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LIS 5283

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Teaching Unit

Overview: The students will understand climate and how it has changed over time. They will develop research skills, collaborate, create, and share information. Content areas will be covered with a focus on science standards such as weather and climate and the specific Oklahoma Academic Standard (OAS) MS-ESS3-4 Earth and Human Activity (Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems).

The goal will be for students to research credible sources to understand climate and the impact humans have had on it.

Essential Question: What impacts have humans had on climate change?

Instructional Strategies: I, and the eighth-grade science teacher, will use the constructivist approach and Guided Inquiry Design (GID) as much as possible while still ensuring the OAS content standard is met. Choice will be allowed on what climate change topic to focus on as long as human population and consumption is included (i.e. effects on a certain animal species, how humans are trying to fight climate change, arguments against climate change by government leaders, effects on a certain geographic area, etc.). Choice will also be given on the type of product students present in their presentation. Direct teaching will also occur on site evaluation and resource citing.

Grade Level of Unit: Eighth Grade

Standards:

OAS

- MS-ESS3-4 Earth and Human Activity (Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.)
- 8.1.W.1 Students will give formal and informal presentations in a group or individually providing textual and visual evidence to support a main idea.
- 8.1.W.2 Students will work effectively and respectfully with diverse groups, show willingness to make necessary compromises to accomplish a goal, share responsibility for collaborative work, and value individual contributions made by each group member.

- 8.6.R.2 Students will follow ethical and legal guidelines for finding and recording information from a variety of primary and secondary sources (e.g. print and digital).
- 8.6.R.3 Students will determine the relevance, reliability, and validity of the information gathered.
- 8.6.W.3 Students will quote, paraphrase, and summarize findings following an appropriate citation style (e.g. MLA, APA, etc.) and avoiding plagiarism.
- 8.6.W.4 Students will summarize and present information in a report.

AASL:

- A.I.1 Formulating questions about a personal interest or curricular topic.
- A.II.2 Adopting a discerning stance toward points of view and opinions expressed in information resources and learning products.
- A.III.2 Developing new understandings through engagement in a learning group.
- A.IV.3 Making critical choices about information sources to use.
- A.VI.3 Evaluating information for accuracy, validity, social and cultural context, and appropriateness for need.
- B.I.3 Generating products that illustrate learning.
- B.VI.1 Ethically using and reproducing others' work.
- B.VI.2 Acknowledging authorship and demonstrating respect for the intellectual property of others.
- C.I.4 Sharing products with an authentic audience.
- C.III.1 Soliciting and responding to feedback from others.
- D.III.1 Actively contributing to group discussions.
- D.VI.1 Personalizing their use of information and information technologies.

Instructional Learning Objectives:

- Students will understand climate and humans' impact on it.
- Students will access the quality of informational resources.
- Students will generate a product that illustrates learning.
- Students will adopt a discerning stance towards points-of-view, opinions, and shared statements.
- Students will collaborate to obtain, use, and share information.
- Students will make critical choices about the information they use.
- Students will question and assess the validity of information.
- Students will correctly cite resources.
- Students will share products with an audience and provide constructive feedback.

Daily Lesson Plan Activities (and Daily Objectives)

Monday - Open and Immerse: The teacher will show a PowerPoint that includes screenshots from opposing people concerning climate change. Show collection of video footage concerning climate change / global warming with a focus on how human population and per-capita consumption of natural resources impact Earth's systems. Librarian provides materials/links and allows students time to explore various print and non-print resources concerning the impacts of humans. Also, preface with students that they should be thinking about a topic or question to research more specific to the impacts of humans (i.e. effects on an animal species, how humans are trying to fight climate change, arguments against climate change by government leaders, etc.). Allow time to explore. Students think of possible topics and decide groups of 3 or 4 based on topic similarity and/or student-chosen groups. Groups collaborate to choose topics.

Objectives:

- Students will understand climate and humans' impact on it.
- Students will collaborate to obtain, use, and share information.

Wednesday - Explore and Identify / Some gathering may occur: Librarian begins by introducing the site for the endangered Pacific Northwest Tree Octopus (<https://zapatopi.net/treeoctopus/>) as it is endangered because of human activity. Read and peruse the site as a class. The site will be on the SMART Board as the class analyzes and discusses it together. Have students brainstorm aloud whether they believe this information is credible or not credible and their reasons as to why. Review the CRAP (currency, reliability, authority, purpose) method. Work with students to use CRAP rubric (available on Virtual Learning Commons) to evaluate the credible site. Use lateral reading to research the site creator and organization. Discuss findings and identify if site is credible. Remind students of importance of ensuring sites are accurate and credible. Introduce objectives and rubric for the final project. Discuss and allow time for questions. Now, allow students to explore, in their collaborative groups, to find information resources they need (one available in Virtual Learning Commons). They should employ the CRAP method to identify, at least, three credible sources. They may collect information as they go and place on their group's [Stormboard](#) online collaborative page ([Stormboard example](#)). They may print and write on the CRAP rubric if they wish.

Objectives:

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- Students will make critical choices about the information they use.
- Students will question and assess the validity of information.

Friday - Gather: The teacher has set up a Skype with a climate scientist. Students and teacher ask questions via Skype. The librarian provides a quick review of the CRAP method, and reminds students of the importance of credible information. Focus on being good stewards of information. This includes while collecting and while sharing. Remind students of their ethical responsibility to cite sources correctly. Provide a quick review of correct citing by citing the Skype interview and one website together as a class. Leave these examples and add a print resource citation example in view. Remind students of the link to the Purdue Online Writing Lab https://owl.purdue.edu/owl/purdue_owl.html in our Virtual Learning Commons. Student groups gather information and place in collaborate Stormboard provided through the Virtual Learning Commons. Students work together as a whole group or in pairs (from their groups). Students should identify, at least, three credible sources (can be the same as Wednesdays, five facts, and four images about their topic).

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- Students will make critical choices about the information they use.
- Students will question and assess the validity of information.
- Students will correctly cite recourse.

Monday - Create: Students complete the gathering of necessary project components. They work together to create a shareable product. The project choices are flexible for students (verbally sharing facts in a film or live presentation, creating an animated video, Prezi, PowerPoint, group created infographic, etc.). The product must have five facts about climate change specific to their chosen topics. Two must include human impact. The product must have, at least, four visuals (pictures, video clips, graphic images, graphs, charts, etc.). The students will create a presentation to present live or create a video to share. If the video is posted online, students will link in the Virtual Learning Commons. The information source citations must be visual and must be included in the presentation.

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- Students will correctly cite resources.

Wednesday - Share and Evaluate - Students present their product in a 2 to 5-minute presentation. This can be completed as a live presentation or as a You Tube video. Each group member must have contributed to the final product (i.e. making the graphics, presenting, finding and incorporating the photos, etc.). After each presentation, peer students will complete a rubric, that includes an optional narrative portion, to evaluate the other groups. The teacher and librarian will also complete a rubric. Once all presentations are complete, groups have the option to ask others verbally for feedback.

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- Students will share products with an audience and provide constructive feedback.

Timeframe of Unit:

The unit will occur over five instructional days during the students' 80 minutes science class times. It occurs every other day as that is when the students attend that class. The students may also use the library thirty minutes before school and thirty minutes after school to conduct research and create on their own.

Shared responsibilities and Location of Instruction:

As noted in the daily lesson plan activities, the librarian and the science teacher will both instruct. A question/answer session will also occur with the climate scientist. That interview will be set up by the teacher. The instruction will occur in the library. The days and times have been noted above. Modes of instruction include lecture with visuals, a question and answer session, group collaboration (staff and students and student groups), and hands-on and/or digital designing and creating. Content areas will be covered with a focus on science standards such as weather and climate and the specific Oklahoma Academic Standard (OAS) MS-ESS3-4 Earth and Human Activity. Assessment will be completed by the librarian and science teacher (assessment rubric is in the appendix). The students will also receive a feedback rubric from their peers (rubric is in the appendix).

Application of Technology:

For teaching: Librarian will complete a PowerPoint exhibiting collection of screenshots from various people and organizations about climate change and links to video footage concerning climate change. This presentation will also include a CRAP strategy reminder and VLC link. Skype will also be used by the teacher. (PowerPoint was submitted separately for LIS 5283.)

For learning: The students will create a Stormboard ([link to example student Stormboard](#)) to collect facts, links, and images. Librarian will model the creation of one as a reminder for the students (as they have used it once before). Students may also use technology for their creation and presentation. There are many options as this is flexible.

Culminating Activity or Product:

As previously noted, the product is flexible. The only requirement is a 2 to 5-minute presentation that contains, at least, five facts, four images, and citations. The presentation can be presented live or can be shown through You Tube. The evaluation rubrics are in the appendix.

Evidence of Opportunity for Student Collaboration in the Virtual Learning Commons:

Opportunities for student collaboration include using Stormboard (linked through the VLC). Students can also access a reliable source(s) and the CRAP rubric on the VLC. Lastly, if students create a You Tube video to present, they must link it in the VLC.

Summative Assessment:

Rubrics will be completed by the librarian, teacher, and peer classmates. They will evaluate the process of using credible resources, using the Stormboard, inclusion of correct amount of facts and images, forming correct citations, and quality of presentation. (For LIS 5283, rubrics are submitted as separate files.)

Teaching Unit and AASL Standards for Initial Preparation

Designing and planning the teaching unit meets many American Association of School Librarian Standards for Initial Preparation. It meets Standard 1: Teaching for Learning. Knowledge of learners and learning is exemplified by choosing the guided inquiry design instructional method. I understand the need to engage attention, allow for choice, and reflect on learning. In an effort to evaluate sites for credibility, students must think critically. Collaboration is regularly required, and students are encouraged to share knowledge throughout the process. Collaboration is also exhibited with the librarian and teacher co-planning and co-teaching. The teaching unit also fulfills aspects of Standard 2: Literacy and Reading by promoting reading for learning. Students also explore a variety of print and nonprint materials. Standard 3: Information and Knowledge is met by promoting the use of various search strategies with a focus on thinking critically about the sources they use. Finally, the teaching unit supports Standard 5: Program Management and Administration. While the unit could be considered a

lesson more than a program, many steps and various activities are involved. This required planning, developing, implementing, and evaluating the lesson and activities.

Resources

- American Association of School Librarians (2018). AASL standards framework for learners [PDF file]. Retrieved from <https://standards.aasl.org/wp-content/uploads/2017/11/AASL-Standards-Framework-for-Learners-pamphlet.pdf>.
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- British Broadcasting Corporation (2018). Trump on climate change report: ‘I don’t believe it’. Retrieved from <https://www.bbc.com/news/world-us-canada-46351940>
- CBS. (2009, December 5). *Climate change a hoax* [Video file]. Retrieved from <https://www.youtube.com/watch?v=UE6QxBaIEv8>.
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- Earth Science Communications Team at NASA’s Jet Propulsion Laboratory (2019). Global climate change: Vital signs of the planet. Retrieved from <https://climate.nasa.gov/>.
- Kinder Elementary School (hypothetical school) (2019). Virtual learning commons. Retrieved from <https://sites.google.com/view/kindervlc/home?authuser=0>.

Oklahoma State Department of Education (2019). Science: Oklahoma academic standards [PDF file]. Retrieved from https://sde.ok.gov/sites/ok.gov.sde/files/OAS_Science_Standards_3-2-15.pdf.

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Utah Education Network (2018). Evaluate websites using the crap checklist (9-12). Retrieved from <https://www.uen.org/lessonplan/view/42812>.

Viral Trends. (2018, December 31). *Planet warriors / Nas daily* [Video file]. Retrieved from <https://www.youtube.com/watch?v=Fyze8WMKc-s>

Zapato, L. (2019). Help save the endangered pacific northwest tree octopus from extinction. Retrieved from <https://zapatopi.net/treeoctopus/>.