

NUHS Alternative Energy Unit

	Science	Humanities	Math	Health	Seminar
Themes	<ul style="list-style-type: none"> - Energy and the energy cycle -Renewable and nonrenewable energy resources -Physics: Laws of Motion 	<ul style="list-style-type: none"> - The advantages and disadvantages of various energy sources - The energy-use platforms of the 2004 US Presidential Candidates 	<ul style="list-style-type: none"> - Data collection, manipulation, presentation and analysis - Use of formulas 	<ul style="list-style-type: none"> - The effect of energy-use decisions and subsequent pollution on human health - Environmental-related disease tracking over the last 100 years 	
Goals	<ul style="list-style-type: none"> - To increase student knowledge of the energy cycle, energy use and renewable/ non-renewable energy resources - To facilitate student understanding and application of Physical Laws of Motion 	<ul style="list-style-type: none"> - To increase student understanding of the environmental, social, medical, economical and political advantages and disadvantages of various energy sources - To facilitate student research and analysis of the energy-use platforms of the 2004 US Presidential Candidates 	<ul style="list-style-type: none"> - To increase student ability to accurately collect and record data (such as measurements of time and distance) - To ensure that students are able to effectively present and analyze data in a variety of formats (graphs, charts, spread sheets, etc...) - To increase student ability to accurately manipulate data through the use of formulas 	<ul style="list-style-type: none"> - To increase student understanding of the environmental (and subsequent health-related) effects of various energy resources. - To increase student knowledge of environmental-related disease trends over the last 100 years and the 	
Objs	<ul style="list-style-type: none"> - Students will demonstrate knowledge of the concept of “energy” and describe 8-10 renewable and non-renewable energy resources. - Students will apply the Physical Laws of Motion to the design, construction and testing of model rockets and cars. - Students will apply knowledge of alternative/ renewable energy resources in the design and construction of model cars. 	<ul style="list-style-type: none"> - Students will defend various controversial positions related to the advantages and disadvantages of various energy resources during an in-class debate. - Students will describe the advantages and disadvantages of various energy resources and defend their personal opinion in a written paper. - Students will create a “Marketing Campaign” (in the media of their choice) which highlights their knowledge of energy resources as well as the energy-use platforms of the 2004 US Presidential Candidates. 	<ul style="list-style-type: none"> - Students will collect, manipulate, display and analyze data relating to various energy resources. - Students will collect, manipulate, display and analyze data relating to the model rockets and cars built in Science Class. - Students will apply various formulas related to the Physical Laws of Motion to data they collect while designing, constructing and testing their model rockets and cars. 	<ul style="list-style-type: none"> - Students will incorporate their knowledge of energy-use relate health effects and disease trends into the Humanities Classroom Debate. - Students will incorporate their knowledge of energy-use relate health effects and disease trends into the Humanities Persuasive Paper. - Students will incorporate their knowledge of energy-use relate health effects and disease trends into the Humanities Media Campaign. 	

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<p>Projects and Student Work to be Assessed</p> <p>Projects will be displayed at the “Presentation of Learning” (Thurs, 10/28)</p>	<p><i>Water Rockets and Pasta Cars:</i></p> <ul style="list-style-type: none"> - Students explore the Laws of Motion, collect data and apply Newtonian Formulas as they design, construct and test water rockets and pasta cars. <p><i>Alternatively Fueled Cars:</i></p> <ul style="list-style-type: none"> - Students apply knowledge of energy resources as they design, construct and race alternatively fueled model cars. 	<p><i>Media Campaign:</i></p> <ul style="list-style-type: none"> - Students use medium of choice to present the energy platforms of 2004 US Presidential Candidates. <p><i>Class Debate:</i></p> <p>Students research and debate the merits and disadvantages of various energy resources <i>or</i> the energy platforms of 2004 US Presidential Candidates. Speeches will be graded for CIM credit.</p> <p><i>Persuasive Paper:</i></p> <p>Students present their opinions on various energy resources in a written paper that will be graded for CIM credit.</p> <p><i>The Media Campaigns, Class Debates and Persuasive Papers will all include relevant Health, Science, and Math Data.</i></p>	<p><i>Data Displays:</i></p> <ul style="list-style-type: none"> - Students present and analyze data related to the use of various energy resources. - Students present and analyze data collected during the design, construction and testing of their model rockets and cars. <p><i>CIM Task (Algebraic Relations):</i></p> <p>Students create and submit an Algebraic Relations CIM Work Sample based upon the mathematical themes of this unit.</p> <p><i>QODs/Written Tests:</i></p> <p>Students answer questions on formula use and data collection/manipulation/analysis in “Question of the Day” (QOD) and written test formats.</p>	<p><i>Media Campaign:</i></p> <p>Students incorporate relevant Health statistics into Humanities Media Campaign.</p> <p><i>Class Debate:</i></p> <p>Students incorporate relevant Health statistics into Humanities Class Debate.</p> <p><i>Persuasive Paper:</i></p> <p>Students incorporate relevant Health statistics into Humanities Persuasive Paper.</p>	<p><i>On Mondays and Wednesdays students use Seminar as a time during which they may complete work on projects from the other classes.</i></p>
Responsibilities	<ul style="list-style-type: none"> - Provide other teachers with a comprehensive overview of energy resources - Organize field trip to Bonneville Dam - Act as primary contact for HP grant reporting - Research potential guest speakers (alt. energy) - Work closely with Math to ensure that integrated goals are being met 	<ul style="list-style-type: none"> - Provide other teachers with a comprehensive overview of the energy-use platforms of the 2004 US Presidential Candidates - Research and schedule guest speakers - Work closely with Health and Seminar to ensure that integrated goals are being met - Act as secondary contact for HP grant reporting 	<ul style="list-style-type: none"> - Work closely with Science to ensure that integrated goals are being met 	<ul style="list-style-type: none"> - Provide other teachers with a comprehensive overview of various Health issues related to energy-use - Provide Humanities with NPR report on presidential platforms - Work closely with Humanities to ensure that integrated goals are being met 	<ul style="list-style-type: none"> - Work closely with all other teachers to ensure that project work is being supported