

Appendix 1: Implementing Teaching Standards

UNIT: Energy & Sustainability	
Grade/Subject:	6 th – 8 th Grade PLTW Green Architecture Elective/8 th Grade Integrated Science
Length of Unit: A/B Day Schedule	For this unit, students’ culminating project will be on Autodesk Revit. The length of the unit depends on students’ prior of this program and how to use it. For this particular set of students, a prior background knowledge of the program and its features has already been established. 6 th Grade – 4 weeks 7 th Grade – 3 weeks 8 th Grade – 3 weeks
<p>UNIT GOAL:</p> <p>Explain the environmental implications associated with the various methods of obtaining, managing and using energy resources (North Carolina Essential Standard 8.P.2)</p> <p><u>North Carolina Essential Standard 8.P.2.1</u></p> <p>Explain the environmental consequences of the various methods of obtaining, transforming, and distributing energy.</p> <p><u>North Carolina Essential Standard 8.P.2.2</u></p> <p>Explain the implications of the depletion of renewable and nonrenewable energy resources and the importance of conservation.</p>	
Prioritized Standards Based Knowledge & Skills	<ul style="list-style-type: none"> • Renewable resources are natural resources that can be replaced or reused • Nonrenewable resources cannot be replaced in nature • Renewable resources are replaced through natural processes at a rate equal to or greater than the rate at which they are used • Air, freshwater, soil, living things and sunlight are renewable resources • Sunlight (solar energy) is a renewable resource because it will continue to be available for billions of years (it is a source of energy for all processes on Earth) • Nonrenewable resources are exhaustible because they are being used at a much higher rate than the rate at which they are formed (coal, oil, natural gas, diamonds, metals, other minerals) • Fossil fuels exist in a fixed amount and can only be replaced by processes that take millions of years • Living resources can contribute to environmental changes in land, air and water if removed without being replaced or replanted • Humans can prevent or slow the depletion of resources by reducing, reusing or recycling • Conservation involves preventing the loss of a resource by way of thoughtful management of it