Climate Change Interdisciplinary Unit

Content Area: **Language Arts**
Course(s): **LANG ARTS LIT**
Time Period: **3rd Marking Period**
Length: **3-5 weeks**
Status: **Not Published**

Climate Change Interdisciplinary Unit

Summary of the Unit

In this interdisciplinary unit of study, Language Arts Literacy will work in tandem with both Social Studies and Science departments to help develop skills to support student work for the Climate Change Summit. Students will analyze and interpret data to deepen their understanding of how human activities impact Earth's systems by engaging in research based activities and critical thinking. Students will gather and assess information from various sources, such as databases, library resources, Achieve 3000, etc. By interpreting data and information, students can grasp work to develop their research and writing skills to support the culminating project. In English Language Arts, the goal is to develop their writing skills in the areas of argument and research simulation through notetaking, outlining, and ongoing writing lessons, as well nonfiction reading and critical thinking. Student research will support the design of innovative solutions aimed at reducing the negative effects of climate change, such as developing sustainable practices, promoting renewable energy, and advocating for changes within the local community. Through this process, students not only enhance their scientific literacy but also become proactive people of the environment, equipped with the knowledge and skills to drive positive change.

Enduring Understandings

-Research can be used to gather information in support of human impact projects.

-Notetaking and outlining are ways in which information can be organized to produce projects that are well crafted and data driven.

-Reading nonfiction articles and being able to annotate and help find critical evidence will build stronger projects.

-Developing through the writing and editing process will not only enhance writing skills but also lead to projects that have stronger relevance to the community with purposeful results.

Essential Questions

-How can research be conducted in order to gather relevant and valid data to support a project on climate change and human impact?

-How can notetaking and outlining be used to provide support for the writing process?

-Where can we find critical evidence that will build stronger projects?

-How are sources evaluated for validity and accuracy?

-How do writers use argumentative writing techniques effectively to propose a solution to a climate change problem?

-How can we use the writing and editing process to develop writing skills and to create projects that have relevance to the community with purposeful results?

Summative Assessment and/or Summative Criteria

Interdisciplinary Climate Change Summit Project (Writing Section)

Resources

Nonfiction Notice and Note Powerpoint

https://www.youtube.com/watch?v=JGOxVIgmGWE: CER (claim focus)

https://www.youtube.com/watch?v=15aWaGYheJs: CER (evidence focus)

https://www.youtube.com/watch?v=csXmVBw8cdo : Different Types of Visuals

https://www.youtube.com/watch?v=1JQxCNgr5MQ: Writing Process

Articles from Common Lit and Achieve 3000

School district Databases

Science or Social Studies related Discover Ed videos.

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
Introduction to Research 3-5 days	-SWBAT understand the importance of research through the introduction of nonfiction notice and note strategies. -SWBAT identify nonfiction signposts within articles through classwork activities and modeling. -SWBAT apply nonfiction signposts to a text by constructing a written response.	-Introduce Nonfiction Sign Posts using Notice and Note PowerPoint PDF (resources) -Have students read articles from Common Lit or Achieve 3000 and work in groups, pairs, or in individual to pick out nonfiction signposts. Teacher should model first to provide a basis. (resource sheet)	-Have students respond to an article from Common Lit or achieve 3000 to identify the nonfiction Signposts in order to gather data and help with reasoning.
Developing Research Skills 1.5-2 weeks	-SWBAT identify useful databases. -SWBAT determine qualities of reliable vs. unreliable sources. -SWBAT distinguish through examination of research a reliable and unreliable source.	-Librarian lesson: Invite the local or school librarian and explain the importance of research and how to use databases. Model for the students how to use the database, what each once is for, how to access them, etc. -Discuss as a class what makes a source reliable. Create a visual chart in the classroom for students to refer back to. -Review the definition of a claim, why it is important, what it provides in terms of	-Given a random topic in science or history, ask students to find three databases that could be used a in a project. -Ask students to read information on the same topic from two different resources. Have them then identify which one was the credible source and factors led

		direction in a project, and what makes a good claim.	them to that answer.
	-SWBAT develop the steps in crafting a claim for research. -SWBAT distinguish between well written claims and weak claims. -SWBAT write a claim based upon a debate topic. -SWBAT identify components and characteristics of CER writing. -SWBAT identify evidence to support claims and develop the argument or topic.	-View the video on CER and focus on claim: https://www.youtube.com/watch?v=JGOxVIgmGWE -Given debate topics, work in groups to generate claims that could provide support. -View video on CER and focus on evidence and reasoning: https://www.youtube.com/watch?v=15aWaGYheJs -Using the claims in the previous activity, use the databases to find evidence to support your claim.	Present the debate and evidence gathered in order to demonstrate use of databases, crafting good claims, and finding strong evidence.
Close Reading and Supporting Evidence 1 week	-SWBAT recognize and implement nonfiction signposts through close reading. -SWBAT recognize different ways in which research can be interpreted visually. -SWBAT identify evidence and claims from given research visuals to understand	Using Achieve 3000 and Common Lit examples, discuss the importance of nonfiction signposts with the emphasis on visual research. Practice reading visual research such as graphs and maps to show understanding and support of a claim. View video on different types of visualizations: https://www.youtube.com/watch?v=csXmVBw8cdo	-Given an article with visual research produce a CER based on the data interpretation. Using their chosen topic for the Summit, students should create visuals for their project based on their gathered research.

	how to put them into writing.	Students should be given the topic of temperature changes in Sayreville over the last three years. They should look up the information and create a visual that shows the data.	
	-SWBAT create visuals to go with culminating project.		
	-SWBAT interpret and synthesize data to develop CERs.		
Using the Writing Process to Create Research Project

2 -2.5 weeks | -SWBAT recall and discuss the writing process for crafting research based arguments.

-SWBAT demonstrate an understanding of the writing process by completing each section based on the NJSLA rubric.

-SWBAT write and outline research project in order to show organization in thoughts and claims.

-SWBAT summarize articles and research to show good research technique.

-SWBAT recognize differences between summarizing and plagiarizing. | -review the writing process: https://www.youtube.com/watch?v=1JQxCNgr5MQ

and conference with students too see where they are in the process on their summit project.

-model why outlining is important when writing a research project. Using a article from Achieve 3000 or Common Lit. Show the process of creating a claim and developing an outline from reading the article. Emphasize the outlining experience is like a road map and check list for the bigger project. (This should be done multiple times for practice)

-define the difference between plagiarism and summarizing. Given short articles, asks students to give one to two sentence summaries to partner. | Given a scientific or historical video from Discovery Ed, students should take notes, create a claim, and organize them into an outline to show they understand how to organize in the writing process.

Students should be given the task to formally summarize a nonfiction article from Achieve 3000 in five or six sentences.

-Students should work on the written portion on their Summit Project for feedback and editing. |

	-SWBAT use the writing process and tools learned, produce a project for the Climate Change Summit.		

UDL Framework

In this climate change unit designed using the UDL framework, students will first encounter clear and attainable outcomes that highlight the significance of understanding climate change's impact on the environment and society. Their diverse needs, backgrounds, strengths, and barriers will be anticipated, ensuring that all students can access and engage with the material. They will experience instructional activities tailored to include various means of representation, expression, and engagement, such as multimedia presentations, interactive simulations, and group discussions. Students will have multiple ways to demonstrate their understanding through projects, presentations, and written reflections as part of the assessment plan. Lastly, ongoing reflection and adaptation will ensure that instructional strategies remain effective, inclusive, and aligned with students' needs and the overall learning goals.

Standards

L.SS.7.1. Demonstrate command of the system and structure of the English language when writing or speaking.

  A. Explain the function of phrases and clauses in general and their function in specific sentences.
  B. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.
  C. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.
  D. Use a comma to separate coordinate adjectives (e.g., It was a fascinating, enjoyable movie but not He wore an old green shirt).
  E. Recognize spelling conventions

RI.CR.7.1. Cite several pieces of textual evidence and make relevant connections to support analysis of what an informational text says explicitly as well as inferences drawn from the text.

RI.CI.7.2. Determine a central idea in an informational text and explain how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

RI.IT.7.3. Analyze how particular elements of a text interact including how a text makes connections and distinctions among individuals, events, and ideas (e.g., through comparisons, analogies, or categories).

RI.TS.7.4. Analyze the structure an author uses to organize a text and how it contributes to the text as a whole, including using knowledge of text structures (e.g., cause-effect, proposition-support) and genre features (e.g., graphics, captions, indexes) to organize and analyze important information.

RI.MF.7.6. Compare and contrast texts to analyze the unique qualities of different mediums, including the integration of information from multiple formats and sources to develop deeper understanding of the concept, topic or subject and resolve conflicting information.

RI.AA.7.7. Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.

RI.CT.7.8. Analyze and reflect on (e.g., practical knowledge, historical/cultural context, and background knowledge) how two or more authors writing informational texts about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.

W.AW.7.1. Write arguments on discipline-specific content (e.g., social studies, science, technical subjects, English/Language Arts) to support claims with clear reasons and relevant evidence.

   A. Introduce claim(s) about a topic or issue, acknowledge alternate or opposing claims, and organize the reasons and evidence logically.
   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.
   C. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence.
   D. Establish and maintain a formal style/academic style, approach, and form.
   E. Provide a concluding statement or section that follows from and supports the argument presented.

W.WP.7.4. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning; flexibly making editing and revision choices and sustaining effort to complete complex writing tasks; and focusing on how well purpose and audience have been addressed.

W.WR.7.5. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

W.SE.7.6. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

SL.ES.7.3. Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.

SL.PI.7.4. Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

SL.UM.7.5. Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

Suggested Modifications for Special Education, ELL and Gifted Students

- Allow additional time when in full class discussing for processing and discussion.
- Although all lengths should be attempted, teacher should reduce work on written assignments depending on special needs.
- Students should be provided with graphic organizers during annotations, discussions, and when having to formulate any mini papers.
- Check for understanding by conferencing with teacher.
- Use of audio support when applicable
- Modifications may be made for summative assessment to reflect the appropriate level of the students in the class
- Anchor texts are varied in reading level to meet the needs of low, middle and high readers
- Achieve 3000 ELL supports
- Achieve 3000 leveled nonfiction to meet the needs of low, middle and high readers

Suggested Technological Innovations/Use

Students should use technology to craft data graphics on canva or sheets

Students should produce written work in Docs or Slides.

Teachers should use :

online databases

videos

resources that are rooted in technology

educational technological games such as Kahoot or Blooket for the unit

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

9.1.8.CR.2: Compare various ways to give back through strengths, passions, goals, and other personal factors.

9.4.8.CI.1: Assess data gathered on varying perspectives on causes of climate change (e.g., crosscultural, gender-specific, generational), and determine how the data can best be used to design multiple potential solutions (e.g., RI.7.9, 6.SP.B.5, 7.1.NH.IPERS.6, 8.2.8.ETW.4).

9.4.8.CI.2: Repurpose an existing resource in an innovative way (e.g., 8.2.8.NT.3).

9.4.8.CI.3: Examine challenges that may exist in the adoption of new ideas (e.g., 2.1.8.SSH, 6.1.8.CivicsPD.2).

9.4.8.CT.1: Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective (e.g., MS-ETS1-2).

9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1).

9.4.8.CT.3: Compare past problem-solving solutions to local, national, or global issues and analyze the factors that led to a positive or negative outcome.

9.4.8.DC.1: Analyze the resource citations in online materials for proper use.

9.4.8.DC.2: Provide appropriate citation and attribution elements when creating media products (e.g., W.6.8).

9.4.8.GCA.1: Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a).

9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.

9.4.8.IML.1: Critically curate multiple resources to assess the credibility of sources when searching for information.

9.4.8.IML.2: Identify specific examples of distortion, exaggeration, or misrepresentation of information.

9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping (e.g., 6.SP.B.4, 7.SP.B.8b).

9.4.8.IML.4: Ask insightful questions to organize different types of data and create meaningful visualizations.

9.4.8.IML.5: Analyze and interpret local or public data sets to summarize and effectively communicate the data

9.4.8.IML.7: Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose (e.g., 1.2.8.C2a, 1.4.8.CR2a, 2.1.8.CHSS/IV.8.AI.1, W.5.8, 6.1.8.GeoSV.3.a, 6.1.8.CivicsDP.4.b, 7.1.NH. IPRET.8).

9.4.8.IML.8: Apply deliberate and thoughtful search strategies to access high-quality information on climate change (e.g., 1.1.8.C1b).

9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.

9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).

9.4.8.TL.3: Select appropriate tools to organize and present information digitally.