

Looking at Pandemics Through AzGA Lesson Plans

by Heather Moll and Gale Olp Ekiss



<https://geoalliance.asu.edu/>

1

Why Geography?

Because geography straddles both human and physical geography, it is at a unique position to study pandemics.

Outcomes:

- Will focus on learning how the study of pandemics can become a Geo-Inquiry by relying on the work of Dr. Helen Hazen, University of Denver.
- Will share two lessons developed for the AzGA website: The Influenza Pandemic of 1918-19 and Four Corners Hantavirus: Geography and Health.
- Will demonstrate how to find links to a lesson on the Black Death, a list of web-based resources, and copies of these PowerPoints.

2

Geo-Inquiry Process (Nat Geo)

1. Ask
2. Collect
3. Visualize
4. Create
5. Act

[Geo-Inquiry Worksheets \(90 pages\)](https://www.nationalgeographic.org/education/programs/geo-inquiry/)

<https://www.nationalgeographic.org/education/programs/geo-inquiry/>

- Creating the right question
- Gathering the right data
- Planning the right visual
- Creating an effective visual
- Effectively Sharing your Geo-Inquiry



3

Questions for Student Research

- **Imagine you are a pandemic advisor at the World Health Organization. What sorts of measures might you encourage your member states to take to reduce the risk of future pandemics?** (e.g., closure of wet markets; regulations on the bushmeat trade; efforts to improve hygiene in agriculture; better surveillance to identify newly emerging diseases; efforts to identify potential pathogens in wild animals)
- **To what degree might the interests of conservationists and public health experts intersect in the context of trying to reduce the likelihood of new pandemics?** (e.g., intact ecosystems provide less opportunity for contact between humans and wild animals; reductions in logging and landscape conversion reduce human encroachment into natural ecosystems; discouraging people from eating wild animals offers conservation and health advantages)
- **Imagine that you are a government official in the early weeks of the pandemic. What steps would you want to take in Wuhan to try to prevent the disease from spreading? How will you balance concerns over personal freedom with the need to control the spread of the disease?** (e.g., quarantining cases and/or the whole city; careful surveillance and monitoring of the disease's spread; disease testing to monitor spread; social distancing)
- **If you are a government official in another country, what steps would you propose to try to prevent the disease entering your country and prepare for an outbreak? How might your decisions differ if your nation is relatively isolated (e.g., New Zealand) or has significant cross-border traffic (e.g., the U.S. or France)? How might your approach differ if your country is a city nation (e.g., Singapore) versus a more rural one (e.g., Guatemala)?** (e.g., quarantining people coming from affected areas; careful case and contact tracing; putting into action pandemic preparedness plans; building up healthcare capacity)

4

Questions for Student Research

- **Why is social distancing so important for controlling an airborne disease that is new to the human population?** (e.g., everyone is susceptible to new diseases, so they spread rapidly; absence of effective vaccines or treatments make prevention critical; simply keeping people apart is effective for an airborne disease, regardless of the precise details of transmission)
- **Why is quarantine alone unlikely to be successful in controlling the spread of COVID-19?** (e.g., challenges of enforcing quarantine, including civil liberties issues; quarantine relies on high levels of compliance to be effective; COVID-19 may spread asymptotically as well as before symptoms appear, making it hard to know whom to quarantine)
- **Why is it so difficult to lift a lockdown without generating a renewed outbreak? What measures would have to be in place before lifting a lockdown in order to prevent renewed waves of infection?** (e.g., the disease will likely spread again as soon as a lockdown is lifted, unless rigorous public health measures are in place to rapidly identify and isolate new cases and their contacts; alternatively we could wait for a vaccine; achieving herd immunity would potentially involve many thousands of additional deaths and so most governments have not proved willing to purposely follow this route)

5

Questions for Student Research

- **What characteristics of the COVID-19 pandemic suggest that a contact-tracing app might be useful?** (e.g., significance of close contact to spread of the disease; few current alternatives to social isolation for slowing the disease's spread; challenge of asymptomatic cases)
- **How might we address privacy concerns with contact-tracing apps? At the other extreme, are more stringent measures to try to enforce quarantine justified (such as the use of digital wristbands to monitor the movements of those infected)?** (e.g., make the system voluntary; control who has access to the data generated; make sure that apps only record the bare minimum of information needed; perhaps controlling the disease will require compromising some civil liberties)
- **What were some of the implications of India's rapid lockdown? How could India have made its approach to controlling the virus more sensitive to the needs of its most impoverished citizens?** (e.g., the virus probably spread with migrants from cities to rural areas; movement of people back to villages increases crowding in family homes; poverty increases as migrant workers are unable to work; possible shortages of food in rural areas to support the new influx of people)

6

Questions for Student Research

- What are some of the challenges facing coastal resorts that are being inundated with city-dwellers fleeing cities? What equity issues does this raise? (e.g., possible introduction of the virus to these remote areas; lack of hospital beds in rural areas; overextended infrastructure in small resort towns, e.g., busy car parks and congested streets; problems with social distancing at beauty spots; need for emergency services to attend to those injured in recreational activities)
- What is the role of government during a public health crisis? Should government have the right to restrict civil liberties for the “greater good” of controlling a pandemic? (e.g., connections to right-wing and libertarian versus left-wing politics that disagree at a fundamental level about the role of government; public health can be seen as a more worthy issue than most for curtailing individual liberties; certain individuals or groups may benefit/be disadvantaged more than others by curtailment of civil liberties)
- Do you think that voluntary public health measures are effective enough for a problem of the scale of the COVID-19 pandemic? Under what social circumstances do you think that voluntary measures might be most effective? Where are more authoritarian governments successful? (e.g., differences in style of government might influence the effectiveness of voluntary measures; more collectivist societies might be able to rely more on voluntary measures than more individualistic societies; more homogeneous societies might feel greater unity and willingness to participate voluntarily)

7

Questions for Student Research

- Why are today’s global commodity chains so vulnerable to disruption by events such as the COVID-19 pandemic? How might our global supply networks nonetheless provide some resilience? (e.g., workers unable to work; ships unable to get loaded owing to illness among workers; panic buying raising demand; increased demand for some products necessitating that factories switch to production of essentials; disruption to migrant labor supply; closed borders. On the other hand, globalized supply chains provide the potential to make up shortfalls in production associated with localized disruptions.)
- What are some of the short-term environmental benefits of the COVID-19 pandemic? Are any environmental benefits likely to persist in the long term? How might we try to solidify any short-term environmental benefits into long-term solutions? (e.g., short-term: reduced pollution, animals thriving in recently unpeopled spaces, closure of wet markets; long-term: potential for recession to defund environmental efforts, international attention may shift from environmental issues to recession and poverty reduction, return to the idea that environmental protection is a luxury. Policy and public attention are likely to be the best ways to solidify any gains; also public health and conservation messages might be used to reinforce one another after this experience, e.g., related to hunting wild animals.)

8

Questions for Student Research

- How might low socioeconomic status raise an individual's risk of contracting coronavirus? How might low socioeconomic status increase the risk of an individual being sick enough to be hospitalized or die from COVID-19? (e.g., exposure: exposure may be highest in crowded communities such as poor inner-city areas; people in low-wage jobs likely to have to continue working and risk exposure; low-wage employees have limited power to demand protective equipment at work. Risk of hospitalization/death: higher for those with underlying conditions such as diabetes which are more common among the poor; poorer individuals may have less access to healthcare)
- How might the experience of being a minority influence your likelihood of contracting or dying from COVID-19? Think about how socioeconomic status might confound the relationship between race and health before considering how minority status itself might lead to poorer disease outcomes. (e.g., socioeconomic status: many minority groups more likely to be of lower socioeconomic status, with significant implications for health. Minority status: chronic stress can weaken the immune system; minorities may be less likely to seek healthcare, especially undocumented workers or those who are not proficient in the language of their host country; prejudice within the healthcare system may mean that minorities are not treated in the same way as majority populations)

9

A Greater Killer than the War: The Influenza Pandemic of 1918-1919

by Dr. Elizabeth Hinde

- High School
- 1-2 class periods



Dean
School of Education
Metropolitan State University
of Denver

Arizona Social Science Standards—GEOGRAPHY

The use of geographic representations and tools help individuals understand their world.

HS.G1.1 Use geographic data to explain and analyze relationships between locations of place and regions.

HS.G1.2 Use geospatial tools and related technologies to construct relevant geographic data to explain spatial patterns and relationships. Examining human population and movement helps individuals understand past, present, and future conditions on Earth's surface.

Examining human population and movement helps individuals understand past, present, and future conditions on Earth's surface.

HS.G3.1 Analyze the reciprocal nature of how historical events and the diffusion of ideas, technologies, and cultural practices have influenced migration patterns and the distribution of human population.

HS.G3.4 Evaluate the consequences of human-made and natural catastrophes on global trade, politics, and human migration settlement.

10

A Greater Killer than the War: The Influenza Pandemic of 1918-1919

Purpose: In this lesson, students will be introduced to the Influenza Pandemic of 1918-1919. They will learn key facts about it and will use maps and primary source news articles to understand its spread and impact across the world.

1. Show Title Slide and Slide 1

Ask: Who do you think these people are? (police officers)

- Where do you think these people are? (Seattle)
- When do you think this picture was taken? (circa 1918)
- Why are they wearing masks? (protection from the flu – both getting it or spreading it)
- What do you think they are doing? (going to enforce laws that protect public from spread of the flu)



11

A Greater Killer than the War: The Influenza Pandemic of 1918-1919

2. Show Slides 3-4 and introduce vocabulary (pandemic, epidemic, virus, influenza, global, and mortality rate).

3. Show Slides 5-8 and complete the worksheet.

4. Distribute World map and have students use resources to shade in each country affected by the pandemic.

Name _____

A Greater Killer than the War Worksheet

Vocabulary

pandemic - an outbreak of a _____ that occurs over a wide _____ area and affects an exceptionally high proportion of _____

epidemic - an outbreak of a _____ that spreads quickly and affects _____ people at the same time

virus - an extremely _____ particle that causes a _____ and _____ from one _____ or _____ to another

influenza - a common respiratory _____ that is caused by a _____ and that causes _____, severe _____, and _____, and _____ problems

global - involving the entire _____

mortality rate - the _____ of a particular group of _____ who _____ each year _____

Notes

Deadlier than the War

Estimated 30 to 100 _____ people died worldwide.

- Approximately _____ Americans died in World War I.
- Approximately _____ Americans died from _____ in 1918-1919.
- _____ more were infected but did not die.

Unlike other diseases, this one killed _____ people - ages _____ - at greater rates than any other age.

The _____ for this age group is usually the _____, which made this disease one of the most _____ in history.

3 Waves of the Flu

The disease spread to other _____ mainly through _____.

- Wave 1 - _____, 1918. Camp Riley, KS then to other _____, and onto _____, to the Western Front and ports in _____.

12

Deadlier Than the War (slide 5)

Estimated 30 to 100 **million** people died worldwide.

- Approximately **116,500** Americans died in World War I.
- Approximately **675,000** Americans died from **Influenza** in 1918-1919.
- **Millions** more were infected but did not **die**.

Unlike other diseases, this one killed **young** people – ages **15-45** – at greater rates than any other age.

The **mortality rate** for this age group is usually the **lowest**, which made this disease one of the most **unusual** in history.



13

13

3 Waves of the Flu (slide 6)



The disease spread to other **countries** mainly through **ports**.

- Wave 1 – **Spring** 1918. Camp Riley, KS then to other **military bases**, and onto **Europe** to the Western Front and ports in **Africa**.
- Wave 2 – **August** 1918. **France** then across the world. This was the **deadliest** time of all.
- Wave 3 – **February** 1919. Less **deadly** version but killed many **weakened** people.



14

14

A Global Disaster (slide 7)

Also called the **Spanish Flu** since Spain's newspapers reported the disease widely and people thought it **started** there.

In the **U.S.** the disease first appeared in **military bases**, then **spread** rapidly to other **bases** and points around the **world**.



15

15

Countries Infected All Over The World (slide 8)

Countries Infected All Over The World

Using the **map packs**, locate these **countries** that were affected by the Flu and **shade** each one on the **outline map**.

India	Denmark	Germany	Argentina
Indonesia	Norway	Nigeria	Paraguay
England	France	Japan	Kenya
Colombia	Poland	Costa Rica	Canada
Portugal	Saudi Arabia	South Africa	Iceland
Spain	Brazil	Sweden	Philippines
Mexico	Australia	Afghanistan	Russia
Peru	New Zealand	China	Congo
U.S.A.	Egypt	Cuba	Samoan Islands
Italy	Sierra Leone	Madagascar	Chad

16

16



17

Notable Survivors of the Flu Epidemic

- **President Woodrow Wilson**
- **Franklin D. Roosevelt**, future President of the U.S.
- **John J. Pershing**, U.S. General, WWI
- **Wilhelm II**, German Emperor, WWI
- **David Lloyd George**, Prime Minister of Britain, WWI
- **Alfonso XIII**, King of Spain
- **Haile Selassie I**, future Emperor of Ethiopia
- **Walt Disney**
- **Edvard Munch**, famous artist
- **Georgia O'Keefe**, famous painter
- **Katherine Anne Porter**, famous writer (*Pale Rider*)
- **Mary Pickford**, silent film star
- **Lillian Gish**, famous actress
- **Leo Szilar**, Inventor of Nuclear Chain Reaction

18

18

A Greater Killer than the War: The Influenza Pandemic of 1918-1919

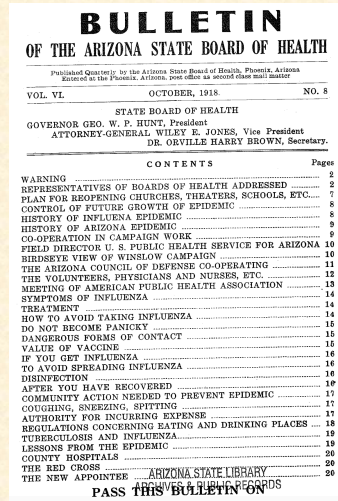
5. Divide students into groups and read the AZ State Board of Health Bulletin from October 1918 (pages 2-6)

<https://azmemory.azlibrary.gov/digital/collection/statepubs/id/10784>

6. Each group should share one fact and one conclusion that have not been shared by another group.

7. Have small groups discuss:
- How could a disease spread across the world today?
 - How can a pandemic be prevented?

Link to Lesson:
<https://geoalliance.asu.edu/influenza>



19

Four Corners Hantavirus: Geography and Health

- High School
- 1-2 class periods



Professor
School of Geographical
Sciences and Urban Planning
AZ State University

Arizona Social Science Standards--GEOGRAPHY

The use of geographic representations and tools help individuals understand their world.

HS.G1.1 Use geographic data to explain and analyze relationships between locations of place and regions. Key tools and representations such as maps, remotely sensed and other images, tables, and graphs

Human-environment interactions are essential aspects of human life in all societies.

HS.G2.1 Analyze interactions within and between human and physical systems

Examining human population and movement helps individuals understand past, present, and future conditions on Earth's surface.

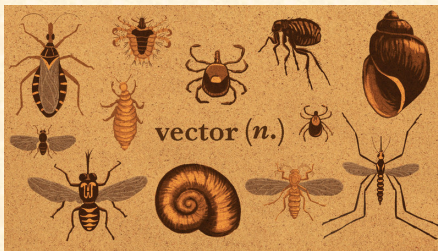
HS.G3.4 Evaluate the consequences of human-made and natural catastrophes on global trade, politics, and human migration settlement.

20

Four Corners Hantavirus: Geography and Health

Purpose

In this lesson, students will learn about hantavirus: how to prevent it and why this disease is prevalent in the Four Corners region of the southwestern United States. They will also compare this disease to what they know about a more recent occurrence, Covid 19.



<https://www.npr.org/sections/goatsandsoda/2017/02/14/512875686/from-vector-to-zoonotic-a-glossary-for-infectious-diseases>

Procedures:

1. Introduce students to the concept of a **vector** (the carrier and transmitter of a disease). Ask students for examples of vectors. (**mosquitoes**—malaria, dengue, West Nile fever, Zika fever, yellow fever, etc.; **ticks**—encephalitis, Lyme disease; contact with **infected animal**—hantavirus, Ebola, contact with an **infected person**—Ebola, Covid 19. Explain that geography has an important part to play in the discovery of where diseases originate, how they are transmitted, and how they can be contained or cured.

21

Four Corners Hantavirus: Geography and Health

2. Create a 2 KWL charts on the whiteboard or use a projection device. Label Chart 1 as Covid 19. Label Chart 2 as hantavirus. Have students share what they already know about Covid 19 to fill in the K section. Spend some time then filling in the W section. Repeat the process with Chart 2.

K-W-L Chart		
Topic: _____		
What I Know	What I Want to Know	What I Learned

22

Four Corners Hantavirus: Geography and Health

3. Distribute and read aloud the Hantavirus Student Guide. Have students complete the L section of the hantavirus chart. Then have students apply any learning they have from hantavirus to the L section of the Covid-19 chart.

Hantavirus Student Guide


History of Hantavirus

An outbreak of unexplained illness occurred in May 1993 in the Four Corners area of the Southwest. The name Four Corners comes from the high plateau region where the corners of Arizona, Colorado, New Mexico, and Utah meet. A number of previously healthy young adults suddenly developed fever, chills, and muscle pain — followed by a hard time breathing; about half of them died.

Hantavirus was first identified during the Korean War in the early 1950s when 3,000 U.S. soldiers were infected. After that, there was not another outbreak amongst the U.S. population until May of 1993. Upon investigating, researchers realized that they were dealing with a form of hantavirus, which is transmitted by rodents.

They began to trap rodents in the affected area, doing tissue studies both of rodents and hantavirus victims. The virus and its principal carrier — the deer mouse — were positively identified. This disease causes "hantavirus pulmonary syndrome" (HPS).

The deer mouse often lives in and near human dwellings to obtain food. Early on, researchers also established that person-to-person spread was unlikely. Rodents, especially deer mice, were the keys.



Why the Four Corners Area?


There was a "bumper crop" of rodents in the Four Corners, due to heavy rains during the spring of 1993. The wet weather produced an extra-plentiful supply of the foods that rodents eat. More food helped rodent populations grow.

Deer mice and other infected rodents occur in every habitat type, from desert to alpine tundra. Infection is more common in middle-altitude habitats that occur in the Four Corners area. Deer mice in the Four Corners area commonly carry the hantavirus. In 1993, 30% of the rodents trapped in the Four Corners area had the hantavirus antibody.

Herman Shortly, Director of the Office of Environmental Health of the Navajo Nation, notes that traditional Navajos observed the problem in the past. When there was an increase in rain in 1918, 1933, and 1934, the increase in food supply led to more rodents and deaths among young healthy Navajos living in the Four Corners region.

Although the highest case load of HPS still occurs in the Four Corners states, it appears that other places where rodents live can host HPS as well.

Take a look at this choropleth map, courtesy of the Center for Disease Control (CDC). Choropleth maps show abundance in an area through shading. In this case, specific numbers have also been placed in each state.



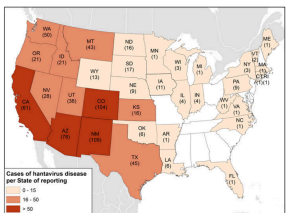
Deer Mouse habitat in North America

ARIZONA
GEOGRAPHIC ALLIANCE

23

Four Corners Hantavirus: Geography and Health

Cumulative Case Count through January 2017 per State Based on Data Collected by the Nationally Notifiable Disease Surveillance System

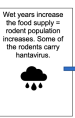


There are other places in the world that also have rodents that carry hantavirus. Some of these locations are China, Russia, Canada, and much of Europe and South America. It is actually referred to by the terms Old World Hantavirus and New World Hantavirus.


How is Hantavirus Transmitted?

Rodents shed the virus in their urine, droppings, and saliva. Hantavirus pulmonary syndrome (HPS) is mainly transmitted to people when they breathe in air contaminated with the virus. An aerosol is a suspension of fine particles (dust) in air. Aerosolization is the name given to the process of how dust gets into the air. Aerosolization happens when fresh rodent urine, droppings, or nesting materials are stirred up. Aerosolization is important, because dust containing the virus can be easily breathed into lungs.


Wet years increase the food supply. Rodent population increases. Some of the rodents carry hantavirus.




Rodent droppings increase. Some of the droppings are infected.



Aerosolization happens when droppings are swept or disturbed and become airborne.



HPS can result when people breathe in contaminated particles in the air.



There are several other ways rodents may spread Hantavirus to people. If a rodent with the virus bites someone, the virus may be spread. Researchers believe that people may be able to get the virus if they

ARIZONA
GEOGRAPHIC ALLIANCE

touch something that has been contaminated with rodent urine, droppings, or saliva, and then touch their nose or mouth. People can also become sick if virus-infected rodent urine, droppings, or saliva contaminates food that people eat. Hantavirus does not spread from human to human.

Who is at Risk of Getting HPS, and Why?

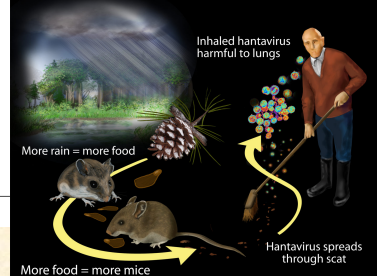
People are at risk when they open up cabins and sheds or clean out buildings that have been closed during the winter. Examples of these buildings include barns, garages, or storage facilities for farm and construction equipment. Construction and utility workers can be exposed when they work in crawl spaces under houses or in vacant buildings. Hikers and campers can also be exposed when they use infested trail shelters.

What are the Symptoms of HPS?

HPS symptoms include fatigue, fever, and muscle aches, especially the large muscle groups—thighs, hips, back, sometimes shoulders. These symptoms are universal. There may also be headaches, dizziness, chills and/or abdominal problems, such as nausea, vomiting, diarrhea, and abdominal pain. About half of all Hantavirus patients experience these symptoms:

- early stage (universal): fever, fatigue, muscle aches,
- early stage (about half): headaches, dizziness, chills, abdominal problems,
- late stage (universal): coughing, shortness of breath.

Sources:
 Photo: <https://www.fsfed.us/database/feis/animals/mammal/pemall.html>
 Maps: <https://www.cdc.gov/hantavirus/surveillance/reporting-state.html>
<https://www.cdc.gov/hantavirus/rodent/index.html>
 Information: <https://www.cdc.gov>
<https://cmr.asm.org/content/23/2/12>



https://nsf.gov/news/mmg/media/images/hantavirus_hires_h.jpg

24

Four Corners Hantavirus: Geography and Health

4. Distribute the Hantavirus Worksheet. Assign students to work in groups or individually on the questions. Allow students to see Chart 1 and Chart 2 to assist in their answers.

5. Collect the worksheet.

Hantavirus Worksheet Name: _____

Answer the following questions in complete sentences or circle the correct choice.

1. Name the states that make up the region called the "Four Corners." (4 pts)
2. Which state has the most cases of Hantavirus? (2 pts)
 - a. New Mexico
 - b. Arizona
 - c. California
 - d. Colorado
3. What is "aerosolization"? (2 pts)
4. Name three ways to prevent getting hantavirus mentioned in the Hantavirus Student Guide. (6 pts)
5. Name at least two ways that hantavirus is similar to Covid-19 in a short paragraph. (10 pts)
6. Name two consequences of these health catastrophes (Hantavirus, Covid-19, other pandemic). (10 pts)

ARIZONA GEOGRAPHICAL ALLIANCE

Hantavirus Worksheet Answer Key

Answer the following questions in complete sentences or circle the correct choice.

1. Name the states that make up the region called the "Four Corners." (4 pts)
The Four Corners consists of Arizona, Utah, Colorado, and New Mexico.
2. Which state has the most cases of Hantavirus? (2 pts)
 - a. New Mexico
 - b. Arizona
 - c. California
 - d. Colorado
3. What is "aerosolization"? (2 pts)
Aerosolization is a process of disease transmission getting into the air. This makes the contamination/particles of dust airborne and breathable.
4. Name three ways to prevent getting hantavirus mentioned in the Hantavirus Student Guide. (6 pts) (Accept any reasonable responses)

Use airtight proof food containers, keep trash away from homes, use rodent traps, allow wild animals to prey on rodents, keep garbage away from rodents, don't breathe in dust, wear a mask, be careful when opening homes or going into spaces not used by humans for a long time and might have rodents living there, wash hands before touching your face or eating, etc.
5. Name at least two ways that hantavirus is similar to Covid-19 in a short paragraph. (10 pts) (Accept any reasonable responses)

Covid-19 and hantavirus are similar in the following ways. Both originated through contact of humans and animals. Both involve the aerosolization of contaminated particles that can be spread to others. Prevention of both diseases can be helped by wearing masks that help reduce the effects of aerosolization. Both diseases produce similar symptoms. At this time, there is no known cure for both diseases. Both diseases can be fatal, etc.
6. Name two consequences of health catastrophes such as hantavirus, Covid-19, other pandemic? (10 pts) (Accept any reasonable responses)

Movement of people is curtailed for fear of spreading the disease
Panic among populations when there is no cure
Rush to get a cure/vaccine
Economic downturn due to loss of retail opportunities on local, national, and global level
Loss of human life
Lack of medical equipment and personnel to handle the pandemic
Because of stress of pandemic: issues, perhaps social unrest occurs
Etc.

ARIZONA GEOGRAPHICAL ALLIANCE

25

Four Corners Hantavirus: Geography and Health

6. Discuss the geographic factors.


- How did natural systems impact the human systems?
- What are causes and effects of diseases?
- How did geographers display the data, so it was clearly communicated to everyone?
- Of what importance is contact tracing during the spread of the disease?
- What might need to change in the natural system, so the human systems are not affected?
- What roles do governments play in solving issues with spread of disease?
- What aspects of our mobility are limited due to disease?
- What are the economic effects of disease that snowball into a global effect?
- Which locations/nations are easier to shield from disease?
- Which parts of society are hurt the most in a pandemic?

Link to Lesson: <https://geoalliance.asu.edu/hantavirus>

26

The Bubonic Plague, the 14th Century Pandemic that Killed 1/3 of Europe

The Bubonic Plague, the 14th Century Pandemic that Killed 1/3 of Europe



In the fall of 1347, ships from the east sailed into Mediterranean ports, containing not just goods from the Far East but also plague-infested rats. Fleas in the ports bit the rats and carried the disease to humans, who were bitten by the fleas and rarely washed or changed their clothing. The deadly symptoms, which began with swellings in lymph nodes and spots on the skin, killed in three days, virtually without exception. Cities and towns were ill-equipped to deal with the dead, whose violent corpses and clothing stayed in the streets. The plague killed one in three of all Europeans in less than a decade.

Bubonic plague, the medical name for the Black Death, was much more contagious than the Coronavirus, especially because of the unsanitary conditions of 14th century Europe. Primitive attempts to fight the virus were described by Giovanni Boccaccio in the introduction to a collection of stories called *The Decameron*, about a small group of noblemen who fled Florence and told one another 100 stories for entertainment. This is similar to what we do today when we have to stay in our homes, by watching television and Netflix. Students will read selections from that introduction and compare the Florentine response to what we are doing today about COVID-19.

Another author, chronicler Jean Froissart, described the profound economic changes caused by the plague, including an exceptionally violent uprising of 6,000 peasants in France. Students will research online another uprising, the 1381 Peasant Revolt in England.

Finally, students will read about European Anti-Semitism and the slaughter of Jews, who were blamed for the plague in areas of Europe.

Subjects: World History, Language Arts

Estimated Time: One hour of home study

Grade Level: High School

Objective:
Students will compare the current pandemic to an even more devastating one occurring 675 years ago, before the scientific and medical knowledge we have about Coronavirus now.

Materials:

- Introduction to The Decameron and Decameron Assignment Recording Sheet
- Jean Froissart: The Jacquerie
- Anti-Semitism and the Black Death

Procedures:

- Ask the student: What percentage of Americans who contract the Coronavirus will die from it? (Reveal: 1.8% or less) What percentage of Europeans died of the Bubonic Plague (Reveal: 23%) Review this basic information above about the plague, above.
- The first activity: the student will read selections of the Introduction to The Decameron (Link), recording comprehension/notes to the body's pandemic on the Decameron Assignment Recording Sheet (Link).
- The second activity: the student will read Jean Froissart: The Jacquerie (Link) and then try some brief research online about the 1381 Peasant's Revolt in England.
- The third activity: the student will read Anti-Semitism and the Black Death (Link) if a capstone assignment is desired in an Advanced Placement or International Baccalaureate class, students could research Holocaust propaganda and connect it to 14th century anti-Semitism.

Assessment:
Teachers may want to receive emailed recording sheets for the first two assignments. Of course, grading at this juncture must be quite lenient.

About the Author:
Syd Golston is a past president of the National Council for the Social Studies. She has served as a history teacher, school administrator, and curriculum writer for many decades. She is the author of *Changing Woman of the Apache, Death Penalty, Studies in Arizona History*, and other publications and articles.

Extra, extra read all about! You may have heard the term "Student Voice" in school or over social media. What does "Student Voice" mean to you? If you think you have a good idea for an opinion piece, consider sending a photo to NewsHour_Editor@StudentVoice.org. The blog is full of powerful, original pieces by students. Write teacher@newshour.org for more info. We'd love to hear from you! Sign up for short education highlights twice a month from PBS NewsHour [here](https://www.pbs.org/news/education)



Syd Golston

- Past President of the National Council for the Social Studies
- Retired school administrator
- Author

27

The Bubonic Plague, the 14th Century Pandemic that Killed 1/3 of Europe

Materials include:

- Giovanni Boccaccio's description of the Black Death in Florence, 1348, from the introduction to *The Decameron*, *The Signs of Impending Death*
- Recording Sheet: Introduction to *The Decameron* by Giovanni Boccaccio
- Jean Froissart (1337-1405), *The Jacquerie* (Social Upheaval Following the Black Death)
- *The Black Death and Anti-Semitism*



Linked on the pandemic lessons by Hinde and Dorn

28

As promised, how to access these lessons, PowerPoint, and resources they talked about.

- AzGA Website:
<https://geoalliance.asu.edu/>
- Virtual Workshops Tab
 - Looking at Pandemics Through the Geographic Lens of the 5 Themes

