



Marietta City Schools

District Unit Planner

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

Science Grade 6

Unit title	Human Energy Needs	MYP year	1	Unit duration (hrs)	25 Hours (Spiraled throughout the year)
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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.

- 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.
- Design and evaluate solutions for sustaining the quality and supply of natural resources such as water, soil, and air.
- 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.

- Ask questions to collect information and create records of sources and effects of pollution on the plants and animals.
- 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?

Video on Climate Refugees (Edpuzzle) <https://edpuzzle.com/media/5a0ddb2671d4c3410b96cc80>

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	Relationships (MYP) Energy (MYP/CCC)	Scientific and Technical Innovation
Statement of inquiry		
Scientific and technological advancements have allowed for the use of renewable and sustainable energy resources.		
Inquiry questions		

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

<u>Learning Experiences</u> Add additional rows below as needed.		
Objective or Content	Learning Experiences	Personalized Learning and Differentiation
Conservation of Natural Resources	Introduce Phenomenon Climate Refugees (Edpuzzle). 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 the decrease in air pollution during the Covid-19 pandemic. For example, find before and after pictures of cities that had a massive reduction in air pollution during the pandemic. What should we do now that we are back to pre-pandemic activity?	Scaffold notes for special education and ESOL
Content Resources		
Discovery Education Science Techbook - Human Energy, Conservation and Sustainability Unit Resources, BrainPop, Edpuzzle		