control variables (dependent and		✓	✓	✓



independent) through fair tests				
Observe, measure, and record data (qualitative and quantitative), using equipment, including digital technologies, with accuracy and precision		✓	✓	✓
Use appropriate SI units and perform simple unit conversions				✓
Ensure that safety and ethical guidelines are followed in their investigations		✓	✓	✓
Processing and Analyzing Data and Information	Earth Science	Biology	Physics	Chemistry
Experience and interpret the local environment	✓	✓	✓	✓
Apply First Peoples perspectives and knowledge, other ways of knowing, and local knowledge as sources of information	✓	✓	✓	
Construct and use a range of methods to represent patterns or relationships in data, including tables, graphs, keys, models, and digital technologies as appropriate		✓	✓	✓
Seek patterns and connections in data from their own investigations and secondary sources	✓	✓	✓	✓
Use scientific understandings to identify relationships and draw conclusions	✓	✓	✓	✓
Evaluating	Earth Science	Biology	Physics	Chemistry
Reflect on their investigation methods, including the adequacy of controls on variables (dependent and independent) and the quality of the data collected	✓	✓	✓	✓



Identify possible sources of error and suggest improvements to their investigation methods	✓		✓	✓
Demonstrate an awareness of assumptions and bias in their own work and secondary sources	✓		✓	
Demonstrate an understanding and appreciation of evidence (qualitative and quantitative)	✓		✓	✓
Exercise a healthy, informed skepticism and use scientific knowledge and findings from their own investigations to evaluate claims in secondary sources	✓	✓	✓	✓
Consider social, ethical, and environmental implications of the findings from their own and others' investigations	✓	✓	✓	✓
Applying and Innovating	Earth Science	Biology	Physics	Chemistry
Contribute to care for self, others, and community through personal or collaborative approaches	✓	✓	✓	✓
Cooperatively design projects	✓			
Transfer and apply learning to new situations	✓	✓	✓	✓
Generate and introduce new or refined ideas when problem solving		✓	✓	✓
Communicating	Earth Science	Biology	Physics	Chemistry
Communicate ideas, explanations, and processes in a variety of ways	✓		✓	✓
Express and reflect on personal, shared, or others' experiences of place	✓	✓	✓	



