

# Science 6

**Type:** Online

## Course Description:

**Earth Science:** The Universe is a vast space with so many intricacies involved. With a focus on the Milky Way and its parts, this unit starts off with an extreme environment on Earth that bridges the gap between Earth and Space. We then move beyond Earth to explore the planets and other components of the Universe. Along the way students will be creating a Survival Guide which will help anyone know what is needed to survive in these different extremes, or if it is even possible!

**Biology:** Eww! Gross! This unit is sure to be a favorite for students as we explore the human bodies and discuss why 'gross' isn't gross, but is totally natural and expected! Students will compile reports, interview adults, write speeches, draw comic strips and in the end, compile a book entitled 'A Pre-Teen's Guide to the Gross and Glorious Human Body'.

**Chemistry:** Do we have any food lovers? Whether you are or you aren't, we all need food to survive, and even better if it tastes good! Students will apply their Chemistry learning to create a cookbook called, Mix-It-Up – Cooking with Chemistry, involving both homogeneous and heterogeneous mixtures, as well as separated mixtures. Maybe by the end of this module students will be able to cook dinner?

**Physics:** The laws have changed – it's no longer a requirement for adults to wear seatbelts, but is this the right choice? We'll explore Newton's Three laws of Physics, and apply them to the idea of cars and seatbelts to determine if it's a wise choice to wear or not wear a seatbelt. In the end, students will become an activist for their choice and should be able to defend their choices based on the labs, results and information they've learned through the module.

## Major Units and Topics:

- Earth, Space and the Universe
- Puberty
- Body Systems
- Cooking with Chemistry
- Newton's Laws
- Car Safety
- Mixtures



### 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:

<b>Content</b> <i>Students are expected to know the following:</i>				
<b>Questioning and Predicting</b>	<b>Earth Science</b>	<b>Biology</b>	<b>Physics</b>	<b>Chemistry</b>
Demonstrate a sustained curiosity about a scientific topic or problem of personal interest	✓	✓	✓	
Make observations in familiar or unfamiliar contexts	✓		✓	
Identify questions to answer or problems to solve through scientific inquiry			✓	
Make predictions about the findings of their inquiry		✓	✓	✓
<b>Planning and Conduction</b>	<b>Earth Science</b>	<b>Biology</b>	<b>Physics</b>	<b>Chemistry</b>
With support, plan appropriate investigations to answer their questions or solve problems they have identified	✓		✓	✓
Decide which variable should be changed and measured for a fair test			✓	



Choose appropriate data to collect to answer their questions	✓		✓	
Observe, measure, and record data, using appropriate tools, including digital technologies			✓	
Use equipment and materials safely, identifying potential risks			✓	✓
<b>Processing and Analyzing Data and Information</b>	<b>Earth Science</b>	<b>Biology</b>	<b>Physics</b>	<b>Chemistry</b>
Experience and interpret the local environment x	✓			
Identify First Peoples perspectives and knowledge as sources of information	✓		✓	✓
Construct and use a variety of methods, including tables, graphs, and digital technologies, as appropriate, to represent patterns or relationships in data	✓		✓	✓
Identify patterns and connections in data			✓	
Compare data with predictions and develop explanations for results			✓	✓
Demonstrate an openness to new ideas and consideration of alternatives	✓	✓	✓	
<b>Evaluating</b>	<b>Earth Science</b>	<b>Biology</b>	<b>Physics</b>	<b>Chemistry</b>
Evaluate whether their investigations were fair tests			✓	
Identify possible sources of error			✓	✓
Suggest improvements to their investigation methods			✓	✓



Identify some of the assumptions in secondary sources			✓	
Demonstrate an understanding and appreciation of evidence		✓	✓	
Identify some of the social, ethical, and environmental implications of the findings from their own and others' investigations			✓	
<b>Applying and Innovating</b>	<b>Earth Science</b>	<b>Biology</b>	<b>Physics</b>	<b>Chemistry</b>
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		✓		
<b>Communicating</b>	<b>Earth Science</b>	<b>Biology</b>	<b>Physics</b>	<b>Chemistry</b>
Communicate ideas, explanations, and processes in a variety of ways	✓	✓	✓	✓
Express and reflect on personal, shared, or others' experiences of place		✓	✓	

