

**Backwards Design Unit Planning**  
**Teacher/School: John Santamaria 185**

**Essential Question:**

Mini-Unit Title	Big ideas of the mini-unit / concept statement (macro)	Knowledge (Important Content to Know about Mini-Unit) (Micro)	Skills What should the students be able to do? (rule of thumb - skills are verbs – knowledge is a noun)	How does this connect to the theme of your school	Possible List of Topical Essential Questions / Focusing Questions	Mini-Unit Assessment	Benchmarks / Scaffolding towards culminating project
<b>Resources</b>	-Renewable and nonrenewable resources. -Forms of energy and power.	-Resources -Fossil fuels -Water power -Solar power	-Compare types of resources. -List uses of fossil fuels. -Identify alternatives to fossil fuel use. -compare different forms of energy and power. -Describe uses and benefits for different types of energy	By understanding the way natural resources are being used now, students can determine the way in which communities get affected by the absence of these resources.	-Should we control the use of nonrenewable resources? -What use can we give to different types of energy? -What happens to a region when its natural resources are scarce or non-existing? -are there alternate sources of energy to power our planet without depleting our resources?	-Use a Venn diagram to compare renewable and nonrenewable resources. -Create a poster showing examples in which different forms of energy are being used for daily life.	Research the way in which areas have changed after the natural resources in them have been removed.
<b>Pollution</b>	- Types of pollution and their effect in our environment? - Causes and effects of global warming	-Air pollution. -Green house effect. -Global warming -Ozone depletion	- Describe types of air pollution. - Identify cause and effect of pollution. - Identify problems that can result from the accumulation of hazardous waste.	Students will discuss if the causes of ozone depletion are the consequence of the irresponsible actions of a group of people! How do these actions affect the responsible actions by humans affect the equilibrium of a determined environment.	-How smog can be reduced in big cities? -What will happen if the ozone layer continues to thin? -What are different sources of pollution? -How does climate relate to biodiversity? -How does pollution affect biodiversity? -What can we do to prevent loss of species? -What are some we	- Describe three possible impacts of global warming. Provide one fact that supports global warming and one fact that does not. -Identify ways in which hazardous waste affect an area. -Complete the task on page 209 of the book. -Write a description of the species and explain why it is considered in danger. -Research and discuss	-Research how water pollution affects any particular area of our planet. Identify the problems the community in that area is facing due to water pollution. -Research and discuss incidents involving birds and other animals dying because of oil spills. -Research laws about environment protection.
<b>Conserving Life</b>	- The ozone layer and its effects in species. - Hazardous waste effects.  -Conservation	-Water importance of biodiversity. -Soil pollution -Hazardous waste -Endangered species. Threatened species -Conserving and	- Explain why the accumulation of hazardous waste is a problem. - Determine the importance of creating strategies for	Students will discuss if the causes of ozone depletion are the consequence of the irresponsible actions of a group of people! How do these actions affect the responsible actions by humans affect the equilibrium of a determined environment.	-How does climate relate to biodiversity? -How does pollution affect biodiversity? -What can we do to prevent loss of species? -What are some we	- Describe three possible impacts of global warming. Provide one fact that supports global warming and one fact that does not. -Identify ways in which hazardous waste affect an area. -Complete the task on page 209 of the book. -Write a description of the species and explain why it is considered in danger. -Research and discuss	-Research how water pollution affects any particular area of our planet. Identify the problems the community in that area is facing due to water pollution. -Research and discuss incidents involving birds and other animals dying because of oil spills. -Research laws about environment protection.

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<p><b>The Immune System</b></p>	<ul style="list-style-type: none"> <li>- Immune system</li> <li>- Antibodies</li> <li>- Vaccination</li> <li>- Virus</li> </ul>	<ul style="list-style-type: none"> <li>- Habitat loss.</li> <li>- Wildlife</li> <li>- Defenses.</li> <li>- Antibody</li> </ul>	<p>Describe the natural defenses your body uses against diseases.</p>	<p>Student will research and analyze situations in which</p>	<p>What is the difference between being introduced to habitats?</p>	<p>Discussion and input in analyzing the problem created by irresponsible virus manipulation in</p>	<p>-Students will discuss the importance of vaccination and the right of people to get</p>
			<p>oil spills in bodies of water.          -Identify several goals of conservation.          -Recommend strategies to prevent extinction of species.          -Explain how endangered species can be reintroduced into its original habitat.</p>		<p>-How introducing foreign species into an environment can affect the harmony of that environment?</p>		
<p><b>The Immune System</b></p>	<ul style="list-style-type: none"> <li>- Immune system</li> <li>- Antibodies</li> <li>- Vaccination</li> <li>- Virus</li> <li>- Infectious disease</li> <li>- Allergies</li> <li>- Cancer</li> </ul>	<ul style="list-style-type: none"> <li>-Immune system.</li> <li>-Defenses</li> <li>-Antibody</li> <li>-Vaccination</li> <li>-diseases</li> <li>- Viruses</li> <li>- HIV</li> </ul>	<ul style="list-style-type: none"> <li>-Describe the natural defenses your body uses against diseases.</li> <li>-Determine the importance of vaccination to prevent diseases.</li> <li>-Determine how diseases are spread.</li> <li>-Identify how HIV affects humanity.</li> </ul>	<p>Student will research and analyze situations in which manipulation of chemicals and/or viruses affect a particular community.</p>	<ul style="list-style-type: none"> <li>- What is the difference between an antigen and an antibody?</li> <li>- Do people have the right to get informed about sexually transmitted diseases? Why?</li> <li>- What are some reasons why HIV is easily spread?</li> <li>- How can manipulation of chemicals be harmful to humans?</li> <li>- How do cancers spread?</li> <li>- What daily activities should we practice in order to reduce the</li> </ul>	<p>- Discussion and input in analyzing the problem created by irresponsible virus manipulation in certain communities.</p>	<p>-Students will discuss the importance of vaccination and the right of people to get vaccinated against diseases.          - Research and analyze causes of virus outbreaks in specific communities.          -Discuss the cause and effects of such incidents.</p>

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*A Week at a Glance – Copy as Necessary*

<p>WHERE is the student going and what is expected          HOOK with needed skills to experience and explore          Opportunity to REVISE and RETHINK their understanding</p>		<p>Allow students to EVALUATE work and implications          TAILOR work to student needs          Be ORGANIZED to maximize engagement</p>		
Monday	Tuesday	Wednesday	Thursday	Friday
<p><b>Content Focus:</b> Natural Resources</p> <p><b>Hook:</b> You suddenly wake up in the middle of the Sahara Desert. How would the way you live change?</p> <p><b>Daily Assessment:</b> Make a list of renewable and non renewable resources.</p>	<p><b>Content Focus:</b> Mining and effects on environment</p> <p><b>Hook:</b> How would you feel if a big hole is dug in your living room?</p> <p><b>Daily Assessment:</b> Identify items that are necessary to life and that are products of mining.</p>	<p><b>Content Focus:</b> Fossil fuel and forms of energy</p> <p><b>Hook:</b> What would happen if we run out of petroleum?</p> <p><b>Daily Assessment:</b> List alternate energy sources to fossil fuel</p>	<p><b>Content Focus:</b> Water Pollution</p> <p><b>Hook:</b> How would you feel paying \$100 for a bottle of drinking water?</p> <p><b>Daily Assessment:</b> Identify five causes and effects of water pollution</p>	<p><b>Content Focus:</b> Air Pollution and soil pollution</p> <p><b>Hook:</b> How would you feel about wearing a filter face mask constantly?</p> <p><b>Daily Assessment:</b> List five causes of air and water pollution.</p>
<p><b>Weekly Assessment:</b> Research how can water pollution affect a community.</p> <p>What have the students produced that scaffolds towards the units culminating assessment?          (for example if the unit's culminating assessment is a newspaper – perhaps the students have written an article)</p>				

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Monday	Tuesday	Wednesday	Thursday	Friday
<b>Content Focus:</b> Green house Effect  <b>Hook:</b> Describe three possible impacts of global warming.  <b>Daily Assessment:</b> In one paragraph describe the greenhouse effect.	<b>Content Focus:</b> Ozone Depletion  <b>Hook:</b> What is the purpose of people wearing sun block lotion?  <b>Daily Assessment:</b> Recognize the danger of Ozone Layer depletion and ways to prevent it.	<b>Content Focus:</b> Waste  <b>Hook:</b> What would happen if no garbage collection programs were in place?  <b>Daily Assessment:</b> How could hazardous wastes in landfills eventually affect groundwater?	<b>Content Focus:</b> Conservation  <b>Hook:</b> What does “going green” means to you?  <b>Daily Assessment:</b> Write an argument in support of a money deposit for bottles and cans and one argument against it.	<b>Content Focus:</b> Recycling and its benefits <b>Hook:</b> If you get five cents per every item you recycle. How much money could you make a week? <b>Daily Assessment:</b> Describe how you could reuse three items people usually throw away.
<b>Weekly Assessment:</b> Complete the lab on page 239 of Glencoe. New York Science. Grade 8. Textbook.  What have the students produced that scaffolds towards the units culminating assessment? (for example if the unit’s culminating assessment is a newspaper – perhaps the students have written an article)				

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Monday	Tuesday	Wednesday	Thursday	Friday
<b>Content Focus:</b> Biodiversity  <b>Hook:</b> Which is your favorite animal? (then discuss the variety of animals we know)  <b>Daily Assessment:</b> Explain why biodiversity is important in an ecosystem.	<b>Content Focus:</b> Lost, Endangered, Threatened Species.  <b>Hook:</b> What animals do you consider necessary for our daily life function?  <b>Daily Assessment:</b> Explain how the extinction of a type of animal might affect the environment.	<b>Content Focus:</b> Habitats  <b>Hook:</b> Why is it important to have a house to live in?  <b>Daily Assessment:</b> Explain why habitat loss and habitat division are threats to biodiversity.	<b>Content Focus:</b> Conservation Biology  <b>Hook:</b> Why do you think animals become the symbol of a region or country?  <b>Daily Assessment:</b> Explain why is it important to restore and protect wildlife habitats.	<b>Content Focus:</b> Laws of preservation  <b>Hook:</b> Should there be laws against killing wild animals? Why?  <b>Daily Assessment:</b> Research and explain laws about environment protection.
<b>Weekly Assessment:</b> Lab on page 265. Glencoe. New York State. 8 <sup>th</sup> Grade. Textbook. (About oil spills and their effects on birds)  What have the students produced that scaffolds towards the units culminating assessment? (for example if the unit's culminating assessment is a newspaper – perhaps the students have written an article)				

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<p>Content Focus: The Immune system</p> <p>Hook: What if we never get sick?</p> <p>Daily Assessment: Identify some specialized cells and substances that protect the body from infectious disease.</p>	<p>Content Focus: Infectious Diseases</p> <p>Hook: What if we couldn't prevent any sickness?</p> <p>Daily Assessment: Describe the importance of vaccination</p>	<p>Content Focus: Sexually transmitted diseases.</p> <p>Hook: Should sexually transmitted diseases be discussed with youngsters?</p> <p>Daily Assessment: Identify how HIV affects populations around the world</p>	<p>Content Focus: Noninfectious diseases</p> <p>Hook: Are all diseases contagious?</p> <p>Daily Assessment: Describe the basic characteristics of cancer</p>	<p>Content Focus: Noninfectious diseases. Cont...</p> <p>Hook: If you had the power to eradicate one disease from earth which would you choose to eliminate? Why?</p> <p>Daily Assessment: Describe how diseases are spread.</p>
<p>Weekly Assessment: Student will research and analyze situations in which manipulation of chemicals and/or viruses affect a particular community</p> <p>What have the students produced that scaffolds towards the units culminating assessment? (for example if the unit's culminating assessment is a newspaper – perhaps the students have written an article)</p>				

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Monday	Tuesday	Wednesday	Thursday	Friday
<p>Content Focus: Searching and deciding on the topic for the GRASP activity.</p> <p>Daily Assessment: Based on the information gathered during the last four weeks, students will decide and complete the research on the topic to work on for their report.</p>	<p>Content Focus: Search and elaborate on the content of the project.</p> <p>Daily Assessment: Students are to collect the necessary information for their report.</p>	<p>Content Focus: Students are to write the report about their findings (according to their task assignments and instructions).</p> <p>Daily Assessment: Students will type their report. And obtain the A/V aids needed to complement the content.</p>	<p>Content Focus: Students start handing their draft projects to be reviewed and corrected.</p> <p>Daily Assessment: Finish and hand in project.</p>	<p>Content Focus: Projects are returned and revised for corrections.</p> <p>Daily Assessment: Students will work on presentations to be done next week.</p>
<p><b>Weekly Assessment:</b> Finish project and prepare presentation.</p> <p><b>What have the students produced that scaffolds towards the units culminating assessment?</b> (for example if the unit's culminating assessment is a newspaper – perhaps the students have written an article)</p>				

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## **Unit Resources**

**Books: Glencoe. New York Science. Grade 8.**

**Websites:**

**Teacher Materials:**

**Other:**