

## One Earth. One Dream. Our Home.

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**Essential/Central Question:** How do we combat environmental problems that affect all of our lives?

**Lesson Summary:** Students will thoroughly research the issues of environmental pollution and destruction and discuss the efforts of environmental protections and community planning. Then, they will create infographics in group and present on a topic related to nature resources. Group topics includes renewable and clean energy, effective use of transportation, the 3R's (reuse, reduce and recycle), and the three pollutants- air, solid wastes and water.

**Grade Levels and Courses:** This lesson can be used in the following courses and grades: World Languages — Grade 9-12; Modern World History – Grade 6-12; Government and Economics – Grade 11-12; Environmental Science; Asian Studies; International Studies

**Duration:** 5 days (5 class periods)

### Learning Objectives:

#### Interpersonal Communication

- present factual information on social and environmental questions, recycling, and/or pollution
- discuss energy as a power derived from physical or chemical resources, specifically as something which allows machines to provide light and heat, or do work.
- explain green transportation in conversation
- discuss the 3R's as it relates to global warming
- talk about the three main pollutants - air, solid wastes, and water pollution.

## **Presentational Speaking**

- present factual information on social and environmental questions, recycling, and/or pollution.
- present ideas on current environmental issues
- explain their point of view on current event topics (ie. recycling, energy conservation, extreme weather events)
- analyze the effects of global warming using pictures or photos
- present information on global warming in regards to their own community

## **Interpretive Listening**

- Students can understand the video “Who Will Act First on Climate Change, the US or China?”

## **Interpretive Reading**

- Students can read primary source infographics and posters related to global warming.

## **Presentational Writing**

- Students can construct an infographic and develop a simple questionnaire or survey.

## **Content**

- understand the greenhouse effect
- comprehend the various ways in which human activities are increasing emissions of natural gases
- demonstrate an awareness of the difficulties in counteracting global warming.

## **Plan of Instruction:**

### **1. Warm-up Activities:**

- Task 1: Student’s survey - What do you do in your daily life?

Follow by a pair-share: Both students think of answers individually and then share them in partner pairs.

*[Supporting Documents] Warm-ups*

- Task 2: Project global infographics during the first 5 minutes of the class and have students describe them (either verbally or in writing). In groups, students take turns sharing their responses orally.

<http://www.mapsofworld.com/infographics/poll/can-global-warming-be-contained-text.html>

### **2. Step 2: Comprehensive input**

- Task 1: Watch the 1990 Institute video “Who Will Act First on Climate Change,

the US or China?"

<http://teachers.1990institute.org/2016/07/will-act-first-climate-change-u-s-china/>

Complete video questions to prompt student group discussions on global warming awareness.

*[Supporting Documents] Video Question Worksheets*

- Task 2: Use infographics to introduce key vocabulary words.

Infographic themes include reusing, reducing, recycling; energy efficient devices; renewable energy; carpooling; etc.

*[Supporting Documents] Powerpoints*

Student activity: Each student is assigned a vocabulary flashcard and asked to draw a picture of their word on the back of their flashcard. Students then find partners — in pairs, they quiz each other on vocabulary words, then trade flashcards before finding new partners.

Vocabulary Flashcards and Worksheets:

*[Supporting Documents] Vocabulary*

### **3. Step 3: Guided practices**

- Task 1 : Reading comprehension

Teachers review a variety of primary source global warming posters. To demonstrate their literacy, students may:

1. Write a short paragraph summarizing the information on the poster.
2. Draw a cartoon (including headlines) summarizing the information on the poster.
3. Create a concept map summarizing the information on the poster.
4. Draw a picture that captures the information on the poster.
5. Create a rap/hip hop song to summarize the information on the poster.

*[Supporting Documents] Posters*

- Task 2: Group work - Research the natural disasters that have occurred this year (locally, nationally, or internationally) and divide these disasters into groups by type of disaster (ie. flood, mudslide, drought, hurricane, earthquakes, tornados, sandstorm, air pollution, etc).

Discussion - In your assigned group, discuss how human activities have increased the intensity of these natural disasters. What solutions are there to this phenomenon? Are the effects of global warming reversible? This discussion will

help prepare the students for their final infographic project.

#### 4. Application:

- Task 1: Infographic - Divide students into four groups so that each contains students with differing learning styles. Assign each group to a topic below:
  1. Renewable and clean energy
  2. Green transportation
  3. The 3R's (reuse, reduce and recycle)
  4. The three pollutants (air, solid wastes, and water)

Each group must create an infographic that contains:

1. Define the topic in the context of global warming.
2. Describe consequences of ignoring the issue (cause and effect)
3. Taking Actions: What we have been doing and what more can we do on the assigned topic?
4. Cite three examples from three countries on what they have done to address global warming in the area of your topic.
5. Write 10 survey questions related to your assigned topic through SurveyMonkey.

Infographic sample: Can Global Warming Be Contained?

<http://www.mapsofworld.com/infographics/poll/can-global-warming-be-contained-text.html>

SurveyMonkey sample:

<https://www.surveymonkey.com/r/SGG33ZG>

- Task 2: Oral Presentation - Groups must prepare an oral presentation for the class, which must cover the following perspectives: myself/home, school/community, national/global.
- Advanced level class: write an email/letter to the president of United Nations/EPA about your suggestions/solutions regarding global warming.

#### Summative Assessment:

The rubric consists of the following sections:

- Content
- Organization
- Diction and Syntax
- Creativity
- Visuals

*[Supporting Documents] Global Warming Project Rubric*

Example rubric:

[http://www.schrockguide.net/uploads/3/9/2/2/392267/schrock\\_infographic\\_rubric.pdf](http://www.schrockguide.net/uploads/3/9/2/2/392267/schrock_infographic_rubric.pdf)

## **Readings/Websites/Documents/Attachments:**

\*This link is no longer active.

### **English Readings/Websites:**

Brandon Gaille: 37 Great Global Warming Slogans and Taglines

<http://brandongaille.com/37-great-global-warming-slogans-and-taglines/>

British Channel 4 Documentary: The Great Global Warming Swindle

[https://youtu.be/52Mx0\\_8YEtg](https://youtu.be/52Mx0_8YEtg)

Maps of the World: Can Global Warming Be Contained?

<http://www.mapsofworld.com/infographics/poll/can-global-warming-be-contained-text.html>

<https://youtu.be/JVnWKPjtL3s>

Medium: President Obama - The United States Formally Enters the Paris Agreement

<https://medium.com/the-white-house/president-obama-the-united-states-formally-enters-the-paris-agreement-c02a3853acd9#.4h6plvfde>

Survey Questionnaire (Climate Change Version)

<http://doc.ukdataservice.ac.uk/doc/5345/mrdoc/pdf/5345userguide.pdf>

### **Chinese Readings/Websites:**

BBC: 中国环境问题二、三十年内难以解决

BBC: Difficulties resolving China's environmental problems in two or three decades

[http://www.bbc.com/zhongwen/simp/china/2013/07/130710\\_china\\_environment\\_south\\_north](http://www.bbc.com/zhongwen/simp/china/2013/07/130710_china_environment_south_north)

東森新聞: 寶特瓶換飼料!幫助浪浪的佛心回收機

Dong Sen News: Recycle plastic bottles for animal feed. Help strays with this recycling machine.

<https://www.facebook.com/news.ebc/videos/1185991634769259/>

Slow Chinese: 中国的环境问题

Slow Chinese: China's Environmental Problem

<http://www.slow-chinese.com/podcast/40-zhong-guo-de-huan-jing-wen-ti/> \*

Slow Chinese: 中国的人口

Slow Chinese: China's Population

<http://www.slow-chinese.com/podcast/34-zhong-guo-de-ren-kou/> \*

Wikipedia: 中国环境问题 - 污染

Wikipedia: China's Environmental Problems - Pollution

<https://zh.wikipedia.org/wiki/中国环境问题#.E6.B1.A1.E6.9F.93>

WildAid Taiwan: 野生救援

WildAid Taiwan: Wildlife Conservation

<https://www.facebook.com/WildAidTW/?fref=nf>

### **Documents/Attachments:**

*[Supporting Documents] Warm-ups*

*[Supporting Documents] Video Question Worksheets*

*[Supporting Documents] Powerpoints*

*[Supporting Documents] Vocabulary*

*[Supporting Documents] Posters*

*[Supporting Documents] Global Warming Project Rubric*

### **Common Core/State Standards:**

#### **Grades 9-10:**

**CCSS.ELA-LITERACY.SL.9-10.1** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

**CCSS.ELA-LITERACY.SL.9-10.1.A** Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.

**CCSS.ELA-LITERACY.SL.9-10.1.B** Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.

**CCSS.ELA-LITERACY.SL.9-10.2** Integrate multiple sources of information presented in diverse

media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.

**CCSS.ELA-LITERACY.SL.9-10.4** Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

**CCSS.ELA-LITERACY.SL.9-10.5** Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

**CCSS.ELA-LITERACY.RI.9-10.4** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).

#### **Grades 11-12:**

**CCSS.ELA-LITERACY.SL.11-12.1** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12 topics, texts, and Presentation of Knowledge and Ideas:

**CCSS.ELA-LITERACY.SL.11-12.4** Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

**CCSS.ELA-LITERACY.SL.11-12.5** Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

**CCSS.ELA-LITERACY.RI.11-12.1** Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.