

*Lesson 8*  
**Climate Change**



Unit Title: <b>Climate Change</b>	
Theme: <b>Ecosystems &amp; Cycles</b>	Grade Level: <b>9-10</b>
# of sessions for the unit: <b>class period(s) 2-3 (~45min each)</b>	Session #8: <b>Effects of Rapid Climate Change</b>
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**Unit Description**

Provided in a separate document. *Please see High School Curriculum Overview.*

**Standard(s)**

**HS-LS2-7.** Analyze direct and indirect effects of human activities on biodiversity and ecosystem health, specifically habitat fragmentation, introduction of non-native or invasive species, overharvesting, pollution, and climate change.

**Unit Goals**

Students will understand the causes and effects and possible solutions of climate change with an emphasis on carbon sequestration (capture)

**Lesson Objectives & Essential Vocabulary**

Students will be able to list and describe the many devastating effects of rapid global climate change.

**Essential vocabulary:**

- desertification
- acid rain
- ocean acidification
- erosion
- ocean currents
- weather patterns
- severe weather events
- global warming
- tipping point
- permafrost

**NOTE:**

If you can predict which students may not be able to achieve the goals, then you need to reduce barriers to maximize learning for all.

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## Note any potential barriers to the lesson – consider variability

vocab/reading ability — provide scaffolding, diagrams to clarify text, vocab assignments: word splash, etc.

Writing skills: solution provide writing prompts or sentence frames

### NOTE:

Provide options — refer to the UDL guidelines as a way to ensure that all learners can demonstrate achievement of goals. For ideas: <http://bit.ly/1d5bjtS>

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## Evaluation/Assessment

(directly linked to the goals, i.e., Formative/Ongoing Assessment or Summative/End of Lesson Assessment)

Guiding questions/quiz on video presentation, ‘Before the Flood’

Rubric to assess project/presentation of different causes of rapid climate change

teacher check ins for understanding

*NOTE: Consider the [UDL Guidelines](#) in selecting methods and materials to ensure that you provide options for engagement, representation, and action and expression.*

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## Methods

(e.g., Anticipatory Set, Introduce and Model New Knowledge, Provide Guided Practice, Provide Independent Practice)

1. Preteach vocabulary and activate prior knowledge by breaking students into groups of 3-4 students. Have each student in the group be responsible for learning 2-3 of the essential vocabulary words above. Each student should define and create an illustration for each word they are assigned. Essentially the student becomes a “wizard” for his/her words. Then students will teach the rest of their group the words they became expert wizards of. Hold brief class discussion to ensure student understanding.
2. Hook: Show students RTT chart representing atmospheric carbon
3. Video clips or show video, ‘Before the Flood’
4. Teacher generated discussion regarding the devastating effects of rapid global climate change: global warming, desertification, ocean acidification, permafrost, severe weather events, changes in ocean current patterns, food security, etc.
5. Have students research the effects that the cause (they researched in lesson 7) of climate change is having globally and add this information to their poster, powerpoint, google slide, brochure, persuasive essay or video(from lesson 7) findings will be presented in lesson 9
6. Enrichment ideas: research current articles regarding habitat/climate change in local or different ecosystems

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## Materials

1. Text, developed rubric: [https://docs.google.com/spreadsheets/d/1yS8oXLDmfl4TqZITVTRv7Og4Cw12Ve1ORxC\\_hm03RD0/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1yS8oXLDmfl4TqZITVTRv7Og4Cw12Ve1ORxC_hm03RD0/edit?usp=sharing), student generated project from lesson 7, access to computer, library media center
2. the globe project: [www.globe.org](http://www.globe.org)
3. Ameriflex network and Euroflex network for data

# Grading Guide

## Lesson 8 Project Rubric

CATEGORY	4	3	2	1
Purpose	The purpose of the project is clearly identified and stated.	The purpose of the project is identified, but is stated in a somewhat unclear manner.	The purpose of the project is partially identified, and is stated in a somewhat unclear manner.	The purpose of the project is erroneous or irrelevant.
Factual Information	Facts are clearly stated and supported by legitimate evidence/data	Facts are clearly stated and supported by some evidence/data	Facts are stated but lack evidence/data to support	No facts nor evidence/data are present
Organization	The project is well organized, easily understood	The project is somewhat organized and understandable	The project shows little organization and is difficult to understand	The project is disorganized and cannot be understood
Neatness, Spelling and Grammar	The project is very neat, contains no spelling nor grammatical errors	The project is neat, and contains few spelling and grammatical errors	The project is somewhat neat and contains some spelling and grammatical errors	The project is not neat and contains many spelling and grammatical errors.