

Overview – Essential Question and Enduring Understanding

Essential Question:

HOW DOES SCIENCE HELP ME UNDERSTAND THE SYSTEMS AROUND ME?

Why am I teaching this unit?

I chose to teach this unit for two reasons. First, the availability and accessibility to sites with scientific interest in the northern Vermont region are plentiful, and through previous experience with the high school students that I teach, I have found a lack of awareness of these places and also how they can affect their everyday lives. Second, its one thing for students to know about certain sites of scientific interest, but what I want them to fully understand are not only the benefits found within each, but the potential problems we face and how we must manage not only now, but in the future.

What do I hope my students will accomplish and learn?

I hope my students will become far more aware of how science impacts their lives on a daily basis, and I hope to foster a deeper understanding of the interconnectedness of living things and the environment in which they live. Many kids today are often too distracted with the newest electronic gadget and their wonder and appreciation for nature has suffered. I intend to renew a sense of wonder and appreciation with this unit.

In what ways will I address the District initiatives, demands of my subject(s) and my own personal purpose?

The school that I currently teach at, Jean Garvin School in Williston, is guided by a consortium from schools within Chittenden County, rather than a typical supervisory union in the public school system. We primarily educate students from grades 7-12 with emotional and/or behavioral disorders. The consortium expects the same from us as in a public school, but with adjusted expectations because of lowered learning levels and abilities, in some cases significant. Regardless, I still treat every one of my students as I would any average child, and I encourage the same inquiry, passion for knowledge, and giving your best effort as I would in a public school environment. I still enjoy seeing the “light bulb going on” in someone’s mind, no matter who the learner is or what age they are. It’s a key element in me wanting to educate others.

The demands of this subject are very familiar with me, as I was a hydrogeologist for 11 years prior to becoming a licensed teacher in the state of Vermont. During my countless travels to my hundreds of projects sites, I became familiar with a wide range of manufacturing, municipal, resource management, and resource recovery businesses. I also worked on many sensitive

ecological projects, wetland habitat restorations, and even federal Superfund cleanup sites. I feel fortunate to have experienced so much in my life that directly applies to current day learning and teaching, and I take full advantage of that to help me be successful as an educator.

Standards addressed in this unit are as follows:

- 7.4 a: Investigate contributions made to science, technology, and mathematics by many different kinds of people, and explain their importance.
- 7.4 aa: Examine important contributions made to the advancement of science, technology, and mathematics, and respond to their impact on past, present, and future understanding.
- 7.5a: Explain how discoveries or inventions can help or hurt people.
- 7.5aaa: Analyze the impact of scientific, mathematical, and technological investigations into and findings about human society, including the ethical issues involved.
- 7.15ee: Analyze and explain natural resource management and demonstrate an understanding of the ecological interactions and interdependence between humans and their resource demands on environmental systems.
- 7.16a: Identify natural and agricultural resources and where they came from. Distinguish between natural resources and things made by humans.
- 7.16b: Identify the benefits of agriculture and natural resources.
- 7.16bbb: Evaluate how science and technology are used to maximize benefits and understand natural resource and agricultural systems.