



**Marietta City Schools**

**District Unit Planner**

Everything on the unit planner must be included on the unit curriculum approval statement.

*Science Grade 6*

<b>Unit title</b>	<i>Human Energy Needs</i>	<b>MYP year</b>	<i>1</i>	<b>Unit duration (hrs)</b>	<i>25 Hours (Spiraled throughout the year)</i>
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**Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?***

**GSE Standards**

**Standards**

S6E6. Obtain, evaluate, and communicate information about the uses and conservation of various natural resources and how they impact the Earth.

- a. Ask questions to determine the differences between renewable/sustainable energy resources (examples: hydro, solar, wind, geothermal, tidal, biomass) and nonrenewable energy resources (examples: nuclear: uranium, fossil fuels: oil, coal, and natural gas), and how they are used in our everyday lives.
- b. Design and evaluate solutions for sustaining the quality and supply of natural resources such as water, soil, and air.
- c. Construct an argument evaluating contributions to the rise in global temperatures over the past century. (Clarification statement: Tables, graphs, and maps of global and regional temperatures, and atmospheric levels of greenhouse gases such as carbon dioxide and methane, should be used as sources of evidence.)

**Prior Student Knowledge: (REFLECTION – PRIOR TO TEACHING THE UNIT)**

In third grade, students investigate the following:

S3L2. Obtain, evaluate, and communicate information about the effects of pollution (air, land, and water) and humans on the environment.

- a. Ask questions to collect information and create records of sources and effects of pollution on the plants and animals.
- b. Explore, research, and communicate solutions, such as conservation of resources and recycling of materials, to protect plants and animals.

**Concepts/Skills to be Mastered by Students**

- Renewable and nonrenewable energy
- Global climate and change

**Key Vocabulary: (KNOWLEDGE & SKILLS)**

- Conservation
- Natural Resource
- Nonrenewable resource
- Renewable Resource
- Inexhaustible Resource

Impact  
 Fossil Fuel  
 Solar energy  
 Wind energy  
 Geothermal energy  
 Biomass  
 Tidal energy  
 Greenhouse gasses  
 Methane gas  
 Ozone  
 Climate Change  
 Soil  
 Windbreaks  
 Conservation Tillage  
 Terraces  
 Contour Plowing  
 Crop rotation

**Year-Long Anchoring Phenomena: (LEARNING PROCESS)**

Earth is the only planet in our solar system that can support life.

**Unit Phenomena (LEARNING PROCESS)**

How can renewable resources such as hydro, solar, wind, geothermal, and tidal be used as energy resources?

**Possible Preconceptions/Misconceptions: (REFLECTION – PRIOR TO TEACHING THE UNIT)**

Students think you can get any type of energy source here in Georgia.

Students do not understand how valuable soil is to farmers or to their day-to-day lives.

Key concept	Related concept(s)	Global context
Relationships	Energy (MYP/CCC)	Scientific and Technical Innovation
<b>Statement of inquiry</b>		
Scientific and technological advancements have allowed for the use of renewable and sustainable energy resources.		
<b>Inquiry questions</b>		

**Factual—**

What is a natural resource?  
What are alternate forms of energy?

**Conceptual—**

How can we conserve and protect our natural resources?

**Debatable-**

Could one person make a difference in the world’s plastic crisis?  
Which renewable resource will provide the most energy for Georgia's growing population? Should the UN create a new category for refugees called climate refugees?

MYP Objectives	Assessment Tasks	
<i>What specific MYP <b>objectives</b> will be addressed during this unit?</i>	<b>Relationship</b> between summative assessment task(s) and statement of inquiry:	<i>List of common formative and summative assessments.</i>
<b>Sciences</b>  <b>Design</b>	MYP D - Presentation of the case for/or against creating a category for Climate Refugee.	<b><u>Formative / Summative Assessment(s):</u></b> MYP Tasks & Climate and Weather Projects
<b>Approaches to learning (ATL)</b>		
<b>Category:</b> Thinking <b>Cluster:</b> Critical-Thinking <b>Skill Indicator:</b> Gather and organize relevant information to formulate an argument.		

**Learning Experiences**

Add additional rows below as needed.

<b>Objective or Content</b>	<b>Learning Experiences</b>	<b>Personalized Learning and Differentiation</b>
Global Climate Change	Introduce Phenomenon Climate Refugees, students will present a case for/or against creating a category for climate refugees.	Scaffold notes for special education and ESOL
Conservation of Water, Air, and Soil	Student's research benefits of conservation of water, air, and soil.	Scaffold notes for special education and ESOL

**Content Resources**

Discovery Education Science Techbook - Human Energy, Conservation and Sustainability Unit Resources