Unlocking the Sad Secret of the Spike: COVID 19

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Grade Level	8
Duration	3 class periods

National Standards	AZ Standards	Arizona Social Science Standards
GEOGRAPHY **Element 1: Human Systems** 1.How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information **Element 6: The Uses of Geography** 18. How to apply geography to interpret the present and plan for the future	**ELA** **Reading** **Key Ideas and Details** 8.RI.1 Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text. **Knowledge and Ideas** 8.RI.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue. **Writing** **Text Types and Purposes** 8.W.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. e. Establish and maintain a formal style. f. Provide a concluding statement or section that follows from and supports the information or explanation presented. **MATHEMATICS** **Expressions and Equations** 8.EE.A.3. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much	**Geography** **The use of geographic representations and tools helps individuals understand their world.** 8.G1.1 Use geographic tools and representations to analyze historical and modern political and economic issues and events. Key tools and representations such as maps, globes, aerial and other photos, remotely sensed images, tables, graphs, and geospatial technology **Global interconnections and spatial patterns are a necessary part of geographic reasoning.** 8.G4.1 Take an active stance on a geographic issue reflecting its scale (local, regional, state, national, or global)

one is than the other.
8.EE.A.4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.

SIOP Elements

Preparation	Scaffolding	Grouping Option
Adapting content	Modeling	**Whole class**
Linking to background	Guided practice	Small groups
Linking to past learning	Independent practice	**Partners**
Strategies used	**Comprehensible input**	**Independent**
Integrating Processes	**Application**	**Assessment**
Reading	Hands on	**Individual**
Writing	**Meaningful**	**Group**
Speaking	**Linked to objectives**	**Written**
Listening	**Promotes engagement**	Oral

Arizona English Language Proficiency Standards

Grade 6-8
Basic
Listening and Reading
Standard 1 By the end of each language proficiency level, an English learner can construct meaning from oral presentations and literary and informational text through grade appropriate listening, reading, and viewing.
B-1: determine the central idea or theme and explain how they are supported by using some text evidence.
B-2: recount specific details and information in a variety of texts.
Listening, Speaking, Reading, and Writing
Standard 6 By the end of each language proficiency level, an English learner can participate in grade-appropriate oral and written exchanges of information, ideas, and analyses, responding to peer, audience, or reader comments and questions.
B-1: participate in discussions about familiar topics and texts.
B-5: contribute relevant information and evidence to collaborative oral and written discussions.
Standard 7 By the end of each language proficiency level, an English learner can conduct research and evaluate and communicate findings to answer questions or solve problems.
B-1: gather information from multiple provided resources to answer questions.
B-4: restate the main idea using evidence from text or presentations.
Standard 8 By the end of each language proficiency level, an English learner can analyze and critique the arguments of others orally and in writing.
B-5: use academic words and phrases to express ideas and phrases.

Overview

Prior to late 2020, most students had no real concept of a pandemic that could strike humans of all races, economic conditions, and geographic locations. COVID 19 brought about awareness of the impact of social, economical, geographic factors of the spread of an infectious disease.

Purpose

In this lesson, students will identify the countries most affected by COVID 19. They will explore and

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analyze the data using the mathematical skill of scientific notation.

Key Vocabulary

COVID 19 - an official name for coronavirus disease 2019 (abbreviated COVID-19 where CO=corona, VI=virus, and D=disease, 19=year)
pandemic - an outbreak of a disease that occurs around the world
global - involving the whole world
scientific notation - a way of writing very large or very small numbers
exponent - a number written above and to the right of the base

Materials

- Vocabulary Cards
- Projection device, computer, internet
- 10 Most COVID 19 Affected Countries worksheet
- worldometer Conoravirus website found at: https://www.worldometers.info/coronavirus/countries-where-coronavirus-has-spread/
- Blank World map https://geoalliance.asu.edu/sites/default/files/maps/World-at.pdf
- Interactive World map with country names https://geoalliance.asu.edu/sites/default/files/maps/World-at.pdf
- Handheld computing device
- Vocabulary Cards
- Vocabulary Test and Answer Key
- How COVID-19 Impacted Our World | Effects of the COVID-19 Pandemic | Concern Worldwide (2.02 min) https://www.youtube.com/watch?v=nq1HY9TvUUA
- How COVID 19 Changed Our World (9.44 min) https://www.youtube.com/watch?v=ihSlDvQwHdg
- Coronavirus outbreak: The impact COVID 19 is having on the global economy (4:55 min) https://www.youtube.com/watch?v=0cGLrSpaf4o
- Social, Political, Economic, and Psychological Consequences of the COVID-19 Pandemic https://www.russellsage.org/research/funding/covid-19-pandemic
- Social, Political, Economic, and Psychological Consequences of the COVID-19 Pandemic 10 Important Sentences worksheet

Objectives

The student will be able to:

1. Use a graph to identify 10 countries most affected by COVID 19 and locate those countries on a world map.
2. Identify 10 social, economic, and psychological impacts of COVID 19.
3. Use and explain scientific notation for statistics.
4. Write an informative summary.

Procedures

Prerequisite Knowledge: Students know how to write scientific notation from word form and how to perform division with numbers expressed in scientific notation to compare the data.

SESSION ONE

Engage:
1. Project Picture A of coronavirus and have students partner up and describe the image of the virus. Have groups share their answers with the class and write down their observations on the whiteboard. Then project Picture B and ask partners to describe her feelings and why she might be feeling this way. Have groups share their answers with the class and write down their observations on the whiteboard. Project Picture C and as students what do they wonder about COVID. Have groups share their answers with the class and write down their observations on the whiteboard. **(Application: Promotes engagement; Group Option: Partners; Whole class)**

Explore:
2. Now ask the class the question under Picture C. What countries in the world have the highest rates of coronavirus infections? Again, write their responses on the whiteboard.
3. Distribute the 10 Most COVID 19 Affected Countries worksheet and have students access worldometer Conoravirus found at: https://www.worldometers.info/coronavirus/countries-where-coronavirus-has-spread/
4. Instruct students to use this website to determine the 10 countries most affected by COVID 19 and demonstrate how to calculate scientific notation using the example on the worksheet. Then explain how to do the questions in Activity 2.
5. Give time for students to complete the worksheet. *Note: Since this website is updated constantly, teachers will need to make the answer key.* **(Application: Linked to objectives; Grouping Option: Independent)**

SESSION TWO

6. Distribute the blank World map. https://geoalliance.asu.edu/sites/default/files/maps/World-at.pdf Have students access on their handheld devices the interactive World map found at: https://www.worldometers.info/world-map/
7. Instruct students to locate and label on the map the 10 countries most affected by COVID 19.
8. Ask the students to analyze the map. Is there any continent that is especially hard hit? Ask them why islands might not be especially hard hit?
9. Project the Vocabulary Cards and explain the definitions. Have students write down any words they are not familiar with. Allow students time to practice and then give Vocabulary Test. **(Scaffolding: Comprehensible input; Integrated Processes: Reading, Writing, Speaking, Listening)**

SESSION THREE

Explain:
10. Project Picture B again and remind students of their responses from the whiteboard. How does COVID 19 affect us?
11. Project the YouTube video How COVID-19 Impacted Our World | Effects of the COVID-19 Pandemic | Concern Worldwide (2.02 min) https://www.youtube.com/watch?v=nq1HY9TvUUA
12. Continue with projecting How COVID 19 Changed Our World (9.44 min) https://www.youtube.com/watch?v=ihSlDvQwHdg and Coronavirus outbreak: The impact COVID 19 is having on the global economy (4:55 min) https://www.youtube.com/watch?v=0cGLrSpaf4o
13. After each video give students an opportunity to pair and share their thoughts. **(Integrated Processes: Reading, Writing, Speaking, Listening)**

Elaborate:
14. Distribute the Social, Political, Economic, and Psychological Consequences of the COVID-19 Pandemic Important Sentences worksheet and explain the instructions. Explain how the writing will be graded.
15. Have student access the reading entitled: Social, Political, Economic, and Psychological Consequences of the COVID-19 Pandemic https://www.russellsage.org/research/funding/covid-19-pandemic and complete the worksheet. **(Application: Meaningful)**

Evaluate: (See Assessment)

Assessment

Geography, ELA and Math
The 10 Most COVID 19 Affected Countries worksheet can be graded for completeness and accuracy. Mastery will be considered a score of 80% or higher.

The Vocabulary Test can be used to assess language acquisition. Mastery will be considered a score of 80% or higher.

Geography
The map work can be graded for accuracy and completeness. Mastery will be considered a score of 90% or higher.

ELA and Geography
Social, Political, Economic, and Psychological Consequences of the COVID-19 Pandemic Important Sentences worksheet can be graded for completeness. Mastery will be considered 9 of the 10 sentences are provided.

The 5 sentence summary paragraph can be graded with the Informative-Explanatory Essay Writing Rubric. Mastery will be considered a score of 3 or higher in each of the categories. **(Assessment: Written, Individual or Group)**

Extensions

Students could:
● Revisit covid statistics for deaths that occurred due to COVID 19 and represent the data in scientific notation.
● Find the percentage of deaths compared to total number of COVID 19 cases for selected countries.
● Research reasons why there are more deaths from COVID 19 in certain countries.
● Present the 5 sentence paragraph information to the class using PowerPoint or other presentation formats.

Sources

https://www.worldometers.info/world-map/
https://www.russellsage.org/research/funding/covid-19-pandemic
Worldometers/countries where Covid -19 has spread
https://www.youtube.com/watch?v=kIL5m5XznNY
https://www.youtube.com/watch?v=0cGLrSpaf4o
https://www.youtube.com/watch?v=nq1HY9TvUUA
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