

## A. Unit Overview

Ecology is one of my favorite units to teach and I am lucky enough to have taught it for six years in a row now. **It has truly evolved into a unit that I believe has an impact on students** ([Birds Eye View](#)). In my experience students haven't thought much about what happens to the water passing through their bodies, their houses, down their roads and on into the lake. Shelburne is the perfect place to begin looking at how we utilize water and how it sustains and nurtures us. Beginning with the story of our local sub-watershed in Shelburne it is easy to create a very natural extension towards the Lake Champlain Basin and our watershed as a whole. **It is my hope that students learn about the interdependence of the living and nonliving components in any ecosystem** ([Assessment Tool](#)), but more importantly begin to analyze how their interactions with their own ecosystems can affect the equilibrium of that system.

**At the end of this unit students will create an EDpuzzle** ([Student Handout](#)) presentation that answers our essential question:

- How do the abiotic and biotic factors tell the story of water in Shelburne?

Additionally students will write an argument piece about one of the following topics:

- Whether or not bottled water should be an available resource.
- Whether or not the use of microbeads in personal care products should be banned in VT.
- Whether or not there should be a pollution tax on carbon emissions for businesses here in VT.

<b>Know</b> at the end of this theme students will know...	<b>Understand</b> at the end of this theme, students will understand ...	<b>Do</b> at the end of this theme, students will be able to...
Water is a most precious resource that is not available to all in equal measure.	Organisms interact with the abiotic and biotic factors in their environment to obtain energy.	Identify and distinguish between abiotic and biotic factors In an ecosystem.
Shelburne is part of a larger watershed - The Lake Champlain Basin. The Lake Champlain Basin extends through 37% of NV, 56% of VT and 7% of Quebec, Canada.	Changes to abiotic or biotic components in an ecosystem affect populations.	Using maps identify the abiotic and biotic factors that tell the story of their local sub-watershed. Create an event Map of the places we visit.
About various ecological issues that are currently impacting local and global ecosystems: Agriculture, Climate Change, Biodiversity, Pollution, and Overpopulation.	Ecosystems are dynamic and result from the complex interactions between abiotic and biotic things.	Define a watershed and identify the Lake Champlain Basin as our watershed.
Living things and their environment are interdependent. Ecosystems are not always in balance.	The story of our local sub-watershed is an example of change over time.	Define what an ecosystem is and identify all of the major players: producers, consumers and decomposers.
	How the abiotic and biotic factors in Shelburne help tell the story of our watershed.	Debate about important ecological topics and write a summative argumentative piece on a topic of their choosing.
		Create a presentation on the story of water in Shelburne.

- This unit meets school wide action plans to dabble in the Lucy Caulkins writing curriculum as well as improve upon student writing for all 6-8 students.
- Meets NGSS and GE standards in ecology.