

Name: Amanda Sharpe

Course/Grade: Library/World Geography Grade 9

Unit Title: Climate Change Beliefs Research Project

Stage 1 Desired Results	
<p><b>ESTABLISHED GOALS</b> CA Model School Library Standards, grades 9-12</p> <p>1.1 Recognize the need for information:</p> <p>a. Identify topics, broaden or narrow a topic, and develop ideas to direct the focus of an inquiry.</p> <p>1.2 Formulate appropriate questions:</p> <p>a. Generate research questions based on interests, observations, information, stories, and issues or on an assigned topic.</p> <p>1.3 Identify and locate a variety of resources online and in other formats by using effective search strategies:</p> <p>a. Use a variety of search engines and licensed and free databases to locate appropriate information.</p> <p>d. Search for information by using advanced search skills (e.g., Boolean operators, adjacency, proximity, wild card symbols, truncation).</p> <p>i. Select and use appropriate tools and technology to locate resources.</p> <p>2.2 Assess the comprehensiveness, currency, credibility, authority, and accuracy of resources:</p>	<b>Transfer</b>
	<p><i>Students will be able to independently use their learning to...</i></p> <p>T1: Investigate issues of global significance and connect them to their own lives</p> <p>T1a: identify an issue, generate a question, and explain the significance of locally, regionally, and globally focused researchable questions</p> <p>T1b: use a variety of languages and domestic and international sources to identify and weigh relevant evidence in addressing a globally significant researchable question.</p> <p>T1c: analyze, integrate, and synthesize evidence to construct coherent responses to globally significant researchable questions.</p> <p>T1d: develop an argument based on compelling evidence that considers multiple perspectives and draws defensible conclusions.</p> <p>T2: Recognize perspectives</p> <p>T2a: recognize and express their own perspective on situations, events, issues, or phenomena and identify the influences on that perspective.</p> <p>T2b: examine perspectives of other people, groups, or schools of thought, and identify the influences on those perspectives.</p> <p>T2c: explain how cultural interactions influence situations, events, issues, or phenomena, including the development of knowledge.</p> <p>T2d: articulate how differential access to knowledge, technology, and resources affects quality of life and perspectives</p>
	<b>Meaning</b>
	<p><b>UNDERSTANDINGS</b></p> <p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• Ideas about the causes of and solutions for global climate change differ in different areas of the world</li> <li>• Quality research that incorporates non-american perspectives requires the use of search strategies and sources not typically used.</li> <li>• Factors that inform opinions about</li> </ul>
	<p><b>ESSENTIAL QUESTIONS</b></p> <ol style="list-style-type: none"> <li>1. How do ideas about the causes of and solutions to climate change differ in different parts of the world?</li> <li>2. What search strategies will allow you to best investigate an issue from multiple perspectives?</li> </ol>

<p>a. Verify the authenticity of primary and secondary source information found online.</p> <p>b. Identify bias and prejudice in historical interpretations.</p> <p>c. Analyze media for purpose, message, accuracy, bias, and intended audience.</p> <p>Standard 3: Students will organize, synthesize, create, and communicate information.</p> <p>3.2 Draw conclusions and make informed decisions:</p> <p>a. Analyze information from multiple sources and identify complexities, discrepancies, and different perspectives of sources.</p> <p>b. Present a report visually, orally, or in writing that conveys a clear point of view with evidence supporting that perspective.</p> <p><a href="#">CCSS.ELA-Literacy.CCRA.SL.1</a> Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.</p> <p>CCSS.ELA-Literacy.CCRA.SL.5 Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.</p> <p><a href="#">CCSS.ELA-Literacy.RH.9-10.8</a> Assess the extent to which the reasoning and evidence in a text support the author's claims.</p> <p><a href="#">CCSS.ELA-Literacy.RH.9-10.9</a> Compare and contrast treatments of the same topic in several primary and secondary sources.</p> <p><i>From CA History/Social Science Content Standards, grade 9: World History, Physical and Cultural Geography</i></p> <p>1. Students will analyze the physical geography of the earth and geographic terminology, in terms of:</p>	<p>climate change include level of education, religious beliefs, extent of immediate impact of climate change on the local area, resources available, living conditions</p>	
<b>Acquisition</b>		
	<p><i>Students will know...</i></p> <ul style="list-style-type: none"> <li>• Definitions of Boolean search terms</li> <li>• The difference between a primary and secondary source</li> <li>• Differing public opinion on climate change in different parts of the world, both developed and developing.</li> <li>• Factors that influence opinion of climate change and ability/inclination to take action</li> <li>• Information sources found online vary in quality, relevance, and accuracy</li> <li>• Where/how to find sources of information reflecting non-US perspectives on issues of global significance such as climate change.</li> <li>• The locations of major cultures of the world, and how climate change is/may affect them.</li> <li>• Prevailing scientific theories about climate change, including causes, human involvement, currently occurring impacts, and possible future impacts.</li> <li>• The major players in the American debate on climate change and their positions on the issue.</li> </ul>	<p><i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> <li>• Searching both publicly available online sources as well as database resources</li> <li>• Using advanced search features to find resources in other languages/published in other areas of the world</li> <li>• How to use google translate and other tools to access online materials from other cultures/languages</li> <li>• Comparing Wikipedia articles in different languages as a tool to reveal perspectives other than the American.</li> <li>• Evaluating online sources for relevance, accuracy, and bias.</li> <li>• Listening to and communicating effectively with diverse people, using appropriate written communication strategies.</li> <li>• Communicating with audiences of diverse backgrounds and geographic regions.</li> <li>• Using technology tools to communicate effectively with diverse audiences.</li> </ul>

<p>1.3 distinguishing between climate and weather, climate zones, the influences of climate, seasons                  1.7 map reading: types of maps (e.g., demographic, topographic, etc.) distortions, using of maps                  2. Students will analyze the world’s regional geography, in terms of:                  2.1 location of major cultures and the effect the physical environment has on the humans, economy/culture                  2.3 population density and distribution and its relationship to the environment</p>		
<b>Stage 2 - Evidence</b>		
<b>Evaluative Criteria</b>	<b>Assessment Evidence</b>	
<ol style="list-style-type: none"> <li>1. Students will know about climate change and the influences of climate.</li> <li>2. Analyze information from multiple sources and identify complexities, discrepancies, and different perspectives of sources.</li> <li>3. Demonstrates ability to summarize information in a concise manner without plagiarizing. Students formulate meaningful questions about the world. map reading: types of maps, uses of maps</li> <li>4. Demonstrates ability to communicate effectively with diverse audiences.</li> </ol>	<p><b>TRANSFER TASK(S):</b></p> <ol style="list-style-type: none"> <li>1. <b>Science of Climate Change Study:</b> Students will conduct internet and book research using the geography book’s section on climate and online sources to answer basic questions about climate change, including: what it is, theories about its cause, indications that it is happening, and who is studying it, and will record these answers on the climate change study handout.</li> <li>2. <b>Media Analysis of Messages about Climate Change:</b> Students will view video clips from major media outlets, including MSNBC, CNN, PBS, and Fox News, on climate change and will complete a critical analysis of the media message. Analysis will include summary of message, perceived bias, level of scientific data included in reporting, what controversy seems to surround climate change, identities of major players in the climate change debate mentioned, and intended audience.</li> <li>3. <b>Climate Impacts Exploratory Research Summary:</b> Students will use the following interactive maps of global warming impacts from National Geographic and the Union of Concerned Scientists to explore the impacts of global warming. In their presentation groups, they will prepare a one page summary of which region of the world they are choosing to focus on and why, and what impacts that region of the world is facing.  <a href="http://environment.nationalgeographic.com/environment/global-warming/gw-impacts-interactive/">http://environment.nationalgeographic.com/environment/global-warming/gw-impacts-interactive/</a>  <a href="http://www.climatehotmap.org/">http://www.climatehotmap.org/</a>                      Students will also generate a list of questions about the region they chose that they would like to investigate further, including questions they could ask their epals student correspondents.</li> <li>4. <b>ePals First Contact:</b> Students will make contact with a students in the region of their choosing through an introductory email communication. Email will introduce the students as well as the</li> </ol>	

<ol style="list-style-type: none"> <li>5. Demonstrates ability to read critically, compare key textual elements, analyze perspective, use technology tools such as google translate to access sources in non-English languages.</li> <li>6. Students formulate meaningful questions, choose search terms that match their research purpose, including the use of Boolean operators. Students identify online, text, and in person research sources appropriate for their research question.</li> <li>7. Students are able to successfully find information, create surveys using technology tools, formulate questions that will garner the information desired, use technology to administer surveys, analyze and synthesize information from online research sources, cite appropriately, analyze sources for bias.</li> <li>8. Students conduct effective online research, collect, analyze and synthesize information from research sources, cite sources appropriately, include all pertinent criteria for each area.</li> <li>9. Students draw conclusions based on evidence, recognize perspectives, including their own, present information effectively using visuals, text, and technology tools.</li> </ol>	<p>topic of research.</p> <ol style="list-style-type: none"> <li>5. <b>Wikipedia analysis:</b> Students will find at least two Wikipedia articles related to global warming written in the language of their chosen region, and, using google translate if necessary, will compare the information in those articles to that in the American English article, specifically focusing on the sections of the article, if present, on causes, impacts, public opinion, and possible actions. Comparison will also include a general survey of what section subheadings are included, how long the articles are, and how scientific the information included seems to be.</li> <li>6. <b>Preliminary Research Plan:</b> students will create a plan to guide their research into public opinion, including guiding questions, likely search terms, and possible research sources.</li> <li>7. <b>Local, Regional, National, and international Global Warming Public Opinion Data Collection:</b> Students will conduct research on public opinion about climate change in their local area, the west coast region, and the United States as a whole, using a variety of media sources found online, as well as survey and interview data. Information collected will include public opinion of causes of global warming, impacts of global warming, and possible solutions. They will then create a profile of each region, including statistical data on public opinion, either found online or collected by them. This will include the construction and administration of an opinion survey on global warming to their fellow students, as well as searching online for public opinion statistical information, and background research on each of the polling data providers, including analysis for known bias. Students will use the technology tools surveymonkey or Google Forms to create and administer the survey, both to their local student populations as well as to their epals buddies. In addition to formal data collection through the survey, students will also gather anecdotal and conservation data from their epals buddies and fellow students in their local school.</li> <li>8. <b>Local, Regional, National, and International Demographic profiles:</b> students will collect information about the demographic composition of their local, regional, national and international areas, including median age, educational attainment, and political composition.</li> <li>9. <b>Perspectives on Global Warming Presentation:</b> Using the public opinion data, combined with the demographic profiles, students will present their findings on public opinion of global warming in their local community, the west coast region, the United States, and their international region. Students will draw conclusions about the impact that various demographic factors have on public opinion on the causes of, impacts of, and solutions to global warming. Presentations will use multimedia and technology tools to communicate findings using both visuals and text. These presentations will also be shared with epals classes using Skype, when/if</li> </ol>
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<p>10. Students are able to reflect critically on their own research process, group participation, and presentation skills.</p> <p>11. Students will demonstrate the ability to communicate with diverse audiences with different perspectives. Students will take action to make an impact on the world.</p> <p>12. Students demonstrate respectful, thoughtful communication with epals buddies.</p>	<p>possible.</p> <p>10. <b>Self-Reflection:</b> Each student will reflect individually on their research process, group collaboration, and presentation.</p> <p>11. <b>Action Plan – Changing Perspectives at Our School and In Our Community:</b> Students will come up with an action plan that they can implement locally, either at our school or in our community, to increase awareness of climate change and of actions that can be taken to mitigate its impact in the future. Action plan will include some sort of informational campaign to create awareness of climate change and/or an action campaign to address the causes of climate change.</p> <p>12. <b>Thank you to ePals:</b> Each group will prepare and send a thank you email to their epals, thanking them for their help and participation.</p>
<p>Students collaborate effectively, including dividing tasks fairly, communicating effectively within the group, and assigning roles.</p> <p>Students self-reflect throughout the research process, identify obstacles, and create plans to overcome obstacles.</p>	<p>OTHER EVIDENCE: Informal observation of group dynamics by teacher</p> <p>Daily group check-ins with teacher or librarian to talk about progress, obstacles, questions.</p>

**Stage 3 – Learning Plan**

*Summary of Key Learning Events and Instruction*

- 1. Project Introduction/Hook – Why Does Climate Change Matter to Me?:** (One period) Students will view the following two videos: 1. <http://www.climatecentral.org/blogs/131-years-of-global-warming-in-26-seconds/> (26 second video animation of global temperature change over the last 131 years); 2. A clip from the full video: [Strange Days On Planet Earth: The One Degree Factor](#) Run Time: [05:07] The impact of rising global temperatures is being measured in California tide pools where the mixture of species is changing as some animals are driven north by warming. Physiologists are researching what happens to those unable to relocate. ©2004, National Geographic. They will then explore a webpage from the organization climatecentral.org, showing the projected impact of 1 ft of sea level rise over high tide levels on the northern California region found here: <http://sealevel.climatecentral.org/surgingleas/gauge/9414290#show=cities&center=10/37.8609/-122.4485>. Students will take notes from the videos as well as the website exploration on whatever catches their interest. At this point students will receive the project guidelines, timeline, and list of activities and products.
- 2. Science of Climate Change Study:** Students will conduct internet and book research using the geography book’s section on climate and online sources from the climate change pathfinder on the library website to answer basic questions about climate change, including: what it is, theories about its cause, indications that it is happening, and who is studying it, and will record these answers on the climate change study handout. One day of research

in class using the geography book, and one day of research conducted in the library using library resources, including books, reference databases, and internet research.

3. **Critical Reading:** (0.5 period) Students will do an AVID style critical reading of the following article from the Brookings Institute: “Climate Compared: Public Opinion on Climate Change in the United States and Canada”. Students will number paragraphs and read in partners, defining difficult vocabulary, identifying key terms, and identifying claims and evidence.
4. **Critical Listening:** (0.5 period) Students will listen as a whole class to a special on public opinion of climate change from NPR’s Science Friday: Gauging Public Opinion on Climate Change Policy. They will also have the transcript to follow along and mark claims and evidence supporting those claims, which we will then discuss in small groups, and then debrief as a whole class. Students will then identify for themselves which of the “six Americas” public opinion groups they think they and their family fall into. This part will not be shared with the class.
5. **Socratic Seminar – Should we be concerned about climate change? If so, why?:** Using their notes from the hook activity, the climate change study handout, the critical reading article, and the NPR transcript, students will engage in a socratic seminar around the title question: “Should we be concerned about climate change? If so, why? If not, why not?”
6. **Media Analysis of Messages about Climate Change:** (1 period) Groups of students will view video clips from different major media outlets, including MSNBC, CNN, PBS, and Fox News, on climate change and will complete a critical analysis of the media message. They will be provided with a sheet for each media outlet with background information on viewership and any other important information, like ownership and funding. Each group’s analysis for their one media source will include summary of message, perceived bias, level of scientific data included in reporting, what controversy seems to surround climate change, identities of major players in the climate change debate mentioned, and intended audience. These analysis reports will then be shared in jigsaw format with the rest of the class, who will fill in the information for other media outlets on their note sheet based on the report from the other groups.
7. **Global Climate Impacts Exploratory Research Summary:** (1 period) Students will use the following interactive maps of global warming impacts from National Geographic and the Union of Concerned Scientists to explore the impacts of global warming. In their presentation groups, they will prepare a one page summary of which region of the world they are choosing to focus on and why, and what impacts that region of the world is facing.  
<http://environment.nationalgeographic.com/environment/global-warming/gw-impacts-interactive/>  
<http://www.climatehotmap.org/>  
Students will also generate a list of questions about the region they chose that they would like to investigate further, including questions they could ask their epals student correspondents.
8. **ePals First Contact:** Students will make contact with a students in the region of their choosing through an introductory email communication. Email will introduce the students as well as the topic of research.
9. **Wikipedia analysis:** Students will find at least two Wikipedia articles related to global warming written in the language of their chosen region, and, using google translate if necessary, will compare the information in those articles to that in the American English article, specifically focusing on the sections of the article, if present, on causes, impacts, public opinion, and possible actions. Comparison will also include a general survey of what

section subheadings are included, how long the articles are, and how scientific the information included seems to be.

- 10. Preliminary Research Plan:** (2 periods) Students will be guided through the Big 6 Research Process and the resources available in the library's physical collection, the online subscription databases, and how to locate quality online sources in the library on day 1, and then on day 2 will then create a plan to guide their research into public opinion, including guiding questions, likely search terms, and possible research sources.
- 11. Local, Regional, National, and international Global Warming Public Opinion Data Collection – Library Research:** Students will conduct research on public opinion about climate change in their local area, the west coast region, and the United States as a whole, using a variety of media sources found online, as well as survey and interview data. Information collected will include public opinion of causes of global warming, impacts of global warming, and possible solutions. This will include the construction and administration of an opinion survey on global warming to their fellow students, as well as searching online for public opinion statistical information, and background research on each of the polling data providers, including analysis for known bias. Students will use the technology tools surveymonkey or Google Forms to create and administer the survey, both to their local student populations as well as to their epals buddies. In addition to formal data collection through the survey, students will also gather anecdotal and conservation data from their epals buddies and fellow students in their local school.
  - a. Lesson – Creating a survey using SurveyMonkey or Google Forms:** Students will be instructed in the use of SurveyMonkey and google forms to create surveys
- 12. Local, Regional, National, and International Global Warming Profiles:** They will then create a profile of each region, including statistical data on public opinion, either found online or collected by them.
- 13. Local, Regional, National, and International Demographic profiles:** students will collect information about the demographic composition of their local, regional, national and international areas, including median age, educational attainment, and political composition using United States and state census data for local, regional, and national areas, and CIA World Factbook for their international area.
- 14. Putting it all together:** Students will put together their research findings, including scientific information about climate change, media survey information, public opinion profiles, and demographic profiles to create a multimedia presentation. Students will draw conclusions about the impact that various demographic factors have on public opinion on the causes of, impacts of, and solutions to global warming. Presentations will use multimedia and technology tools to communicate findings using both visuals and text. Tools available include powerpoint, prezi, and moviemaker.
- 15. Perspectives on Global Warming Presentation:** students will present their findings on public opinion of global warming in their local community, the west coast region, the United States, and their international region to their peers and a panel of adults from the school and parent community. These presentations will also be shared with epals classes using Skype, when/if possible.
- 16. Self-Reflection:** Each student will reflect individually on their research process, group collaboration, and presentation.
- 17. Action Plan – Changing Perspectives at Our School and In Our Community:** Students will come up with an action plan that they can implement locally, either at our school or in our community, to increase awareness of climate change and of actions that can be taken to mitigate its impact in

the future. Action plan will include some sort of informational campaign to create awareness of climate change and/or an action campaign to address the causes of climate change.

**18. Thank you to ePals:** Each group will prepare and send a thank you email to their epals, thanking them for their help and participation.