

# Human Impact: UBD Unit Design Template

Time Frame: Quarter 2	Unit Title: Human Impact on the Environment	Course Name: 8th Grade Integrated Science
<b>Stage 1: Desired Results</b>		
<b>Established Goal(s)</b>	<b>Transferable Skills</b>	
<p>(6-8.ESS3 C&amp;D.) Students will understand what they do and how those actions have an effect on the global environment. They will also understand at least two technologies that help lower the negative impact.</p> <p>(MS-ESS3.1) Students will understand how to construct and present a scientific explanation based on evidence for how the earth's resources are distributed based on economics and geography.</p> <p>(MS-ESS3.3) Students will understand how to design a method for lowering human impact.</p> <p>(MS-ESS3.4 &amp; 5) Students will understand how to ask clarifying questions and how to support a claim using evidence on how the human population affects earth systems.</p>	<i>Students will be able to independently use their learning to...</i>	
	<ul style="list-style-type: none"> <li>● Construct and ask clarifying questions about the cause and effect of climate change.</li> <li>● Construct an argument that is supported by empirical evidence</li> <li>● Identify variables and their effects on the results of an experiment</li> <li>● Write an informative non-fiction piece of literature</li> </ul>	
	<b>Meaning</b>	
	<p><b><u>Understandings</u></b> <i>Students will understand that...</i></p> <p>The world's population has grown exponentially, and therefore the impact of human activity has grown to unprecedented levels.</p> <p>Human impact and resources vary greatly throughout the world due to both geography and economics.</p> <p>Humans emit gasses into the atmosphere through their use of fossil fuels. These gasses contribute to global climate change because of their ability to trap heat.</p> <p>Humans have developed alternatives to fossil fuels such as solar, wind, hydro, and geothermal.</p>	<p><b><u>Essential Questions</u></b></p> <p>How can you use data to make informed decisions about your impact on the environment?</p> <p>What is the relationship between the human population and the environment?</p> <p>What will happen when the earth runs out of non-renewable resources?</p>
<b>Acquisition</b>		
<p><i>Students will know...</i></p> <ul style="list-style-type: none"> <li>● Humans rely heavily on fossil fuels, and these fossil fuels emit gasses into the environment that contribute to global climate change.</li> <li>● The key greenhouse gasses are carbon dioxide, methane, nitrous oxide, and water vapor, and what is the greenhouse effect</li> <li>● Resources can be both renewable and nonrenewable</li> <li>● Natural resources are distributed unevenly throughout the earth because of geography (such as earth processes, rock types, and climate) and economics, with richer countries often using the most natural resources.</li> <li>● Humans have and continue to develop technologies to reduce human impact on the environment, but there are things we can do as individuals to lower our carbon footprint.</li> </ul>	<p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> <li>● Identify the relationship between the growing population, natural resources, and climate change</li> <li>● State the key greenhouse gases, and describe the key sources for each.</li> <li>● Explain how greenhouse gases contribute to global climate change.</li> <li>● Explain the difference between renewable and non-renewable resources, and give examples of each.</li> <li>● Explain why resources are distributed unevenly throughout the earth, and what types of countries use the most and least resources.</li> <li>● Describe the different technologies that have been developed to reduce our impact on the environment.</li> </ul>	

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		<ul style="list-style-type: none"><li>• Describe ways they can individually reduce their impact on the environment, and why those small changes matter.</li></ul>
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