Unit 1: Climate Change

Content Area: **Global Studies**
Course(s): **Global Studies**
Time Period: **Marking Period 1**
Length: **5 Weeks**
Status: **Published**

Unit Overview

In this unit, students will explore public policy and NGO efforts on the issue of climate change. While seeking to understand the various causes and numerous variables involved in the global climate, students will endeavor to assess current efforts to address the problem and to create their own solutions to the problem. Students will continue writing for their Global Scholars projects, focusing on source acquisition and citation.

Standards

LA.K-12.NJSLSA.R7	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
LA.K-12.NJSLSA.W1	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
LA.WHST.6-8.1.A	Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
LA.WHST.6-8.1.B	Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.
LA.WHST.6-8.1.C	Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
LA.WHST.6-8.1.E	Provide a concluding statement or section that follows from and supports the argument presented.
SCI.MS-ESS3-3	Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.
SOC.6.3.8.B.1	Evaluate alternative land use proposals and make recommendations to the appropriate governmental agency regarding the best course of action.

Essential Questions

- How can humans live sustainably with the rest of the planet?
- What lifestyle choices create the greatest human prosperity for the lowest environmental impact?
- What are the costs of human proliferation?
- How are the systems of Earth related to one another?
- What are the causes of changing climate patterns?
- What are the effects of climate change on human and non-human ecosystems?

Application of Knowledge: Students will know that...

- "Forcing mechanisms," or processes by which climate change occurs, include changes in solar irradiance, volcanic eruptions, and enhancement of the natural greenhouse effect by emissions of greenhouse gases
- "Global warming" refers specifically to human-influenced climate change
- Greenhouse gasses are gasses which absorb infrared radiation from the sun in the atmosphere
- The planet's warming climate affects many other planetary systems

Application of Skills: Students will be able to...

- Analyze the impact of climate change on environmental, biological and social systems.
- Compare climate change mitigation and adaptations strategies (macro and micro) in light of environmental, economic, political, and ethical impact.
- Explain the elements of climate and analyze the earth's energy balance that affects climate change.
- Identify various sources of evidence used to chart climate and apply the evidence to determine the proximate and ultimate causes.
- Rationalize costs and benefits of climate change action
- Use data and evidence to justify claims relating to climate, climate change, and mitigation.

Assessments

-Vocabulary quiz on relevant terms

-Formal debate on costs of climate change

-Analyze charts, infographics, and data to assess evidence of climate change and human causality of it

-Informal observations of classwork and discussion

-Information from this unit will be included on a locally developed, mid-year or end of course benchmark assessment that may take the form of a test, performance based project, or other summative assessment

Suggested Activities

-Students give feedback and provide collaborative solutions after presentations on climate change forcing mechanisms

-Write reflections or have student-led discussions of articles/news reports on climate change-related issues

-Discuss preconceptions of differences between climate and weather

-Watch videos documenting the effects of climate change

-Read content of the Paris Climate Accords

Activities to Differentiate Instruction

Differentiation for special education:

- General modifications may include:
    - Modifications & accommodations as listed in the student's IEP
    - Assign a peer to help keep student on task
    - Modified or reduced assignments
    - Reduce length of assignment for different mode of delivery
    - Increase one-to-one time
    - Working contract between you and student at risk
    - Prioritize tasks
    - Think in concrete terms and provide hands-on-tasks
    - Position student near helping peer or have quick access to teacher
    - Anticipate where needs will be
    - Break tests down in smaller increments
- Content specific modifications may include:
    - vocabulary lists supplied in advance
    - study guides
    - one-on-one research help
    - oral assessments

Differentiation for ELL's:

- General modifications may include:
    - Strategy groups
    - Teacher conferences
    - Graphic organizers
    - Modification plan
    - Collaboration with ELL Teacher
- Content specific vocabulary important for ELL students to understand include: climate, weather, forcing mechanism, climate change, global warming, greenhouse gas, climate refugee

Differentiation to extend learning for gifted students may include:

- Student leadership of discussion, presentation on history of climate change

Integrated/Cross-Disciplinary Instruction

Science: environmental science, earth systems

Social Studies: migrant populations, international organizations/policy-making

Resources

https://www.youtube.com/watch?v=BNql8BiAijw&feature=related

http://flood.firetree.net/?ll=43.3251,-101.6015&z=13&m=7

https://pangea.stanford.edu/programs/outreach/climatechange/curriculum

https://19january2017snapshot.epa.gov/climatechange_.html

https://climatechangelive.org/index.php?pid=180#8

https://www.climategen.org/what-we-do/education/climate-change-and-energy-curricula/curriculum-guides/citizen-climate-curriculum-for-grades-9-12/

https://www.usatoday.com/story/news/politics/2017/06/02/fact-checking-trump-speech-paris-climate-agreement/102399674/

https://www.nytimes.com/interactive/2017/06/02/climate/trump-paris-green-climate-fund.html

21st Century Skills

CRP.K-12.CRP1	Act as a responsible and contributing citizen and employee.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP4	Communicate clearly and effectively and with reason.
CRP.K-12.CRP5	Consider the environmental, social and economic impacts of decisions.
CRP.K-12.CRP6	Demonstrate creativity and innovation.
CRP.K-12.CRP7	Employ valid and reliable research strategies.
CRP.K-12.CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP.K-12.CRP9	Model integrity, ethical leadership and effective management.
CRP.K-12.CRP12	Work productively in teams while using cultural global competence.