Climate Change Interdisciplinary Curriculum Unit: Language Arts

Content Area: **Language Arts**
Course(s): **Language Arts**
Time Period: **3rd Trimester**
Length: **4-5 Weeks**
Status: **Not Published**

Summary of the Unit

In this 5th-grade interdisciplinary unit, students will examine climate change using language arts as a primary lens to explore this crucial global issue. Students will learn that climate change is a complex problem impacting our environment and communities, and that language is a powerful tool for understanding, communicating about, and responding to it. Through analyzing various texts and media, students will develop scientific literacy and critical thinking skills to evaluate information and make informed decisions. They will also discover how individual and collective actions can help, and how stories and creative expression can deepen understanding and inspire change. Ultimately, this unit empowers students to become informed, engaged, and articulate citizens in addressing climate change.

Enduring Understandings

- Language is a powerful tool for understanding, communicating about, and responding to climate change.

- Individual and collective actions can contribute to mitigating and adapting to climate change.

- Scientific literacy and critical thinking are essential for evaluating information and making informed decisions about climate change.

Essential Questions

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  - What responsibility do we have to the Earth and to future generations regarding climate change, and how can we use our voices to address it?

  - How can we use evidence and critical thinking to understand complex issues like climate change and respond effectively?

  - 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 be used to provide support for the writing process?

  - 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 Unit

Climate Change In Our Backyard

My Name: _____

My Group Members: _____

In this project, you and a partner will become Climate Change experts! You will choose a local issue that contributes to climate change, something that happens in our area.

Key Questions:
- What is the issue?
- What is causing it?
- How is it affecting people, nature, and animals?
- What are some possible solutions?

After gathering your facts, pictures, and graphs, work together to create a presentation (tri-fold, powerpoint, poster) to teach others about your topic. You will include the following sections in your presentation:
- The Problem
- The Causes
- Effects on the environment and community
- Solutions and how we can help

Topics to choose from
1. Pollution
2. Flooding
3. Temperature changes
4. Deforestation
5. Landfills
6. Agriculture
7. Carbon Footprint
8. Forest Fires
9. Greenhouse Effect

Local Climate Change

Name: _____

Issue: _____

Criteria for Poster on a Local Climate Issue	Advanced (4 pts)	Proficient (3pts)	Developing (2pts)	Beginning (1pt)
Understanding the Issue	Clearly explains the local climate issue with lots of details and shows deep understanding.	Explains the local climate issue with some details and shows good understanding.	Gives a basic explanation of the issue but needs more details or clarity.	Has trouble explaining the issue or gives very little information.
Causes and Effects	Thoroughly describes the causes and clearly explains how the issue affects people, nature, and animals, using specific examples.	Describes the causes and explains effects on people, nature, and animals.	Mentions some causes or effects but needs more explanation or examples.	Does not clearly describe causes or effects.
Solutions and Actions	Gives multiple creative and realistic solutions, and clearly explains how we can help.	Gives some solutions and explains how we can help.	Mentions a solution but does not explain how we can help.	Does not suggest any solutions or actions.
Organization and Clarity	All poster sections are included, clearly labeled, and information is well-organized and easy to understand.	Most sections are included and labeled, and information is organized.	Some sections are missing or not labeled, or information is hard to follow.	Poster is missing several sections or is very hard to understand.
Visual Presentation	Poster is neat, colorful, and creative, with drawings or images that help explain the issue.	Poster is neat and has some color or images.	Poster has little color or images, or is a bit messy.	Poster is very messy or hard to read, with no images or color.

Total: _____ / 20pts

ES   MS   AS   NS

Resources

District Databases

[Nonfiction Signpost video](#)

[Big Three Questions](#) ([You Tube](#) --- [Three videos](#))

Discovery Education Videos

Nonfiction Notice and Note lessons

Achieve 3000 lessons

CommonLit articles

Newsela Articles

Beers & Probst Reading Nonfiction: Notice and Note Stances, Signposts and Strategies

Fountas and Pinnell IRA text sets:

- Caring for Our World

- Problem Solving and Resourcefulness

[NJ Agricultural Society](#)

[NJ Audubon Society](#)

[National Wildlife Federation](#)

[Stossel In the Classroom 1](#)

[Stossel in the Classroom 2](#)

[Belouga](#)

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
Background to research using Signposts 3-5 days	Understand and identify the five nonfiction signposts within various articles	- Use You Tube Videos to introduce the nonfiction signposts and the "Big Three" Questions - Class annotation of [Capybara Article](#) to model how to annotate an article. - Work in pairs or small groups to annotate articles from CommonLit or Achieve3000 with sign posts. See also F & P Reading Minilessons: RML.SAS.U6.RML1 RML.SAS.U6.RML3 RML.SAS.U6.RML4	Annotation of articles using the sign posts and big three questions.
Develop Research Skills 1-2 Weeks	Identify useful databases Determine validity of sources	- Working with the school librarian, become familiar with nonfiction text and research techniques. - [Discuss](#) reliable and unreliable resources. Create a visual chart	Given various topics, use available databases to find information. Visual representation of credible sources.

		with examples of each. See also F & P Reading Minilesson: RML.LA.U14.RML5	
Local Concerns Research project 1-2 weeks	Students will synthesize their research of nonfiction articles and climate change data into a culminating presentation highlighting a local or regional issue along with possible solutions to advocate for change.	*Working with a partner or small group, research and create a [Multidisciplinary Presentation](#) highlighting a local or regional issue and a possible solution to the problem *Use data gathered from research to create and identify visuals to support cross curricular project topic.	*Students will create and present a poster on an issue in Climate Change within a group of 2-3 students on the topic of their choosing.

Standards

ELA.L.RF.5.4.A	Read grade-level text with purpose and understanding.
ELA.L.WF.5.2	Demonstrate command of the conventions of writing, including those listed under grade four foundational skills.
ELA.L.KL.5.1	Use knowledge of language and its conventions when writing, speaking, reading, or listening.
ELA.RI.CR.5.1	Quote accurately from an informational text when explaining what the text says explicitly and make relevant connections when drawing inferences from the text.
ELA.RI.IT.5.3	Analyze the impact of two or more individuals and events throughout the course of a text, explaining the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific evidence in the text.
ELA.RI.PP.5.5	Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent and how that may influence the reader's interpretation.
ELA.RI.MF.5.6	Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, timelines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears.
ELA.RI.AA.5.7	Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).
ELA.W.AW.5.1	Write opinion pieces on topics or texts, supporting a point of view with reasons and

	information.
ELA.W.IW.5.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
ELA.W.WR.5.5	Establish a central idea about a topic, investigation, issue or event and use several sources to support the proposed central idea.
ELA.W.SE.5.6	Gather relevant information from multiple valid and reliable print and digital sources; summarize or paraphrase information in notes and finished work, making note of any similarities and differences among ideas presented; and provide a list of sources.
ELA.SL.PE.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
ELA.SL.II.5.2	Summarize a written text read aloud or information presented in diverse media and formats (e.g., visually, quantitatively, and orally).
ELA.SL.ES.5.3	Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
ELA.SL.PI.5.4	Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
ELA.SL.UM.5.5	Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
ELA.SL.AS.5.6	Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.

Suggested Modifications for Students with Disabilities, ML, Academically At Risk and Gifted Students

Students with Disabilities/Academically At Risk

- Provide texts appropriate to reading level
- Prescreen vocabulary
- Visualization for vocabulary
- Provide graphic organizers, sentence starters, etc
- Partner reading
- Visualization for vocabulary

*Consistent with individual plans where applicable

Multilingual Learners

- Provide bilingual dictionaries where possible
- Peer Liaison
- Partner pairings
- Provide captioning in videos where possible
- Sentence frames and starters
- Prescreen vocabulary and provide visuals where possible

Gifted Students

- Provide texts appropriate to reading level
- Student-Led projects and presentations
- Independent research and exploration
- **Choice Board**

Suggested Technological Innovations/Use

- Use of videos and audio recordings when applicable

- Use of Excel/Google Sheets to organize climate change data and create graphs

- Use of interactive maps and graphs that demonstrate climate change data

- Use of Achieve3000, RAZ-Kids, NewsELA, Tumble Books, Commonlit, Scholastic StoryWorks, Readworks, Epic

- Students will use technology to produce written work in Google Docs and Slides

- Students can use Google Sheets to create graphs based on research

- Teachers can use:

    o Online databases

    o Videos

    o Google Maps

    o Map Tools

    o Educational games (ex. Kahoot, blooket)

UDL Framework

In a 5th grade climate change curriculum with a focus on Language Arts, Universal Design for Learning ensures all students access content and express understanding in varied, meaningful ways. To engage students, the curriculum offers high-interest texts-both fiction and nonfiction- on climate topics, along with choices in reading materials that reflect diverse voices and perspectives. Representation is supported through multimodal resources such as videos, infographics, podcasts, and read-alouds helping students access complex ideas regardless of reading level. Vocabulary and concepts are explicitly taught and reinforced using visual word walls, sentence frames, and interactive tools. For action and expression, students respond to climate issues through writing personal reflections, persuasive essays, informational articles, or creating multimedia presentations. They are encouraged to use graphic organizers, voice-to-text tools, and peer collaboration to plan and revise their work. This approach empowers all learners-regardless of background or ability-to think critically, communicate effectively, and connect deeply with the theme of climate change.

Cross Curricular/Career Readiness, Life Literacies and Key Skill Practices

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.5	Use appropriate tools strategically.
MA.5.NBT.A.3	Read, write, and compare decimals to thousandths.
SOC.6.1.5.CivicsPD.1	Describe the roles of elected representatives and explain how individuals at local, state, and national levels can interact with them.
MA.5.MD.B.2	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots.

SOC.6.1.5.GeoPP.2	Describe how landforms, climate and weather, and availability of resources have impacted where and how people live and work in different regions of New Jersey and the United States.
MA.5.G.A.1	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
SOC.6.1.5.GeoSV.3	Demonstrate how to use digital geographic tools, maps and globes to measure distances and determine time zones, and locations using latitude and longitude.
MA.5.G.A.2	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
SOC.6.1.5.GeoHE.1	Use a variety of sources from multiple perspectives, including aerial photographs or satellite images to describe how human activity has impacted the physical environment during different periods of time in New Jersey and the United States.
SOC.6.1.5.GeoHE.2	Cite examples of how technological advances have changed the environment in New Jersey and the United States (e.g., energy, transportation, communications).
SOC.6.1.5.GeoGI.1	Use multiple sources to evaluate the impact of the movement of people from place to place on individuals, communities, and regions.
SOC.6.1.5.EconEM.4	Compare different regions of New Jersey to determine the role that geography, natural resources, climate, transportation, technology, and/or the labor force play in economic opportunities.
	Using Mathematics and Computational Thinking
	Mathematical and computational thinking in 3–5 builds on K–2 experiences and progresses to extending quantitative measurements to a variety of physical properties and using computation and mathematics to analyze data and compare alternative design solutions.
	Describe and graph quantities such as area and volume to address scientific questions.
SCI.5-ESS3-1	Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources, environment, and address climate change issues.
	Obtaining, evaluating, and communicating information in 3–5 builds on K–2 experiences and progresses to evaluating the merit and accuracy of ideas and methods.
	Obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem.
TECH.9.4.5.CI.1	Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6).
TECH.9.4.5.CI.2	Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue (e.g., 6.3.5.CivicsPD.3, W.5.7).
TECH.9.4.5.CI.3	Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
TECH.9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
TECH.9.4.5.CT.2	Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-

ESS3-1).

TECH.9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).