**FINAL LESSON PLAN**

**Molloy College**

**Division of Education**

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Course: EDU 5240-01

Date: 4/23/20

Grade: N/A Topic: Global Warming Content Area: Science

**STANDARDS AND INDICATORS**

**Standard:** [**HS-ESS3-4**](http://www.nextgenscience.org/hs-ess3-4-earth-and-human-activity). Evaluate or refine a technological solution that reduces impacts of human activities on natural systems. (NCA-related content: [Mitigation](http://nca2014.globalchange.gov/report/response-strategies/mitigation#statement-21109), [Adaptation](http://nca2014.globalchange.gov/report/sectors/ecosystems#statement-16344))

Global climate models used to predict changes continue to be improved, although discoveries about the global climate system are ongoing and continually needed.

Indicator: *This will be evident when students* *participate in a think-pair-share activity to explore the impact of Greenhouse Gases on our environment.*

**Civic Literacy: 2017 Standards for Preparing Social Studies Teachers**

Standard 5: Professional Responsibility

Candidates will expand on their knowledge, inquiry skills, and civic dispositions to advance social justice and promote human rights through informed action in schools and/or communities

Indicator: *This will be evident when students expand on their knowledge, inquiry skills, and civic dispositions to advance social justice and promote human rights through informed action on the effect on Greenhouse Gases have on our environment.*

**INSTRUCTIONAL OBJECTIVE(S)**

After discussing images from “Just A Dream” and watching a video on Greenhouse Gasesstudents will describe and evaluate the impact of the Greenhouse Gases on the environment by scoring no less than an 8/10 on a teacher designed Kahoot.

**PRIOR ACADEMIC KNOWLEDGE, CONCEPTIONS/MISCONCEPTIONS**

Prior Academic Knowledge

To successfully explore the impact of Greenhouse Gases on our environment, students will use prior knowledge from previous lessons and the book “Just A Dream”, to trigger their Recognition Network and connect with this current lesson. This will be accomplished through a discussion among teachers and students allowing emerging viewpoints to come together.

Misconceptions:

* Students may not understand what Greenhouse Gases are and how they function in our

 environment

* Students may not understand what causes Greenhouse Gases to appear in our environment.
* Things students can do to help the environment.
* How Global Warming has gotten progressively worse over the past ten years.

**DEVELOPMENTAL PROCEDURES (\*Engaging the learner)**

1. **MOTIVATION** To begin this lesson on Greenhouse Gases, students will listen to a read-aloud of the book, “Just A Dream.” This will encourage students to connect prior knowledge with the current lesson. *(What are some of**the problems highlighted in this book? What do you think causes some of these problems? Which of the problems do you think is most important? Why do you think the topic of the book is important?)* [10 minutes]
2. Students will participate in a Think-Team-Share activity about the images in the book and what the reality of our world would be like if we ever let Global Warming go out of control. They will divide into groups. Students will be placed in mixed ability groupings of 3 or 4 to discuss images seen in the book to ensure that students can learn from each other on all levels.

This will allow students to activate prior knowledge of the book and begin to formulate opinions about the impact of Global Warming on our environment. Students will share their thoughts in the Think Team Share activity and then use their thoughts in the Kahoot later on in the lesson. *(What image in “Just A Dream” stood out to you the most? Why?**What is one thing you can do to prevent the image from coming to life?*)[5 minutes]

1. After students participate in the Think-Team-Share, students will watch a short YouTube video called *Greenhouse Effect Video for Kids*, and will take guided notes based on guided questions posed by the teacher as they watch the video. Notes will be taken on a teacher-designed “Note Taking Graphic Organizer.” Students will identify the impact that Greenhouse Gasses have on our environment. (*What is something that surprised you about Greenhouse Gasses? Why did this surprise you? How will this impact the way you live your life? )* [10 minutes]
2. Following the video, the teacher will identify and discuss with the students some negative effects of Greenhouse Gases as seen in the video. *(What is your opinion of Global Warming? Are all Greenhouse Gases bad for the environment?**What is an example of a negative effect of Greenhouse Gasses? What causes the increase in Greenhouse Gasses? How can you reduce your carbon footprint?)* [10 minutes]
3. For homework, using their guided notes, students will brainstorm some ways they could help reduce Greenhouse Gases in their daily lives to help the environment. **S**tudents will make an illustration in their notebooks of a way in which they can change something in their everyday lives that will contribute to the environment in a positive way. This will allow for hands-on activity and inspire students to think creatively outside of the classroom. *(What are ways you can devise a plan to positively impact the environment in your own home?)*
4. **Closure:** A teacher- created Kahoot will be displayed on the SMART Board and students must obtain a score of at least 8/10 on the teacher- designed Kahoot to demonstrate comprehension of the lesson. [15 minutes]

**ASSESSMENT *(formal & informal)***

Informal assessment

* Students identifying the impact of Greenhouse Gasses in the short video by completing guided notes.
* Students participate in open discussions about both the book “Just A Dream” and a short video about the impact of Greenhouse Gasses on our environment.

Formal assessment

* Students will successfully complete a teacher- designed Kahoot with a score of no less than 8/10 questions answered correctly.

**INSTRUCTIONAL STRATEGIES**

* **Cooperative Learning**
	+ **Indicator:** This will be evident when students are working with one another in groups to connect prior knowledge with current knowledge to build upon understanding of the impact of Greenhouse Gasses on the environment.
* **Discussion**
	+ **Indictor:** This will be evident when students areparticipatingin a class wide discussion about the impact of Greenhouse Gasses on our environment.
* **Technology**
	+ **Indicator:** This will be evident when students demonstrate their comprehension of the impact of Greenhouse Gasses on our environment by obtaining no less than an 8/10 on a teacher designed Kahoot.
* **Scaffolding**
	+ **Indicator:** This will be evident when students use analytical and critical thinking skills to identify the impact of Greenhouse Gasses on our environment throughout the lesson.

**ADAPTATIONS**

* Student 1, who has difficulty working with others in groups, will be placed in a predetermined group that best fits his academic and social emotional needs, and will be given the role of the mediator of conversation in the group making sure that everyone stays on task.
* Student 2, who struggles with remaining on task will be given a special role as the notetaker during the Think-Team-Share activity so that he is able to have an important and essential role.
* Student 3, who struggles with verbal communication will be given preferential seating in order to ensure that she is able to work efficiently and has close access to teachers and mentors.

**DIFFERENTIATION OF INSTRUCTION**

* The integration of technology will encourage students to actively engage in both the learning process and the assessment process.
* Groups that are predetermined by the teacher based on students academic abilities will allow students to be placed accordingly and allow for effective conversation among group members.
* Students who struggle to understand specific concepts on their own will be able to work with their mentors, teachers and/or peers to build upon schematic knowledge.

**INSTRUCTIONAL RESOURCES AND MATERIALS**

Guided Notes Worksheet

Scoring Sheet

Kahoot Questions

“Just A Dream” written by Chris Van Allsburg

Smartboard

Pens/Pencils

Phone/Tablet/Laptop

<https://www.youtube.com/watch?v=DYHAZaasdxI>

<http://www.nysed.gov/next-generation-learning-standards>

**REFERENCES**

learning junction. (2018). Greenhouse Effect video for Kids | The Greenhouse Effect. On YouTube. Retrieved from <https://www.youtube.com/watch?v=DYHAZaasdxI>

New York State Education Department. (2017). New York State Next Generation English Language Arts and Mathematics Learning Standards Retrieved from

<http://www.nysed.gov/next-generation-learning-standards>

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Van Allsburg, C., n.d. *Just A Dream*.

**Kahoot Scoring Sheet**

**1.**

**2.**

**3.**

**4.**

**5.**

**6.**

**7.**

**8.**

**9.**

**10.**

(1 point each)

**Student Name:**

**Total Score:**

**Parent Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\*\*If student does not obtain at least 8/10 on Kahoot, student must attend an extra help session.\*\***

**Kahoot Questions**

1. A gradual increase in the overall temperature of the earth's atmosphere generally attributed to the greenhouse effect is known as which of the following?
	1. Greenhouse Gases
	2. Global Warming
	3. Pollution
	4. Climate Change
2. All of the following are causes of The Greenhouse Effect except:
	1. Gases being trapped by the sun
	2. The presence of water vapour, carbon dioxide, methane, and certain other gases in the air
	3. The heating of Earth’s surface by sunlight
	4. Earth’s naturally cold surface
3. What do Greenhouse Gases do in the atmosphere?
	1. Evaporate
	2. Absorb Radiation
	3. Warm the Earth
	4. Clean the air
4. What is an example of a Greenhouse Gas?
	1. Carbon Dioxide
	2. Methane
	3. A + B
	4. Neon
5. What can you do to help fight climate change?
	1. stop using fossil fuels
	2. learn about the science of climate change
	3. reduce, reuse, recycle
	4. all of the above
6. What is a way that humans release Greenhouse Gases into our atmosphere?
7. Burning of fossil fuels
8. Using solar panels on their house
9. Playing sports
10. Mowing their lawn
11. Climate change is real and mostly caused by humans.
12. true
13. false

 8. If the Greenhouse Effect did not exist the average temperature of Earth would drop from 57 degrees fahrenheit to what?

 a. 50 degrees

 b. 20 degrees

 c. -.04 degrees

 d. -57 degrees

 9. What does the Ozone layer protect us from?

 a. The Moon

 b. UV Rays

 c. Carbon Dioxide

 d. Comets

 10. What caused the disruption in the process of balancing energy and heat in the environment?

 a. Pollution

 b. Methane

 c. A Meteor

 d. Global Warming

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Greenhouse Gases Video Guided Notes**

**Instructions:** While watching the video, please fill out the main idea on the left and include details about the main idea in the space provided to the right.

**Main Idea Details**

|  |  |
| --- | --- |
| What are Greenhouse Gases |  |
| Effect of Pollution |  |
| Causes of Global Warming |  |
| Ways to Reduce Greenhouse Gases |  |
| Do you Contribute to Pollution |  |