

HISTORY AND GEOGRAPHY OF A PANDEMIC

# COVID-19

Lesson Module



Presented by World History Digital Education Foundation  
and the National Council for the Social Studies



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Lesson Module – Day 01



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## MODULE OVERVIEW

### HISTORICAL THINKING SKILLS (DAY 1):

#### Developments and Processes

- **Making Connections**  
Explain how a historical development or process relates to another historical development or process
- **Comparison**  
Describe similarities and/or differences between different historical developments or processes.
- **Argumentation**  
Make a historically defensible claim.

### CONTENT (DAY 1):

This content is designed for any High School Social Studies Class. Day 1 is History-centered while Day 2 and 3 are Geography-centered.

AP World History references  
Key Concept-6.1.III  
Diseases, as well as medical and scientific developments, had significant effects on populations around the world.  
Key Concept-6.III.A  
Diseases associated with poverty persisted while other diseases emerged as new epidemics and threats to human populations, in some cases leading to social disruption. These outbreaks spurred technological and medical advances. Some diseases occurred at higher incidence merely because of increased longevity.

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### TO WHAT EXTENT IS THE CORONAVIRUS SIMILAR TO THE SPANISH FLU?

#### CLASS ACTIVITY: Making a Claim supported by Evidence

Students will investigate primary and secondary sources on the Coronavirus/COVID-19 pandemic of 2020 and the Spanish Influenza pandemic of 1918. Students will identify similarities and differences between government responses, Geographic diffusion, cultural impact, economic impact, public reaction, and the effects of the diseases themselves.

#### CHECK FOR UNDERSTANDING: Thesis Statement

Students will synthesize comparisons between the Coronavirus and Spanish Influenza pandemics into an argumentative claim backed by document evidence.

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### HOW DO WE SLOW DIFFUSION IN A GLOBALIZED WORLD?

#### CLASS ACTIVITY: Analyzing Quantitative Data

Students will investigate sources on the diffusion of COVID-19. Students will analyze population pyramids for five countries impacted by COVID-19.

#### CHECK FOR UNDERSTANDING: Making Predictions

Students will predict how the diffusion of information regarding COVID 19 impacts the diffusion of the virus.

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### WHAT ARE THE ECONOMIC CONSEQUENCES OF A PANDEMIC?

#### CLASS ACTIVITY: Analyzing Quantitative Data

Students will analyze global economic data showing the impact of the spread of COVID-19. Students will analyze the growth of COVID-19 cases in Italy, South Korea, and the United States to identify current trends and to predict future growth as well as comparing how each country has addressed the spread of COVID-19.

#### CHECK FOR UNDERSTANDING: Global Impact of COVID-19

Students will analyze changes in GDP forecasts for selected countries to demonstrate their understanding of the economic consequences of COVID-19, identify successful approaches to addressing the growth of COVID-19, and finally to discuss global consequences of pandemics.

## MODULE SOURCES

D A Y 1	AUTHOR	SOURCE	DATE
	WHDE Authors	<a href="#">Why was the 1918 Flu so Deadly?</a>	March 13, 2020
	WHDE Authors	<a href="#">The Science Behind the Flu</a>	March 13, 2020
	WHDE Authors	<a href="#">Art and the Spanish Flu</a>	March 13, 2020
	WHDE Authors	<a href="#">Government Measures to Fight the New Plague</a>	March 13, 2020
	WHDE Authors	<a href="#">The Largest Flu Pandemic in History</a>	March 13, 2020
	WHDE Authors	<a href="#">How the Flu Spread Across America</a>	March 13, 2020
	WHDE Authors	<a href="#">Effects of the 1918 Influenza Pandemic</a>	March 13, 2020

D A Y 2	AUTHOR	SOURCE	DATE
	CDC	<a href="#">Map of COVID 19 Cases</a>	March 6, 2020
	UCSUSA	<a href="#">Exponential vs Linear Growth Curves</a>	April 9, 2018
	Worldometers	<a href="#">Graph of COVID 19 Cases in Italy</a>	March 17, 2020
	Drew Harris	<a href="#">Flatten the Curve</a>	2020
	Wikimedia Commons	<a href="#">Map of Airline Connections</a>	2009
	CDC	<a href="#">Social Distancing Tweet from CDC</a>	March 16, 2020
	White House	<a href="#">White House Avoid Eating Out Tweet</a>	March 16, 2020
	Wikimedia Commons	<a href="#">World Map of Urbanization Levels</a>	2015

D A Y 3	AUTHOR	SOURCE	DATE
	WHDE Authors	<a href="#">Top 5 Markets for Motor Vehicle Parts and Accessories produced in China (2018)</a>	March 15, 2020
	WHDE Authors	<a href="#">Estimated Impact of COVID-19 outbreak on global tech shipments in Q1 2020</a>	March 15,2020
	WHDE Authors	<a href="#">Dow Jones Industrial Average, EURO STOXX 50</a>	March 15, 2020
	WHDE Authors	<a href="#">Average, NIKKEI 225 Average, SSE Composite</a>	March 15, 2020
	WHDE Authors	<a href="#">Index 2/18/20 -3/12/20</a>	March 15, 2020
	WHDE Authors	<a href="#">Loss of Revenue for Airlines due to Coronavirus</a>	March 15, 2020
	WHDE Authors	<a href="#">Impact on United Airlines</a>	March 15, 2020
	WHDE Authors	<a href="#">Impact on Royal Caribbean Cruises</a>	March 15, 2020
	WHDE Authors	<a href="#">Total Coronavirus Cases 2/15/20 -3/16/20</a>	March 16, 2020
	WHDE Authors	<a href="#">New Coronavirus Cases in Italy, United States, and</a>	March 16, 2020
	WHDE Authors	<a href="#">South Korea 2/15/20 - 3/16/20</a>	March 16,2020
	WHDE Authors	<a href="#">South Korea, Italy, and United States Approaches to addressing the spread of Coronavirus</a>	March 16, 2020
	WHDE Authors	<a href="#">Organization for Economic Cooperation and Development (OECD) Changes in GDP Growth Forecast 2020</a>	March 15. 2020

## DAY 1 -- eLEARNING

*Based on a 60-minute class*

### Lesson Question: To what extent is the Coronavirus/COVID-19 similar to the Spanish Flu?

## Social Studies Skill: Comparison [History]

### OVERVIEW

Students will investigate primary and secondary sources on the Coronavirus/COVID-19 pandemic of 2020 and the Spanish Influenza pandemic of 1918. Students will research one source on the Coronavirus/COVID-19 pandemic and in small virtual groups will work to group similar sources into broader conceptual patterns. Students will then select one Spanish influenza source that is in a comparable broader category and identify similarities and differences between scientific focus, government responses, geographical diffusion, demographic patterns, cultural responses or effects, and economic impact. Students will synthesize comparisons between the Coronavirus and Spanish Influenza pandemics into an argumentative claim backed by document evidence.

**PLEASE NOTE - there is an in-person classroom version of this same lesson located [here](#).**

#### Materials needed for:

#### Preparation for Learning

- Students will be required to find ONE article or resource that they find interesting in relation to the Coronavirus/COVID-19 pandemic. They should have already read the article/resource and be prepared to share and explain it to classmates.

#### Virtual Activity

- Some kind of web conferencing or communication platform to discuss learning with classmates. Students could also use social media platforms, group chats, or FaceTime.
  - Links to download/install pages
    - [Skype](#)
      - [How to Skype for Beginners](#)
    - [Zoom](#)
      - [Official instructional videos](#)
    - [Google Hangouts Meet](#)
      - [Introductory Video](#)
    - [Google Hangouts Chat](#)
      - [Introductory video](#)
- [Student Resource Grouping Form](#)
- CBS Sunday Morning Spanish Flu Video - "[The story of the 1918 flu pandemic](#)"
- Digital access to the [six in-class Spanish Flu source materials](#).
- [Comparison T-Chart](#)

## SEQUENCE OF INSTRUCTION

### HOMEWORK OVERVIEW

#### PREPARATION FOR LEARNING (30-60 MINUTES):

- Students need to do some basic internet research on the Coronavirus/COVID-19. They should be free to explore an area of interest in relationship to the pandemic. They need to save the link and be prepared to share with classmates digitally.

#### Teacher Notes

The resource needs to be substantial and more than just a quick tweet or video. Point students in the direction of reputable news organizations, government resources or health organizations that can provide accurate information. They need to come to class ready to offer a summary of the resources argument and be able to categorize its main idea with other resources from students.



#### Teaching Tip

*Some students may wish to dive into conspiracy theories or partisan sites that seek to politicize the health emergency. Try to guide students toward categories such as scientific investigations, pop culture, government actions, health, economic impacts, impacts on foreign countries, etc.*

### VIRTUAL ACTIVITY: WARM-UP/INTRODUCTION

#### WARM-UP/INTRODUCTION (5 MINUTES):

ACTIVITY 1: Share a general overview of the state of the Coronavirus at this time with your classes. Up to date information can be found at the Centers For Disease Control update website - [here](#).

#### Teacher Notes

The purpose of this brief activity/overview is to provide students with a common baseline of up to date information before they discuss individual resources that may or may not be up to date or accurate. While we do not want to discount an area of interest that a student has pursued, we do want to create an environment with shared facts to build understanding. You could link to a CDC update for the day that activity will take place or create a Google Slide to share with relevant facts. Since this is a fast moving story, it's good practice to provide a factual "what do we know now" intro piece to center students around sound official, scientific facts.

### VIRTUAL ACTIVITY PART 1: Student Research Categorization

#### VIRTUAL ACTIVITY (20-30 MINUTES):

##### RESOURCE SHARE-OUT AND CATEGORIZATION

Students need to connect with a partner or small group virtually to share their resources. Each student should share what they read and present a basic summary of the major points and evidence cited. Students should explain what they found interesting and at least one new detail, fact, or idea they learned about the Coronavirus/COVID-19 virus or the response to the pandemic. Students will continue to discuss until all group members have shared. While students are listening to each other they can be accessing the shared resource and noting information that is being discussed. They can also ask questions of the presenter for clarity.

When the share-out is complete, students need to categorize each resource together in [the T-chart](#) handout. Ask students to consider if each group member's resource is best categorized as:

- Scientific (origins, pathology, treatment, research, etc.)
- Cultural (artistic responses, pop culture, public reaction, controversies, conspiracy theories, etc.)
- Political (government actions, travel restrictions, quarantine, testing, etc.)
- Demographic (transmission process, survival rates, mortality rates, etc.)
- Geographic (# of cases by country, transmission routes, areas hardest hit, etc.)
- Economic (stock market shocks, travel industry, lost economic output, costs of treatment, etc.)

They should also use the chart to summarize and note important information from the discussion on each source to use later in the comparison to the Spanish Flu.

In order to facilitate the regrouping of students for the 3rd Activity that involves reading about comparable aspects of the Spanish Flu, have students complete this [simple survey on a Google Form](#).

Students should annotate how their resources fit in the categories. Can they note specific evidence from the resource that “makes it fit”? This evidence will be useful in later stages of the activity.

### Teaching Tip



Students will most likely need some help facilitating a digital academic conversation. While they are adept at social media and communication, their paradigm is most likely gaming platforms like Fortnite. You may want to suggest that they exchange via email or text the link for each other’s resources. They will also need to have paper or perhaps a shared document (such as a Google Doc) open that they can take notes in while others are speaking. The ultimate goal is for students to look for similarities and differences between their resources and to form a comparative lens with which to view the Spanish Flu in the next part of the activity. There are instructional videos on how to use the web conferencing platforms suggested under [materials](#). These can also be shared with students.

You can customize the [Google Form that is linked here](#) after the link forces you to make a copy of it. If technology or other factors prevent shuffling the groups virtually, then students could do the remaining virtual activities in the same groups though the comparisons may be a bit more challenging if their articles overlap -- if that is the case, teachers may need to encourage those groups to find another source/article in a different category.

## VIRTUAL ACTIVITY PART 2: Video

VIRTUAL ACTIVITY (10 MINUTES):

SPANISH FLU VIDEO

After students have categorized their sources, students should watch this overview from CBS Sunday Morning that summarizes the current COVID-19 outbreak in Washington State as of March 8, 2020 and introduces the Spanish Flu of 1918 ([The story of the 1918 flu pandemic](#) - length 6:37).

Ask students to note information about the spread, mortality rates, and reactions by government and public health officials to the 1918 pandemic.

## VIRTUAL ACTIVITY PART 3: Comparisons

VIRTUAL ACTIVITY (30 MINUTES):

SETTING UP THE COMPARISON

For this last activity, students will need to be in virtual groups of three. This new small group should contain group members whose Coronavirus/COVID-19 resources are in different categories than each other. Teachers should use the results from the Student Resource Grouping Form to form groups. Contact students via email or whatever communication platform you have to ensure that students are grouped with students who have Coronavirus/COVID-19 resources in at least 3 different categories of the 6 that will correspond to the Spanish flu sources discussed in the next paragraph. When students make virtual contact with this new group, they should briefly describe what their sources discuss to get all students on the same page.

The small group will compare each member's resource to the corresponding [source on the Spanish Flu](#) pandemic of 1918. Note that each category has one source on the Spanish Flu. After reading and sharing information that they learned from each source, the group will use the [T-chart document](#) that compares similarities and differences between the Coronavirus outbreak of 2020 and the Spanish Flu Pandemic of 1918 based upon their collective readings. From this T-Chart, students will individually create a rough draft of an argument structure that addresses this prompt:

**To what extent is the Coronavirus outbreak of 2020 similar to the Spanish Flu pandemic of 1918?**

### Teaching Tip



To promote active reading of the sources, students can prefill the T-chart with the three categories of the group members. If this document is shared between students as a Google Doc, each group member can summarize his or her Coronavirus/COVID-19 resource by annotating inside the T-chart significant facts/evidence from their earlier analysis. Students can continue this active reading, by noting in the same T-chart document facts/evidence from their Spanish Flu source. Students can highlight facts/evidence that share similarities between the two pandemics in one color agreed upon by the group and then highlight differences in a different color. These color patterns can help guide the construction of their argument in the assessment phase below.

## ASSESSMENT: Making a Claim / Argument Outline

The student thesis should qualify an argument that sets-up a 2 to 1 comparison (2 differences/1 similarity OR 2 similarities/1 difference). The sources and their analysis should guide their argument structure decisions. Here is an example of this type of thesis/argument structure model:

*Although the outbreaks have similar global reach, they differ in their mortality rates and government responses.*

Following the thesis, students need to list in bulleted or rough draft format the evidence for their three arguments based upon their sources. This can be finished for homework or perhaps debriefed in a whole class discussion if class time runs short.

### Teaching Tip



Depending on the length of the class period or structure of your virtual learning day, teachers may need to break up the components of the activity into separate pieces. It is already divided into 3 activities, so structurally this is not a problem. The regrouping of students into groups that have different types of COVID-19 resources will also present a challenge. A teacher could decide to assign this assessment as homework or at the beginning of the next class period. This lesson is good practice for crafting an argument that could help students with preparation for essays on many history/social studies state exams as well as the Long Essay Question of an AP History exam.

## IN-CLASS ACTIVITY MATERIALS

### T-CHART -

### Comparing the Coronavirus/COVID-19 of 2020 to the Spanish Flu of 1918

- DIRECTIONS:**
1. Identify 3 categories for your group's 3 Coronavirus/COVID-19 resources/articles and note important information learned from these sources (note: your teacher may have a Google Form to complete now).
  2. Watch [THIS VIDEO](#) before completing the chart with information from the SPANISH FLU SOURCES below.
  3. Use the SPANISH FLU SOURCES from the same categories as YOUR Coronavirus/COVID-19 resources/articles to organize evidence in the chart.

	Coronavirus/COVID-19	Spanish Flu
<b>Category #1</b>		
<b>Category #2</b>		
<b>Category #3</b>		

**Categories could be:**

- **Scientific** (origins, pathology, treatment, research, etc.)
- **Cultural** (artistic responses, pop culture, public reaction, controversies, conspiracy theories, etc.)
- **Political** (government actions, travel restrictions, quarantine, testing, etc.)
- **Demographic** (transmission process, survival rates, mortality rates, etc.)
- **Geographic** (# of cases by country, transmission routes, areas hardest hit, etc.)
- **Economic** (stock market shocks, travel industry, lost economic output, costs of treatment, etc.)

## SPANISH FLU SOURCES

*These six sources are categorized as scientific, cultural, political, demographic, geographic, and economic. You will select the source that corresponds to the same category as the Coronavirus/COVID-19 source. As you read the source, you should note or annotate similarities and differences you see between the Spanish Flu Pandemic and the Coronavirus/COVID-19 pandemic.*

### Source 1 - SCIENTIFIC - *Why was the 1918 Flu so Deadly? The Science Behind the Flu*<sup>1</sup>

The 1918 H1N1 flu pandemic killed about 50 million people with 675,000 deaths in the United States. Unlike other influenza strains, the 1918 “Spanish” Flu was particularly deadly for 15-34 year olds. No flu before or since has had such a high death rate and researchers have often wondered why.

Researchers have focused their efforts to obtain samples of the virus from the victims of 1918. One attempt went as far as to visit a small Inuit village in Alaska that saw 72 of 80 adults perished. Because of the permafrost, researchers believed that they may find traces of the virus in the corpses at the local cemetery. After initial unsuccessful attempts in 1951, the discovery of lung tissue from a serviceman who died from the disease at a South Carolina army camp, and a second attempt in 1997 in the Inuit village, genetic material of the disease was discovered.

From the virus found in preserved lung tissue, researchers found that the 1918 flu was a novel influenza A (H1N1) that came from humans and pigs and was related to the oldest classical swine influenza strain. Further research said it also shared traits with avian or bird flus and most likely infected humans between 1900 and 1915. By 2005, the entire genome of the 1918 virus was sequenced and it was now possible to recreate a live version to attempt to learn what made it so deadly.

The decision to recreate the disease was not undertaken lightly. The US Centers for Disease Control set strict controls on the project which would be held at the Atlanta CDC headquarters. Some safety measures included personnel with powered air purifying respirators, double gloves, scrubs, shoe covers and surgical gowns. All workers had to shower before leaving the lab and all work with the virus or animals had to be done inside a biosafety cabinet. Airflow in the lab was also self-contained, no other flu virus work was allowed to take place concurrently, and only one person, microbiologist Dr. Terence Tumpey, was allowed access because he carried the responsibility of reconstructing the virus.

Dr. Tumpey began in 2005, working alone after hours in order to reduce the risk to other workers and the public. Dr. Tumpey took daily antiviral drugs and had to live knowing that if he became infected he would be quarantined. Dr. Tumpey reconstructed the virus and then tested it on lab mice who were also tested with other flu variants to conduct comparison studies. The results were striking. The 1918 virus reproduced itself 39,000 times more than comparison flu viruses. It also was highly lethal as most mice died within 3 days and lost 13% of their body weight within 2 days. It was 100 times more lethal than other types of influenza as well. The virus specifically attacked lung

<sup>1</sup> This source is a summarized version of “The Deadliest Flu: The Complete Story of the Discovery and Reconstruction of the 1918 Pandemic Virus” by Douglas Jordan with contributions from Dr. Terrence Tumpey and Barbara Jester. <https://www.cdc.gov/flu/pandemic-resources/reconstruction-1918-virus.html>, January 2006.

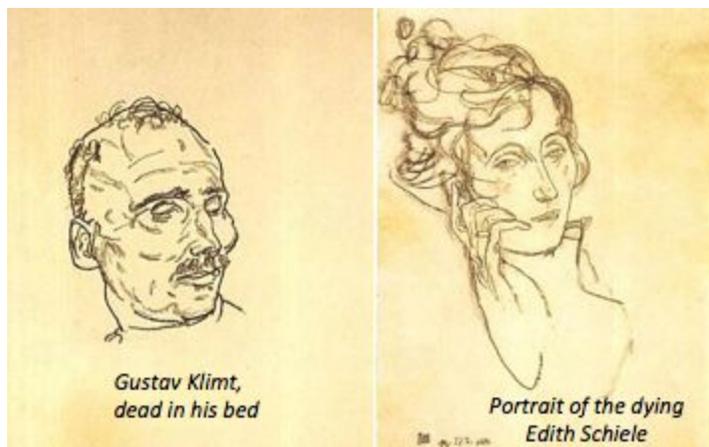
tissue much more so than other viruses in many cases up to 50 times higher. These factors along with other societal factors led to the disastrous consequences in 1918-1919.

Even though there have been three other flu pandemics (1957, 1968, and 2009) since 1918, none have been as deadly due to many factors unique to the times. The 1918 influenza pandemic emerged during World War I when millions of troops traveled across the world to live in crowded conditions. Health services and technology were not as advanced as today. No tests existed. No vaccines or antibiotics had been developed yet. No antiviral medicines were available, nor were intensive care units or mechanical ventilation. Further complicating treatment was the fact that 30% of US doctors were out of the country with the troops in Europe. Governments also did not coordinate planning for pandemics at the time. The banning of public gatherings, school closures, isolation and quarantine orders were left to state and local officials but little federal planning existed.

The world is quite different now. Are governments and international agencies in 2020 ready to handle new pandemic threats? That wasn't the case in 1918.

## Source 2 - CULTURAL - Art and the Spanish Flu<sup>2</sup>

The Influenza pandemic of 1918 was called the Spanish Flu, not because it had Spanish biological origins, but rather because the press in Spain was not bound by World War I government censors as it was officially neutral. Spanish press reports of the flu pandemic unfairly attached “Spanish” to the disease. Reporting on the pandemic in many countries was nearly non-existent, so modern researchers hoping to learn more about the public response to the disease have turned to art and artists.



Source: Wikimedia Commons, 2020.

[https://commons.wikimedia.org/wiki/File:Schiele\\_-\\_Gustav\\_Klimt\\_auf\\_den\\_Totenbett\\_-\\_1918.jpg](https://commons.wikimedia.org/wiki/File:Schiele_-_Gustav_Klimt_auf_den_Totenbett_-_1918.jpg)  
[https://commons.wikimedia.org/wiki/File:Schiele\\_-\\_Edith\\_Schiele\\_sterbend\\_-\\_1918.jpg#\\_ga=2.2824371.2039997090.1584032712-739042503.1583790575](https://commons.wikimedia.org/wiki/File:Schiele_-_Edith_Schiele_sterbend_-_1918.jpg#_ga=2.2824371.2039997090.1584032712-739042503.1583790575)

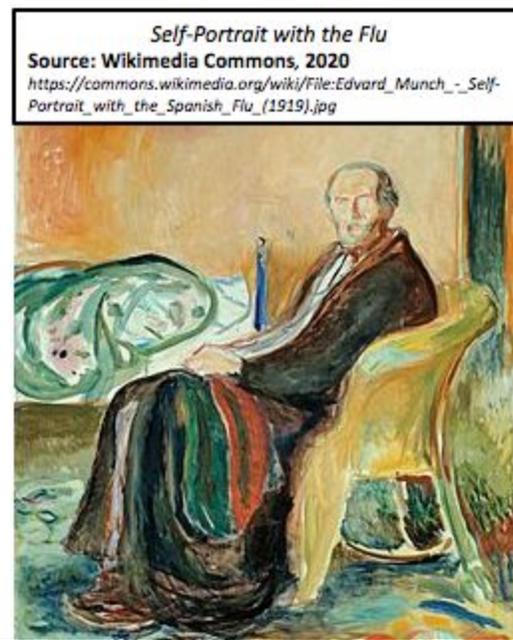
Usually, art is a reflection of the times, and artists are a vehicle to express how societies are impacted by catastrophic events like a pandemic. For artists in the late 1910s, the Spanish flu took a tremendous toll. From famous artists like Gustav Klimt, creator of *The Kiss* (1907-1908), to lesser known artists like Egon Schiele, the Spanish flu claimed many in the prime of their careers.

As the flu ravaged the globe, Egon Schiele sketched the faces of his friends and family in Austria. Both he and his wife would contract the flu and die in 1918. The examples here (to the left) show the disease-worn face of his mentor, Gustav Klimt, on his deathbed in 1918.

The face is gaunt and haggard from the ravages of the flu. Similarly, Schiele's portrait of his wife, Edith, shows a tired patient with well-worn bags under her eyes. This sketch was made as she lay dying. The artist himself died three days later.

Another famous artist, Edvard Munch, creator of *The Scream* (1893), survived the flu. His earlier works were viewed as disturbing and in 1918 the lethal Spanish flu provided a subject to match his vision.

He created two self-portraits in 1919, *Self-Portrait with the Spanish Flu* and *Self-Portrait after the Spanish Flu*. Both show Munch's swirling style with striking colors. The color yellow, with its sickly implications, is dominant as well. The artist's face is gaunt, no eyes in the sockets, with his mouth open like a corpse. He's wrapped in a blanket with a disheveled bed nearby, perhaps in the throes of the flu or headed toward recovery. Either way, the artist is trapped by the



<sup>2</sup> This source is an adaption of “Spanish flu and the depiction of disease.” Wellcome Collection, London.

<https://wellcomecollection.org/articles/XabLWhAAACEAnUH2>, October, 16, 2019.

blanket and the chair surrounded by sickly greens, blues, oranges, and yellows.

Scenes like those by the artists Scheile and Munch are the most common form of artistic memory for the ravages of the Spanish Flu of 1918. No public memorials were erected for the Spanish flu as they were for the Great War that ended the same year. Remembrance of the pandemic was private and personal rather than public. Artists seemed to subtly communicate that there was no common struggle or great cause to memorialize as there was with the war. Instead there were only individual deaths or recoveries.

The poet and art critic Guillaume Apollinaire, who himself coined the terms Cubism and Surrealism to describe the groundbreaking art styles of the early 20th century, died November 20, 1918, two days before the official Armistice Day that ended the Great War. As the funeral procession moved toward his final resting place, Armistice celebrations overwhelmed the streets of Paris. Rather than mourn, the world seemed to want to move on from the war and the flu. The victorious Allies could celebrate one victory and forget the other.

### Source 3 - POLITICAL - *Government Measures to Fight the New Plague*<sup>3</sup>

The influenza of 1918 began in an army camp in Kansas in March 1918. Within three weeks over a thousand soldiers were hospitalized and many thousands more were silently infected. It spread at alarming rates with the soldiers. By the spring of 1918, seventy-five percent of the French and fifty percent of the British army were infected. In May, the flu had traveled to North Africa and India; by June it arrived in China and later in Australia.

This first wave was followed by a much more serious second wave that lasted six weeks beginning in August. The disease was most likely a mutation of the first wave. It ravaged the Americas and Africa before arriving in Europe and Asia. By November 5th, 1918 the pandemic was declared over in New York. By December most of the world was flu-free since most flu-related deaths had already occurred including Spain's King Alfonso XIII. A third wave circulated in 1919 emerging from Australia before circling back to the United States and Paris during the peace negotiations. The pandemic finally ended with one final outburst in Japan at the end of 1919 into early 1920. Altogether at least 50 million died, though it was not possible to fully calculate the global numbers at the time.

When the pandemic began, health authorities were caught between a rock and hard place. Little was known about the causes; no cure existed; and the return of soldiers from war, refugee populations, and the movement of women into the workplace complicated attempts to prevent the spread of the disease. Officials needed to assess the impact of the disease while not alarming the public further. The first official actions designed to prevent further spread began in August 1918. Suspected cases were required to be reported while schools and army barracks were monitored. With few tools available, these actions were seemingly the only effective means to combat the outbreak.

European authorities tried to strengthen measures by closing public meeting spaces, and church services were limited in length as no sermon could go longer than five minutes. In both Europe and the US, street cleaning and disinfectants were used in churches and cinemas. Crowds were banned outside shops and public transport limited the number of occupants. Sanitation services were organized to remove human waste, regulate toilets, provide clean water, and to inspect milk and food. Italians banned funeral rituals and set up public collection points for the dead. Even spitting was forbidden as officials struggled to identify causes and prevent further cases.

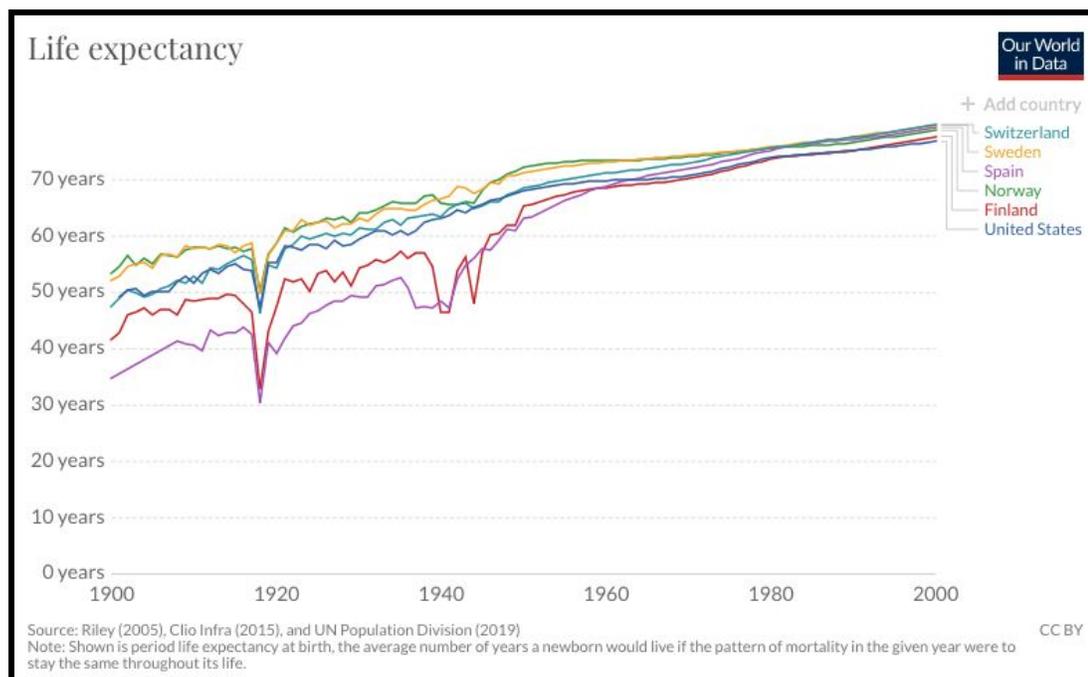
In most countries, the press failed to report on the spread of the flu. Spain was an exception as a neutral country in World War I because their press lacked the censorship controls of others involved in the war. Spanish newspapers were free to report on the disease in their country and thus news-starved citizens across the world wrongly attributed the disease to the Spanish. Beginning with the first wave in 1918, government officials denied the veracity of reports on the rapid spread of the disease. Newspapers aided this disinformation campaign by also not reporting on the spread for fear of inciting panic. Local officials refused to reveal statistics on people affected, numbers dead, and wrongly circulated the notion that the epidemic would last at most two months.

In this vacuum of real news, conspiracy theories began to circulate. One blamed the poor quality of food due to wartime rationing as a contributing factor in the pandemic. Another theory claimed that the disease was germ warfare used by the desperate Germans. No evidence for either emerged. Instead, silence reigned as the only news was emergency measures and closures that seemed to emerge too late as people both young and old died. Unlike plagues of the past, church bells did not toll as sometimes these too were banned in order to prevent panic and doom.

<sup>3</sup> This source is an adaption of "The Spanish Influenza Pandemic: a lesson from history 100 years after 1918." US National Library of Medicine: National Institutes of Health. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6477554>, March 2019.

**Source 4 - DEMOGRAPHIC - *The Largest Flu Pandemic in History*<sup>4</sup>**

Life expectancy has been on the rise since the Industrial Revolution and the rise of modern medicine in the 19th century. In the last century, average life expectancy in the Western World has almost doubled. These trends were momentarily halted by the Influenza pandemic of 1918-1919. As the graph below shows, period life expectancy, which measures mortality patterns in one year at a time, shows a sharp drop in 1918.

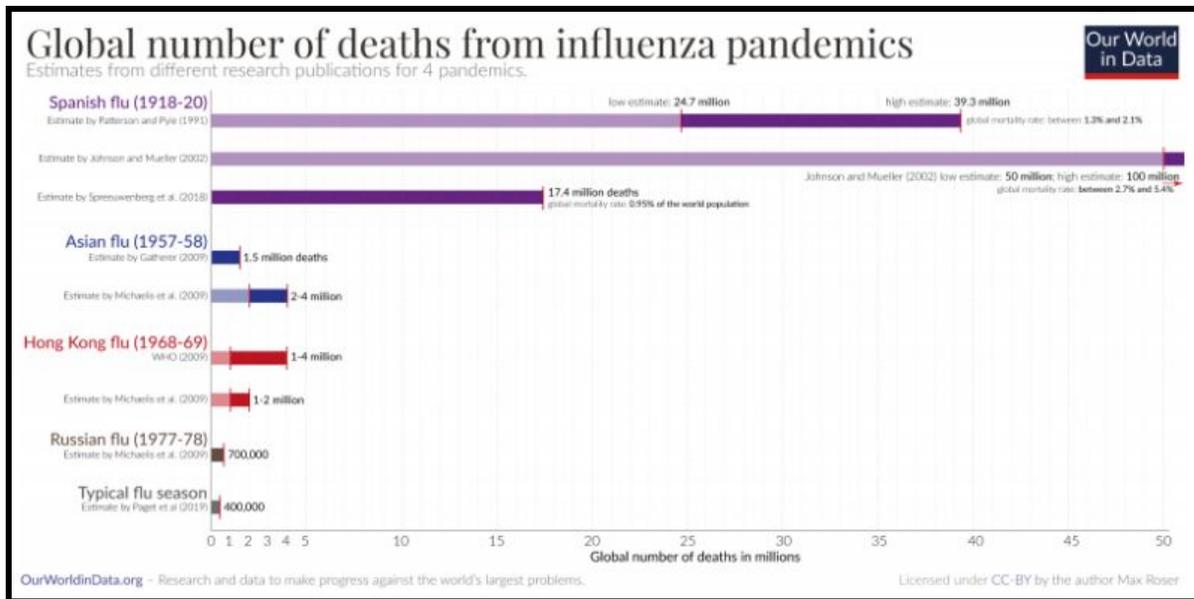


As the pandemic spread from the Northern Hemisphere and even into the middle of the Pacific, the global death count grew. Mortality rates peaked in 1918 but didn't fully recover until 1920, two years later.

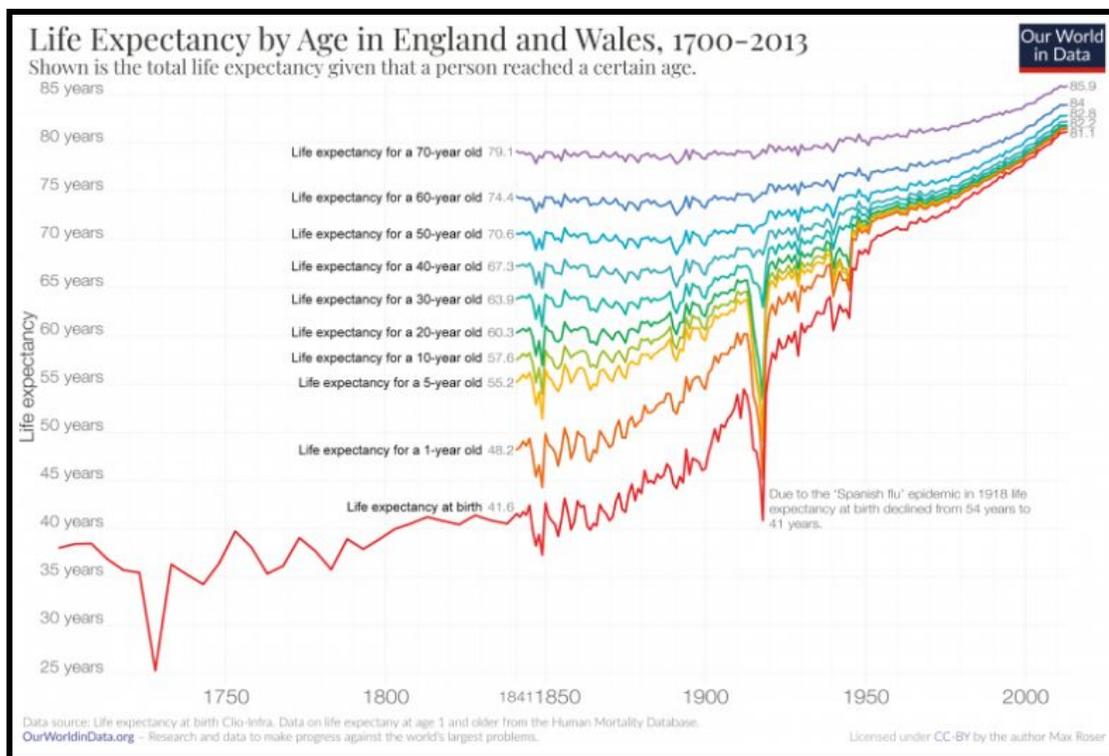
The flu in contemporary times is responsible for 294,000-518,000 deaths annually which is around .005% of the global population. By contrast, the Spanish Flu of 1918, so named because of neutral Spain's ability to freely report on the pandemic during the censored era of World War I, had a death rate 182 times higher. Estimates of total deaths range from 17.4 million deaths to 50 million which translates to .95% - 2.7% of the world's population at the time. Demographers believe that the years of the Spanish Flu pandemic is the last time the world's population declined.

Other influenza pandemics have been deadly. An earlier pandemic called the Russian Flu in 1889-94 was believed to have killed one million while a later pandemic in 1968-69 named the Hong Kong Flu was believed to have killed up to four million. None, as illustrated in the graph below, have had the impact of the Spanish Flu.

<sup>4</sup> This source is an adaption of Max Roser's, "The Spanish flu (1918-20): The global impact of the largest influenza pandemic in history." University of Oxford. <https://ourworldindata.org/spanish-flu-largest-influenza-pandemic-in-history>, March 4, 2020.



Different age groups were affected by the Spanish Flu. While it might intuitively seem that the elderly population would be impacted more, the inverse is true. Younger people were affected more. As the graph below shows, people thirty years old and under suffered the most during the prime pandemic years of 1918-1920. For these age groups, life expectancy from birth declined from 54 to 41 years while older groups' life expectancy stayed steady with pre-pandemic trends. Some theories speculate that older populations in 1918 were those who had already survived the Russian Flu which provided them some immunity.



The Spanish Flu hit the world in an age when modern treatments were still in their infancy. The majority of deaths were actually attributed to secondary infections like pneumonia in a time when many populations were weakened by a global war and large overcrowded urban populations lived in unsanitary environments. A new pathogen like the Spanish flu when introduced into such an environment led to devastating global effects.

### Source 5 - GEOGRAPHIC - *How the Flu Spread Across America*<sup>5</sup>

Where did the “Spanish” Flu begin? We can say for certain that it didn’t originate in Spain even though news coverage of the pandemic mistakenly made Americans believe so. During WWI, censorship of news prohibited local and national papers from adequately covering the pandemic in the United States, but the Spanish, neutral in the War and under no such restrictions, freely reported as the flu ravaged the country.

So if it wasn’t Spain, where did it come from? Some researchers have recently claimed that the disease’s origins were in France in 1916 or in China or Vietnam in 1917. Many researchers, though, point to its origins in the United States. Two possible starting points emerge and both are in Kansas: Haskell County and Camp Funston.

Reports from January 1918 in local papers mention strange illnesses in Haskell. Most reports mention pneumonia lethally spreading throughout a local community. Later, some Haskell men reported to Camp Funston, Kansas. Funston was an Army training complex for soldiers on their way to fight in WWI. By March 1918, the first reported case of the illness emerged at the base. Within two weeks, 1,100 soldiers were in the hospital and thousands more were sick. Thirty-six soldiers died. From there, the flu spread with soldiers as they moved to other Army camps on their way to the war front. Twenty-four of the thirty-six largest WWI era Army camps stateside had reported cases. From these sites across the country, the disease jumped to the civilian community.

Unlike other seasonal flus, this new flu penetrated deep into the lungs, damaging tissue and leading to pneumonia. Over the next fifteen months, the flu spread across the United States and then across the world. Global estimates put the death toll between 50 and 100 million people. In the United States, 670,000 were killed.

As the flu left the United States, it penetrated the armed forces of Allied and Central Powers alike. The British Grand Fleet had over ten thousand sailors in the hospital in the months of May and June. These sailors largely recovered, with only four deaths, but the flu continued to spread. By April, French and German troops were affected in the trenches of the western front. Some military historians blame the flu in 1918 for severely weakening the German army enough that it was unable to continue the war, leading to the Armistice in November of that year. At one French army post over six hundred of the thousand soldiers contracted the flu, though only 5% died. By June the flu had arrived in Algeria (Africa) and New Zealand (in the Pacific). Though it spread fast, the death toll in spring 1918 was rather low among the young and healthy populations that were afflicted.

This all changed with the second wave in the fall. In September, an Army camp in Massachusetts outside Boston, Camp Devens had the capacity to hold 45,000 soldiers with a hospital that could accommodate 1200 patients. Before the second wave hit, the hospital had eighty-four patients. At the peak of the outbreak, 1543 soldiers were reported ill with influenza in one day. The camp was overwhelmed. Doctors, nurses, workers, and soldiers were all sick. Those not treated in the hospital died in the barracks. Camp Devens was the first site of this more deadly second wave of the Spanish Flu. It spread by ship to naval yards in Philadelphia. A parade was scheduled for September 28th to help a Liberty Loan effort to support the war. Against the advice of doctors, the largest parade in Philadelphia was held. Over the next two to three days, the incubation period of this pandemic, reports started to come in from all over the city about an outbreak. Urgent requests for nurses were posted in papers. A request for 3,100 nurses was met with only 193 as very few were available. At its height in Philadelphia, 759 people a day died. Schools were closed, public gatherings were banned, but it was too late. More than 12,000 citizens died in six weeks. The second wave struck and, like the first, moved on to claim more victims from Alaska to Africa.

<sup>5</sup> This source is an adaption of John M. Barry’s “How the Horrific 1918 Flu Spread Across America.” *Smithsonian Magazine*. <https://www.smithsonianmag.com/history/journal-plague-year-180965222/>, November 2017.

The second wave was brutal. Over a four-day period in Arkansas in October, 8,000 patients were admitted to the hospital at the Army's Camp Pike. Due to wartime censors, neighboring Little Rock's newspaper could only report the benign headline - "Spanish influenza is plain la grippe [Spanish for flu] - same old fever and chills." Yet this was nothing like simple flu or even like past outbreaks. In San Antonio, Texas fifty-three percent of the population was ill. Towns ran out of coffins. Panic ensued and the healthy refused to help the sick. Reports in Pennsylvania and Connecticut speak of neighbors refusing to go into the homes of the sick to help. The local Red Cross begged for help distributing food to the sick but were met largely with silences as fear of becoming infected overwhelmed people's charitable spirits.

Panic hit the workplace. Shipyards on the east coast reported record absenteeism. Even with the war still raging, absentee rates from forty-one to fifty-four percent emerged from shipyard after shipyard. City streets were empty. A man in Wellington, New Zealand reported standing in the middle of the formally busy streets at 2:00 pm to find shops closed, no trains, and no people. The only vehicle was a van with a makeshift red cross painted on its side serving as a hearse.

The third and final wave came in January of 1919. This wave was not as lethal as the second. At the Paris Peace Conference, President Woodrow Wilson fell ill with what was reported as a stroke at the time. Medical historians since have argued that his symptoms instead point to the flu that was ravaging Paris at the time and had already claimed one of Wilson's young aides.

When the third wave finally subsided in spring 1919, the world took stock. Though the death toll was great, overall mortality was around two percent of the population in the developed world. In less developed places, the mortality rate was even higher. In Mexico, the flu claimed two to four percent of the population. In Russia and Iran, seven percent died. In the Fiji Islands the number climbed to fourteen percent in sixteen days! One-third of the population of the Canadian province of Labrador died. In small native settlements from Alaska to Gambia, whole villages died.

Unlike most pandemics, the young were more likely to die from the Spanish Flu. Healthy immune systems produced cytokine toxins designed by the body to combat microbes. These cytokines attacked the flu as it penetrated deep into the lungs, further damaging the organ and inviting secondary infections like bacterial pneumonia which ultimately killed most patients. Human immune system defenses were actually doing more harm than good in this pandemic.

While the flu annually afflicts mankind, averaging from 3,000 to 48,000 deaths in the United States a year, no flu since 1918 has been as lethal in overall fatalities.

## Source 6 - ECONOMIC - Effects of the 1918 Influenza Pandemic<sup>6</sup>

The Influenza Pandemic of 1918 occurred in the same year that the United States sent two million of the four million men drafted into service after war was declared in April of 1917. As US forces entered combat in earnest in the summer of 1918, news of outbreaks earlier in the spring were drowned out by wartime censorship and by news of battles.

Named from reports of the outbreak in censor-free Spanish newspapers, the Spanish Flu killed an estimated 40 million people globally in three different waves. In the United States, mortality rates were highest in Pennsylvania, Maryland and New Jersey while the states of Michigan, Minnesota, and Wisconsin suffered least. States with higher concentrations of urban populations suffered more than states with greater rural populations. This also explains some racial differences in mortality as whites comprised 90 percent of the urban population in 1918 and were therefore more likely to die from the flu.

How did these facts impact the US Economy? While it may seem obvious that an economy would be negatively impacted, research has been lacking in this area. Modern researchers have relied on evidence from newspapers that were less likely to be impacted by wartime censorship in smaller towns such as Little Rock (*Arkansas Gazette*) and Memphis (*The Commercial Appeal*). A story from the former, entitled “How Influenza Affects Business” in October 1918 discussed how local businesses claimed reduced sales from 40 to 70 percent. Grocery retailers noted sales fell by a third. On average, the story claimed that Little Rock businesses were losing \$10,000 a day (which would be over \$130,000 in 2006 dollars). The only business seeing increases in sales were drug stores. The Memphis paper in its story entitled, “Influenza Crippling Memphis Industries” during the same month claims that industrial plants were running severely under capacity due to lack of personnel. The local railway reported 124 of 400 employees sick while the telephone company was missing over a hundred employees necessitating a plea for residents to only make essential calls. Mining operations decreased as much as fifty percent with some mining camps reporting that only 2 percent were healthy enough to work.

The Spanish Flu had a direct impact on the wellbeing of workers. In a study of manufacturing in the period 1914-1919, wages rose by 1919. While this sounds positive, the explanation lies purely in supply and demand. If workers were in short supply and the demand for workers rose (both due to the war and the flu draining able bodied workers from factories), then wages for workers would rise. While positive in the short run, other studies have shown that children that were in-utero during the pandemic or born near that time were more likely to have health problems throughout life. The short term benefit of higher wages was mitigated by higher healthcare costs and declining quality of life that would affect families for decades after the flu outbreak.

In summary, the loss of life reduced human capital needed in the economy. In the short run, this led to decreases in production and higher wages for workers due to the lack of labor. Some businesses that specialized in healthcare products also saw short run gains. Businesses in the service and entertainment industries suffered double digit losses during the pandemic. The economy would recover much as it had after earlier disasters.

<sup>6</sup> This source is an adaption of Thomas A. Garrett’s *Economic Effects of the 1918 Influenza Pandemic*. St. Louis Federal Reserve Bank.  
[https://www.stlouisfed.org/~media/files/pdfs/community-development/research-reports/pandemic\\_flu\\_report.pdf](https://www.stlouisfed.org/~media/files/pdfs/community-development/research-reports/pandemic_flu_report.pdf),  
 November 2007.

HISTORY AND GEOGRAPHY OF A PANDEMIC

# COVID-19

Lesson Module – Day 02



Presented by World History Digital Education Foundation  
and the National Council for the Social Studies



## MODULE OVERVIEW

### GEOGRAPHICAL SKILLS (DAY 2):

#### Human Geography Skills:

1.B Explain geographic concepts, processes, models, and theories.

2.D Explain the significance of geographic similarities and differences among different locations and/or at different times.

### CONTENT (DAY 2):

**This content is designed for any High School Social Studies Class. Day 1 is History-centered while Days 2 and 3 are Geography-centered.**

AP Human Geography references:

Topic 3.6 Contemporary Causes of Diffusion

SPS-3.A.3 Cultural ideas and practices are socially constructed and change through both small-scale and large-scale processes such as urbanization and globalization. These processes come to bear on culture through media, technological change, politics, economics, and social relationships.

Topic 2.3 Population Composition

PSO-2.E.1 Patterns of age structure and sex ratio vary across different regions and may be mapped and analyzed at different scales.

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## TO WHAT EXTENT IS THE CORONAVIRUS SIMILAR TO THE SPANISH FLU?

### CLASS ACTIVITY: Making a Claim supported by Evidence

Students will investigate primary and secondary sources on the Coronavirus/COVID-19 pandemic of 2020 and the Spanish Influenza pandemic of 1918. Students will identify similarities and differences between government responses, Geographic diffusion, cultural impact, economic impact, public reaction, and the effects of the diseases themselves.

### CHECK FOR UNDERSTANDING: Thesis Statement

Students will synthesize comparisons between the Coronavirus and Spanish Influenza pandemics into an argumentative claim backed by document evidence.

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## HOW DO WE SLOW DIFFUSION IN A GLOBALIZED WORLD?

### CLASS ACTIVITY: Analyzing Quantitative Data

Students will investigate sources on the diffusion of COVID-19. Students will analyze population pyramids for five countries impacted by COVID-19.

### CHECK FOR UNDERSTANDING: Making Predictions

Students will predict how the diffusion of information regarding COVID 19 impacts the diffusion of the virus.

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## WHAT ARE THE ECONOMIC CONSEQUENCES OF A PANDEMIC?

### CLASS ACTIVITY: Analyzing Quantitative Data

Students will analyze global economic data showing the impact of the spread of COVID-19. Students will analyze the growth of COVID-19 cases in Italy, South Korea, and the United States to identify current trends and to predict future growth as well as comparing how each country has addressed the spread of COVID-19.

### CHECK FOR UNDERSTANDING: Global Impact of COVID-19

Students will analyze changes in GDP forecasts for selected countries to demonstrate their understanding of the economic consequences of COVID-19, identify successful approaches to addressing the growth of COVID-19, and finally to discuss global consequences of pandemics.

## MODULE SOURCES

D A Y 1	AUTHOR	SOURCE	DATE
	WHDE Authors	<a href="#">Why was the 1918 Flu so Deadly?</a>	March 13, 2020
	WHDE Authors	<a href="#">The Science Behind the Flu</a>	March 13, 2020
	WHDE Authors	<a href="#">Art and the Spanish Flu</a>	March 13, 2020
	WHDE Authors	<a href="#">Government Measures to Fight the New Plague</a>	March 13, 2020
	WHDE Authors	<a href="#">The Largest Flu Pandemic in History</a>	March 13, 2020
	WHDE Authors	<a href="#">How the Flu Spread Across America</a>	March 13, 2020
	WHDE Authors	<a href="#">Effects of the 1918 Influenza Pandemic</a>	March 13, 2020

D A Y 2	AUTHOR	SOURCE	DATE
	CDC	<a href="#">Map of COVID 19 Cases</a>	March 6, 2020
	UCSUSA	<a href="#">Exponential vs Linear Growth Curves</a>	April 9, 2018
	Worldometers	<a href="#">Graph of COVID 19 Cases in Italy</a>	March 17, 2020
	Drew Harris	<a href="#">Flatten the Curve</a>	2020
	Wikimedia Commons	<a href="#">Map of Airline Connections</a>	2009
	CDC	<a href="#">Social Distancing Tweet from CDC</a>	March 16, 2020
	White House	<a href="#">White House Avoid Eating Out Tweet</a>	March 16, 2020
Wikimedia Commons	<a href="#">World Map of Urbanization Levels</a>	2015	

D A Y 3	AUTHOR	SOURCE	DATE
	WHDE Authors	<a href="#">Top 5 Markets for Motor Vehicle Parts and Accessories produced in China (2018)</a>	March 15, 2020
	WHDE Authors	<a href="#">Estimated Impact of COVID-19 outbreak on global tech shipments in Q1 2020</a>	March 15,2020
	WHDE Authors	<a href="#">Dow Jones Industrial Average, EURO STOXX 50</a>	March 15, 2020
	WHDE Authors	<a href="#">Average, NIKKEI 225 Average, SSE Composite</a>	March 15, 2020
	WHDE Authors	<a href="#">Index 2/18/20 -3/12/20</a>	March 15, 2020
	WHDE Authors	<a href="#">Loss of Revenue for Airlines due to Coronavirus</a>	March 15, 2020
	WHDE Authors	<a href="#">Impact on United Airlines</a>	March 15, 2020
	WHDE Authors	<a href="#">Impact on Royal Caribbean Cruises</a>	March 15, 2020
	WHDE Authors	<a href="#">Total Coronavirus Cases 2/15/20 -3/16/20</a>	March 16, 2020
	WHDE Authors	<a href="#">New Coronavirus Cases in Italy, United States, and</a>	March 16, 2020
	WHDE Authors	<a href="#">South Korea 2/15/20 - 3/16/20</a>	March 16,2020
	WHDE Authors	<a href="#">South Korea, Italy, and United States Approaches to addressing the spread of Coronavirus</a>	March 16, 2020
	WHDE Authors	<a href="#">Organization for Economic Cooperation and Development (OECD) Changes in GDP Growth Forecast 2020</a>	March 15. 2020

## DAY 2

Based on a 60-minute class

**Lesson Question: How does globalization help diffuse diseases such as COVID-19 across different populations?**

### Social Studies Skill: Spatial Relationships (Geography)

#### OVERVIEW

Students will examine the diffusion of COVID-19 and then examine the different population pyramids of five countries affected by COVID-19. The diffusion of COVID-19 is a significant global issue and also reveals one of the liabilities of increased globalization. The five focus countries were selected because they were the main countries receiving media attention for COVID-19 cases as of mid-March 2020. Furthermore, each of the focus countries represent different population structures, making the impact of the virus potentially different.

#### Materials needed:

In Person- Copies of the activity materials.

Online- Post the activity materials.

Create a copy of this [Google Form](#) to record student answers

(you can choose to use Google Forms to collect student responses, in person or virtually)

#### SEQUENCE OF INSTRUCTION

##### CLASS ACTIVITY: WARM-UP/INTRODUCTION

WARM-UP/INTRODUCTION (5 MINUTES):

ACTIVITY 1: COVID-19 K-W-L CHART

Have students fill out the first two columns of their KWL Chart. The K column is for what they know about COVID-19 and the W column is for what they want to know about COVID-19. At the conclusion of the lesson they will revisit the chart to fill out the L column with what they have learned. If your students completed Day 1, they should have more information to put in the K column than they will if you are using this day as a standalone.

## Teacher Notes

Students likely have heard a lot of information about the COVID-19 virus. Some of the information students may “know” may be incorrect. As a result, you may want to add an additional step and have students then check their K column for accuracy. If you add this step, students will need access to the Internet and an understanding of how to filter sources for accuracy.

### Teaching Tip



Consider creating a “shared” Google Doc so that all students can edit the KWL chart as a group. This allows them to add their own thinking in “real time” as part of the introduction or even as part of a homework assignment to set up the lesson.

## ACTIVITY 1: What are the patterns of diffusion related to COVID-19?

CLASS ACTIVITY (20-25 MINUTES): Source Analysis

**Google Form:** To have students record answers using a Google Form, teachers can use [this FORM](#). The link forces you to make a copy. Then you can share the “copied form” link with your students. Here is a screen shot of the Form to preview what students will see:

Activity 1

You will analyze 7 sources and answer the question(s) that accompany each.

Source 1: Using this map of COVID-19 cases from the CDC (dated 03/16/2020)- What are FIVE Countries that, as of 3/16/2020, did not have any reported cases of COVID-19? (If needed, consult a world map to identify some of the countries)

Long answer text

Source 1: Using this map of COVID-19 cases from the CDC (dated 03/16/2020)- Why might the countries you identified in question 1 not have had confirmed cases (at least as of this map)?

Students can record their answers in the Form and teachers can export their answers into a Google Sheet to review, grade, and/or provide feedback.

### ACTIVITY 1:

**Analyze 7 Sources** -- Students will analyze the seven provided sources, answering the question(s) at the conclusion of each source. The recommendation is for students to analyze the sources individually, but pairs or small groups are an option as well.

**Synthesis Statement** -- After students have completed their analysis, they should answer the question, “Based upon the documents provided, plus any additional information you may already know, explain in your own words how COVID-19 diffused.” This should be a synthesis statement in which students demonstrate an understanding of the diffusion of the COVID-19 virus.

**KWL** -- Finally, students should return to add relevant information in the last column of their KWL chart.

#### Teaching Tip



If you are teaching this as part of the AP Human Geography course you may encourage students to consider another dimension to the diffusion of viruses such as COVID-19. Although they are diffused contagiously due to person to person contact, the diffusion of COVID-19 outside its hearth fits a hierarchical pattern due to transportation networks.

### ACTIVITY 2: What are the differences in the population structures of some of the countries impacted by COVID 19?

CLASS ACTIVITY (15-20 MINUTES): POPULATION PYRAMID ANALYSIS

#### ACTIVITY 2:

**Task 1:** Students will analyze the five country population pyramids provided and answer a question that follows on the population structure of each society.

**Task 2:** After students have examined each pyramid individually, they should predict the order of the pyramids from youngest to oldest population structures.

(Answers: 1=Iran, 2=China, 3= United States, 4= South Korea, 5= Italy).

Students should check their answers by using a search engine such as Google to find the median age for each country (i.e. Iran “median age”).

**Task 3:** Students read the chart on COVID-19 deaths to understand the significance of population structure related to the spread of the virus. After students have analyzed the chart, they should answer the following question:

“Based upon this information and what you learned regarding the population structure of each of the five focus countries, which country should be most concerned about the spread of the virus and why?”

Once students have answered the question they should return to their K-W-L chart and add information learned from this activity to the last column.

### Teaching Tip



If students have never seen a population pyramid previously then you may wish to show them this brief video- <https://www.youtube.com/watch?v=RLmKfXwWQtE> or assign them this article- <https://populationeducation.org/what-population-pyramid/> so they have the background information necessary to effectively complete this activity.

An extension activity would be to have students research the mortality rates of the five focus countries to see if old age is the key factor or if instead there are also other factors.

### CHECK FOR UNDERSTANDING (15 minutes)

#### **How does the diffusion of information regarding COVID 19 impact diffusion of the virus?**

The student will write a brief essay. Emphasize that there are competing viewpoints regarding the impact that the diffusion of information has had regarding the diffusion of the virus. What do students think will happen? Is the diffusion of information a positive? A negative? Why or why not? The key is that the student should take a position based on what they do know and support that position with evidence and reasoning.

### Teaching Tip



If you are conducting this lesson using Online Management Solutions then this would be a good post to a discussion board where students not only share their own responses, but also engage with their classmates to support and/or challenge the statements of others. Regardless of whether students are online or in a face to face teaching environment, have students focus on explaining their rationale and supporting their responses.

## ACTIVITY 1 -- HANDOUTS

<b>K</b> What do you already know?	<b>W</b> What do you want to know?	<b>L</b> What have you learned?

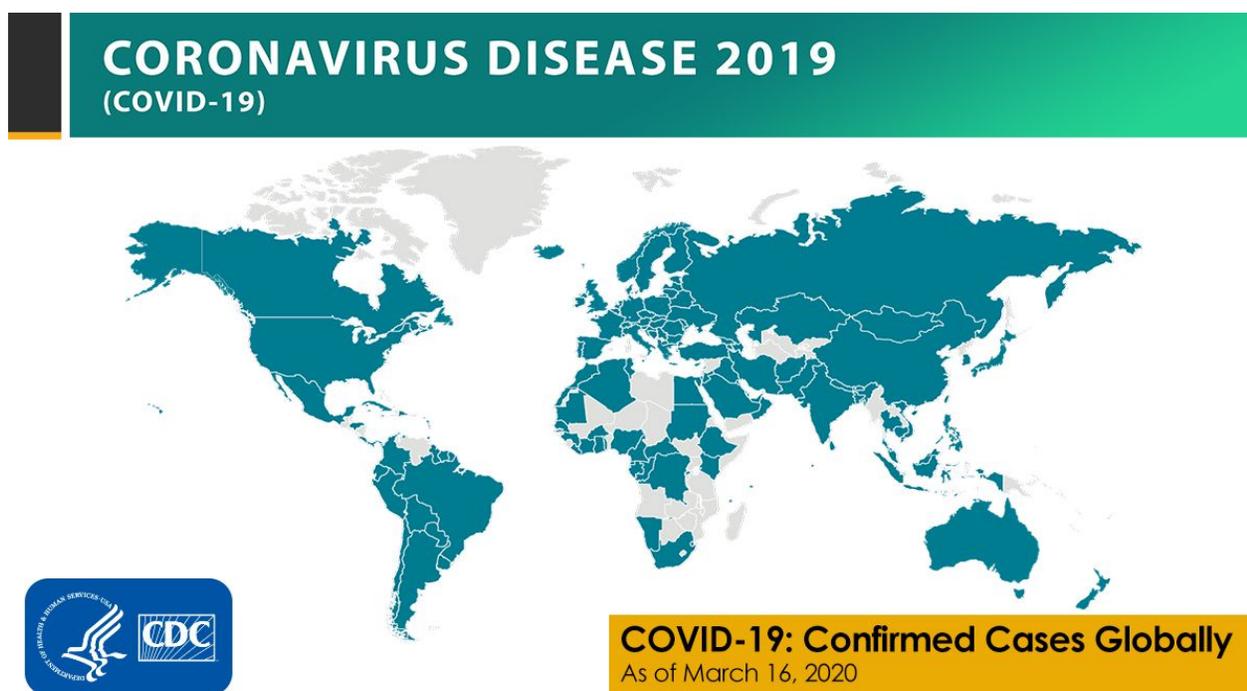
## ACTIVITY 1 -- HANDOUT

**RECORD YOUR ANSWERS:** Use this [Google Form](#) to record your answers.

**DIRECTIONS:** As you view each source be sure to answer the questions underneath each source completely. At the conclusion you will be asked to tie each of these sources together to answer the question- "How did COVID-19 diffuse?"

### Source 1 - Map of COVID-19 Cases,

Centers for Disease Control (CDC) , March 16, 2020.

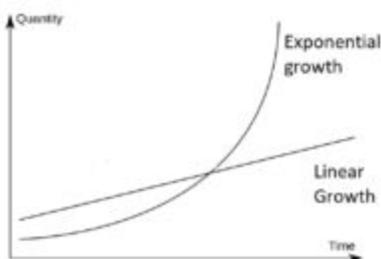


What are FIVE Countries that, as of 3/16/2020, did not have any reported cases of COVID-19? (If needed, consult a world map to identify some of the countries)

Why might the countries you identified not have had confirmed cases (at least as of 3/16/2020)?

## Source 2 - Exponential vs Linear Growth Curves

UCSUSA, 2018, <https://blog.ucsusa.org/doug-boucher/world-population-growth-exponential>

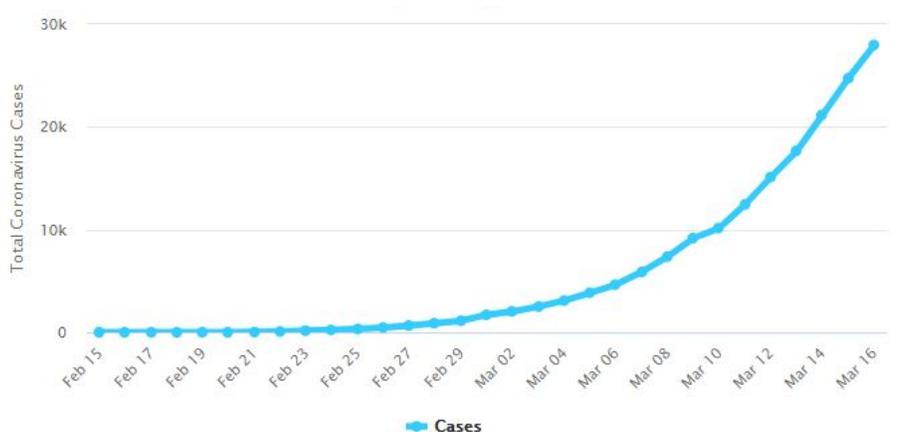


- **Exponential Growth** - Growth that occurs with the doubling of a phenomena. Doubling time is the time it takes for a phenomena to double. In this case, doubling time refers to the amount of time for the number of cases to double.
- **Linear Growth** - Growth that occurs with the same increase for each unit of time.

What is the difference between the two growth curves depicted above?

## Source 3 - Graph of COVID-19 Cases in Italy

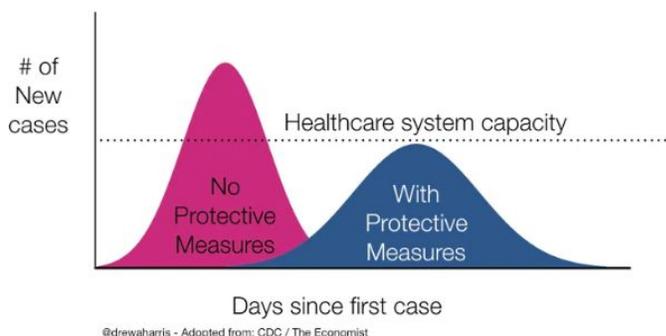
World O Meters, March 17, 2020, <https://www.worldometers.info/coronavirus/coronavirus-age-sex-demographics/>



The graph above presents the number of COVID-19 cases in Italy from February 15, 2020 to March 16, 2020. Does the curve display exponential or linear growth? Explain your answer.

### Source 4 - Flattening the Curve

Drew Harris, <https://drive.google.com/file/d/1YGTUc-Cm-ky7JaQQWmuaxedof8WLTLP/view>



Given the information about Italy, why would there be movements to “flatten the curve?”

### Source 5 - Map of Airline Connections

Wikimedia Commons, 2020. <https://commons.wikimedia.org/wiki/File:World-airline-routemap-2009.png>



How might the airline traffic displayed above promote the diffusion of COVID-19?

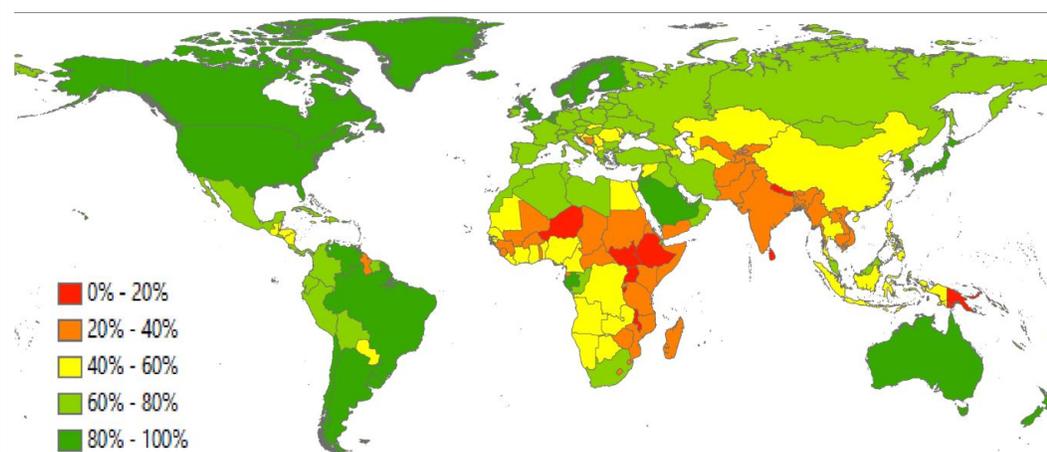
**Source 6- Tweets from the Centers for Disease Control (CDC) on “Social Distancing” and from the White House on Slowing the Spread, 3/16/20.**



How do the above tweets attempt to affect the diffusion of COVID-19?

**Source 7 - Level of Urbanization by Country, 2015**

Wikimedia Commons, 2020. [https://upload.wikimedia.org/wikipedia/commons/7/73/2015\\_World\\_Urbanization\\_Map.png](https://upload.wikimedia.org/wikipedia/commons/7/73/2015_World_Urbanization_Map.png).



How might high levels of urbanization promote the diffusion of COVID-19?

Notice that China has overall a low level of urbanization despite being considered the hearth\* of COVID-19. How might scale be useful in explaining this trend?

\*hearth = where a phenomenon begins

**ACTIVITY 1 -- SYNTHESIS STATEMENT**

**Based on the documents provided, and any additional information, explain in your own words how COVID-19 diffused.**

\*Write your answer here\*

-When completed, please return to the KWL chart and add a bullet point or two to the L column of your chart

## ACTIVITY 2 -- HANDOUT

### TASK 1 -- Analyzing Population Pyramids

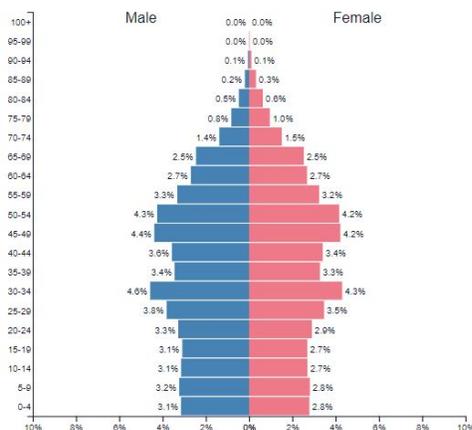
DIRECTIONS: As you analyze each pyramid, be sure to answer the question about the age composition of each pyramid and support your answer with evidence. After analyzing all population pyramids, answer this question:

“How does the population structure differ for five different countries (China, Iran, Italy, South Korea, and the United States) impacted by COVID-19 and why does it matter?”

*Hint: When analyzing each pyramid note if it is more top heavy (which would indicate an aging population), bottom heavy (which would indicate a younger population), or evenly dispersed (which would indicate more middle aged).*

China ▼  
2019

Population: 1,433,783,691



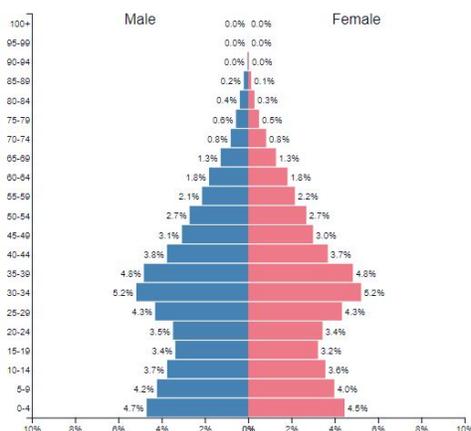
Is this a young/middle-aged/aging population?

Explain.

Iran (Islamic Republic of) ▼  
2019

Population: 82,913,893

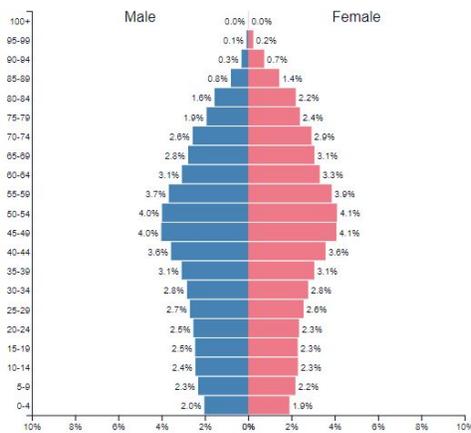
Is this a young/middle-aged/aging population?



Explain.

Italy ▼  
2019

Population: 60,550,092

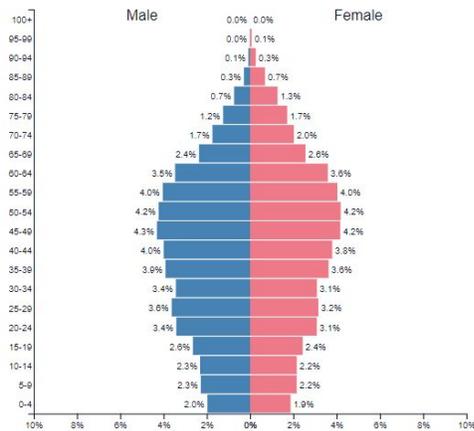


Is this a young/middle-aged/aging population?

Explain.

Republic of Korea ▼  
2019

Population: 51,225,320

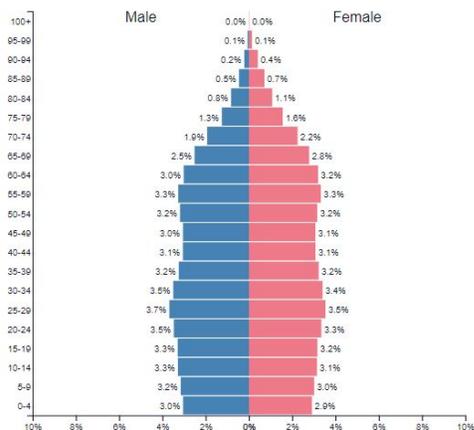


Is this a young/middle-aged/aging population?

Explain.

United States of America ▼  
2019

Population: 329,064,916



Is this a young/middle-aged/aging population?

Explain.

**TASK 2 -- Predicting and Identifying Population Structures**

In the chart below, PREDICT the order of the pyramids using 1-5 in the second column.  
**(1 = the youngest population structure; 5 = oldest population structure)**

After you have predicted, **check your work!** Using your favorite search engine, find the median age for each country (i.e. search for Iran “median age”). Enter the values found in the third column.

<b>Country</b>	<b>PREDICTION</b> (1 = young 5=oldest)	<b>Median Age</b> (search internet)
China		
Iran		
Italy		
South Korea		
United States		

TASK 3 -- Interpreting Death Rate Data	
<b>The chart below shows the fatality rate by age for COVID-19 as of February 29, 2020.</b>	
<p>QUESTION: Based upon this information and what you learned regarding the population structure of each of the five focus countries, which country should be most concerned about the spread of the virus and why?</p>	<p>ANSWER:</p>

**COVID-19 Fatality Rate by AGE:**

\*Death Rate = (number of deaths / number of cases) = **probability of dying if infected by the virus (%)**.

This probability differs depending on the age group. The percentages shown below **do not have to add up to 100%**, as they **do NOT represent share of deaths by age** group. Rather, it represents, for a person in a given age group, the **risk of dying** if infected with COVID-19.

AGE	DEATH RATE confirmed cases	DEATH RATE all cases
80+ years old	21.9%	14.8%
70-79 years old		8.0%
60-69 years old		3.6%
50-59 years old		1.3%
40-49 years old		0.4%
30-39 years old		0.2%
20-29 years old		0.2%
10-19 years old		0.2%
0-9 years old		no fatalities

Source: [WorldoMeter](https://www.worldometers.info/coronavirus/)

-When completed, please return to the KWL chart and add a bullet point or two to the L column

## CHECK FOR UNDERSTANDING

### TAKE A POSITION!

**How does the diffusion of information regarding COVID-19 impact diffusion of the virus?**

Answer the question above, being sure to use evidence and clear reasoning to support your answer. There is not a single correct answer.

You should use information from this lesson as part of your answer.

Hint: A first step might be to consider how information diffuses. In what ways does information diffuse quickly or is hindered or is restricted in today's world.

**How does the diffusion of information regarding COVID-19 impact diffusion of the virus?**

HISTORY AND GEOGRAPHY OF A PANDEMIC

# COVID-19

Lesson Module – Day 03



Presented by World History Digital Education Foundation  
and the National Council for the Social Studies



## MODULE OVERVIEW

### GEOGRAPHICAL SKILLS (DAY 3):

#### Human Geography Skills

5.B Explain spatial relationships across various geographic scales using geographic concepts, processes, models, or theories.

3.D Compare patterns and trends in maps and in quantitative and geospatial data to draw conclusions.

### CONTENT (DAY 3):

This content is designed for any High School Social Studies Class. Day 1 is History-centered while Day 2 and 3 are Geography-centered.

AP Human Geography references:

Topic 7.6 Trade and the World Economy

PSO-7.A.4 Global financial crises (e.g., debt crises), international lending agencies (e.g., the International Monetary Fund), and strategies of development (e.g., microlending) demonstrate how different economies have become more closely connected, even interdependent.

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### TO WHAT EXTENT IS THE CORONAVIRUS SIMILAR TO THE SPANISH FLU?

#### CLASS ACTIVITY: Making a Claim supported by Evidence

Students will investigate primary and secondary sources on the Coronavirus/COVID-19 pandemic of 2020 and the Spanish Influenza pandemic of 1918. Students will identify similarities and differences between government responses, geographical diffusion, cultural impact, economic impact, public reaction, and the effects of the diseases themselves.

#### CHECK FOR UNDERSTANDING: Thesis Statement

Students will synthesize comparisons between the Coronavirus and Spanish Influenza pandemics into an argumentative claim backed by document evidence.

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### HOW DO WE SLOW DIFFUSION IN A GLOBALIZED WORLD?

#### CLASS ACTIVITY: Analyzing Quantitative Data

Students will investigate sources on the diffusion of COVID-19. Students will analyze population pyramids for five countries impacted by COVID-19.

#### CHECK FOR UNDERSTANDING: Making Predictions

Students will predict how the diffusion of information regarding COVID 19 impacts the diffusion of the virus.

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### WHAT ARE THE ECONOMIC CONSEQUENCES OF A PANDEMIC?

#### CLASS ACTIVITY: Analyzing Quantitative Data

Students will analyze global economic data showing the impact of the spread of COVID-19. Students will analyze the growth of COVID-19 cases in Italy, South Korea, and the United States to identify current trends and to predict future growth as well as comparing how each country has addressed the spread of COVID-19.

#### CHECK FOR UNDERSTANDING: Global Impact of COVID-19

Students will analyze changes in GDP forecasts for selected countries to demonstrate their understanding of the economic consequences of COVID-19, identify successful approaches to addressing the growth of COVID-19, and finally to discuss global consequences of pandemics.

## MODULE SOURCES

D A Y 1	AUTHOR	SOURCE	DATE
	WHDE Authors	<a href="#">Why was the 1918 Flu so Deadly?</a>	March 13, 2020
	WHDE Authors	<a href="#">The Science Behind the Flu</a>	March 13, 2020
	WHDE Authors	<a href="#">Art and the Spanish Flu</a>	March 13, 2020
	WHDE Authors	<a href="#">Government Measures to Fight the New Plague</a>	March 13, 2020
	WHDE Authors	<a href="#">The Largest Flu Pandemic in History</a>	March 13, 2020
	WHDE Authors	<a href="#">How the Flu Spread Across America</a>	March 13, 2020
	WHDE Authors	<a href="#">Effects of the 1918 Influenza Pandemic</a>	March 13, 2020

D A Y 2	AUTHOR	SOURCE	DATE
	CDC	<a href="#">Map of COVID 19 Cases</a>	March 6, 2020
	UCSUSA	<a href="#">Exponential vs Linear Growth Curves</a>	April 9, 2018
	Worldometers	<a href="#">Graph of COVID 19 Cases in Italy</a>	March 17, 2020
	Drew Harris	<a href="#">Flatten the Curve</a>	2020
	Wikimedia Commons	<a href="#">Map of Airline Connections</a>	2009
	CDC	<a href="#">Social Distancing Tweet from CDC</a>	March 16, 2020
	White House	<a href="#">White House Avoid Eating Out Tweet</a>	March 16, 2020
	Wikimedia Commons	<a href="#">World Map of Urbanization Levels</a>	2015

D A Y 3	AUTHOR	SOURCE	DATE
	WHDE Authors	<a href="#">Top 5 Markets for Motor Vehicle Parts and Accessories produced in China (2018)</a>	March 15, 2020
	WHDE Authors	<a href="#">Estimated Impact of COVID-19 outbreak on global tech shipments in Q1 2020</a>	March 15, 2020
	WHDE Authors	<a href="#">Dow Jones Industrial Average, EURO STOXX 50 Average, NIKKEI 225 Average, SSE Composite Index 2/18/20 -3/12/20</a>	March 15, 2020
	WHDE Authors	<a href="#">Loss of Revenue for Airlines due to Coronavirus</a>	March 15, 2020
	WHDE Authors	<a href="#">Impact on United Airlines</a>	March 15, 2020
	WHDE Authors	<a href="#">Impact on Royal Caribbean Cruises</a>	March 15, 2020
	WHDE Authors	<a href="#">Total Coronavirus Cases 2/15/20 -3/16/20</a>	March 16, 2020
	WHDE Authors	<a href="#">New Coronavirus Cases in Italy, United States, and South Korea 2/15/20 - 3/16/20</a>	March 16, 2020
	WHDE Authors	<a href="#">South Korea, Italy, and United States Approaches to addressing the spread of Coronavirus</a>	March 16, 2020
	WHDE Authors	<a href="#">Organization for Economic Cooperation and Development (OECD) Changes in GDP Growth Forecast 2020</a>	March 15, 2020

## DAY THREE

Based on a 60-minute class

**Lesson Question: How do global events such as COVID-19 affect individual countries?**

### Social Studies Skill: Data Analysis [Geography]

#### OVERVIEW

Students will analyze economic consequences of economic globalization focusing primarily on the current effects of the COVID-19 on stock markets, manufacturing and trade, tourism, and comparing governmental responses. Finally, students will be able to demonstrate their understanding of the economic consequences of the COVID-19 by explaining the causes for global GDP forecasts for the first quarter of 2020 to be downgraded. Students will have the opportunity to work individually or in groups depending on the needs of your students.

#### Materials needed:

- In Person- Copies of the activity materials.
- Online- Post the activity materials.

#### SEQUENCE OF INSTRUCTION

##### HOMEWORK OVERVIEW

HOMEWORK (Optional) (20 Minutes):

- Using the Day 3 Homework handout students will identify and map the country of manufacture for items in their home.
- Students will analyze the patterns they see on their map and answer questions related to economic globalization as well as impacts if parts of the supply chain are impacted.

##### Teacher Notes

Depending on your students' knowledge of economic globalization and interconnected economies you may decide to not assign the homework activity.



##### Teaching Tip

*Some students may wish to dive into conspiracy theories or partisan sites that seek to politicize the health emergency. Try to guide students toward categories such as scientific investigations, pop culture, government actions, health, economic impacts, impacts on foreign countries, etc.*

## CLASS ACTIVITY 1: Economic Data

### CLASS ACTIVITY (20 MINUTES):

- Students will analyze economic data to determine global economic impact of the COVID-19 pandemic.
- Background info to share with students- Globalization is a commonly used term that refers to our increasingly connected world. Today, political boundaries do not typically stop interactions from occurring. Globalization is especially seen in regard to business. Increasingly, products that have commodity chains that involve multiple countries. For example, perhaps your t-shirt is made from cotton grown in India, made into fabric in Mexico, sewn in South Africa, and then sold in the United States. A disruption in any part of that process causes issues for ALL of the countries involved.
- Individual Activity or Online Learning
  - If students are working on this activity individually or through an eLearning experience you may want to share with students the following information before they start the activity.
    - Refer back to the optional homework and remind students about how many goods are produced in countries with economic advantages such as lower wages, lesser environmental regulations, government incentives, etc.
    - Many final products contain parts manufactured in multiple countries
    - Stock markets measure the value of stocks measured in their index. Even though they don't give a complete economic picture of a country, they are good at predicting confidence in a country's economy and the impact of events on an economy.
    - Since countries are economically connected or interdependent, a situation in one country or a few countries can quickly impact other countries.

### IMPORTANT Teacher Note

Class Activity 1, 2, and 3 could be adapted to group work by having groups of students analyze the graphs, data, and other sources and then answer the accompanying questions. Groups might also do some of the work as individuals and then debrief the questions or work collaboratively to answer the analysis questions. Some of these group strategies are also possible with certain online learning platforms.

## CLASS ACTIVITY 2: Coronavirus Data

### CLASS ACTIVITY (20 MINUTES):

- Students will analyze data related to the spread of COVID-19 using the Activity 1 - Virus Data Handout
- Individual Activity or Online Learning
  - Students will answer questions 1-3 demonstrating their understanding of the trends shown in the Total Coronavirus Cases.
    - Students should focus on the exponential growth shown in the United States and Italy graphs and the S-Curve shown in the South Korean Graph.
  - Students will answer question 4 demonstrating their ability to predict future trends based on the graphs showing growth of coronavirus cases.
    - Based on the graphs students should predict cases in Italy and the United States will continue to grow and cases in South Korea will slow or stop growing
  - Students will answer question 5 by using all four graphs to predict which country they believe will have their number of cases slow in the future.
    - Based on the graphs, students should identify South Korea. Evidence could include the S-curve in the total cases or the drop in new cases from 3/2-3/16.

## CLASS ACTIVITY 3: Comparing Governmental Approaches to Address the Spread of COVID-19

### CLASS ACTIVITY (20 MINUTES):

- Students will analyze data related to the spread of COVID-19
- Individual Activity or Online Learning
  - Using the Activity 3 handouts, students will read the case study for South Korea, Italy, and the United States to determine similarities and differences between each country's approach.
  - Students will note three important facts for each country and evaluate the effectiveness of each approach.
  - Using the Activity 3 Synthesis handout, students will answer the following question using evidence from Activity 1 and 2.
    - Explain how the response of South Korea, Italy, and the US have contributed to the current and predicted growth of COVID-19 cases in each country

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### CHECK FOR UNDERSTANDING: Global Impact of COVID-19

- Using the Check For Understanding handout, students will answer five questions demonstrating their understanding of factors that influence the spread of COVID-19 as well as economic consequences.
-

## DAY 3 HOMEWORK

Name: \_\_\_\_\_ Period: \_\_\_\_\_

1. Pick 10 items from your home (items can include items of clothing, technology, etc.) and identify the country they were manufactured.
2. On the map below identify the countries your items were produced. Next label the items manufactured next to the country that manufactured them.

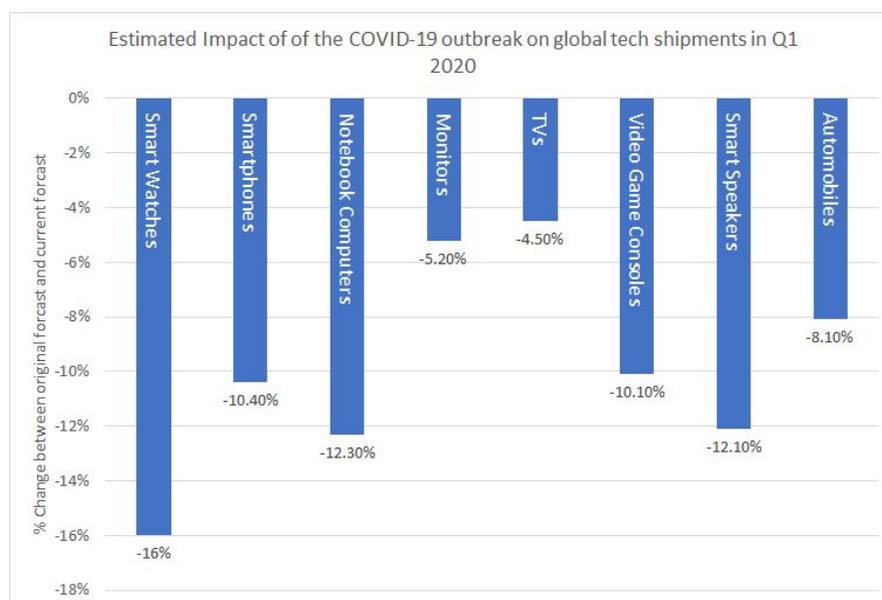
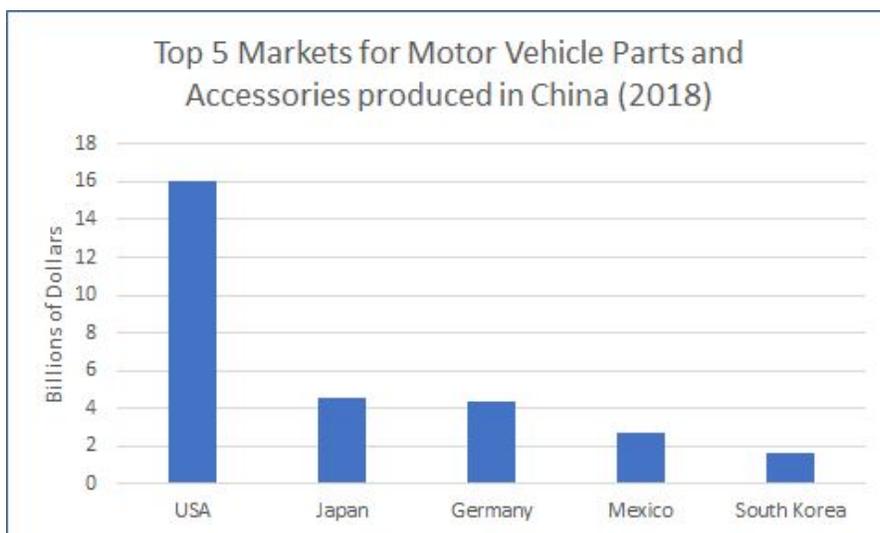


3. What patterns did you see on your map?
4. What technology and/or innovations in communication and transportation make the manufacturing patterns in the map possible?
5. Based on countries involved in these patterns, what could happen to their economies if production in one country was affected?

## ACTIVITY 1- ECONOMIC DATA SET: MANUFACTURING IMPACTS

**Globalization** is a commonly used term that refers to our increasingly connected world. Today, political boundaries do not typically stop interactions from occurring. Globalization is especially seen in regard to business. Increasingly, products that have commodity chains that involve multiple countries. For example, perhaps your t-shirt is made from cotton grown in India, made into fabric in Mexico, sewn in South Africa, and then sold in the United States. A disruption in any part of that process causes issues for ALL of the countries involved.

The graphs to the right show the impact of the spread of COVID-19 on manufacturing and supply chain for selected products.

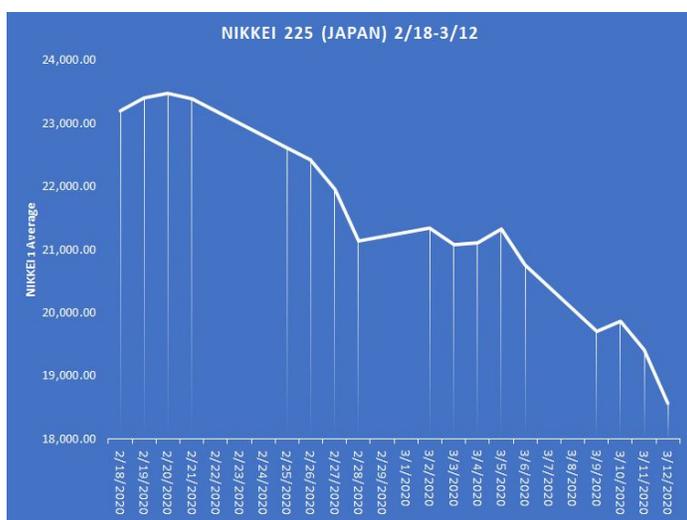
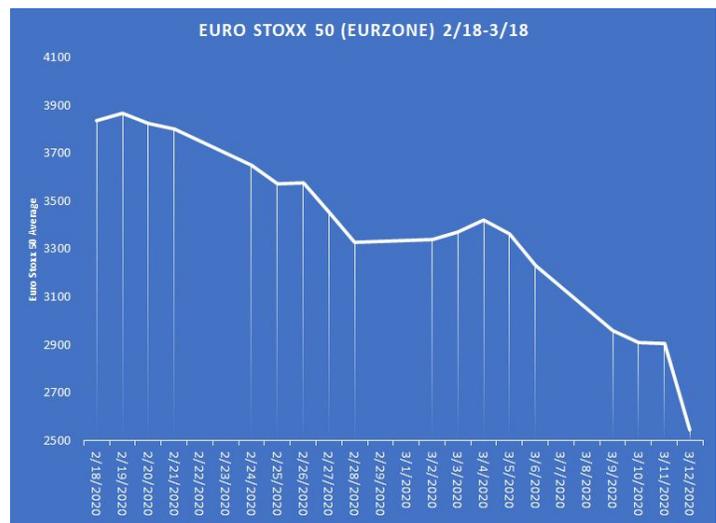
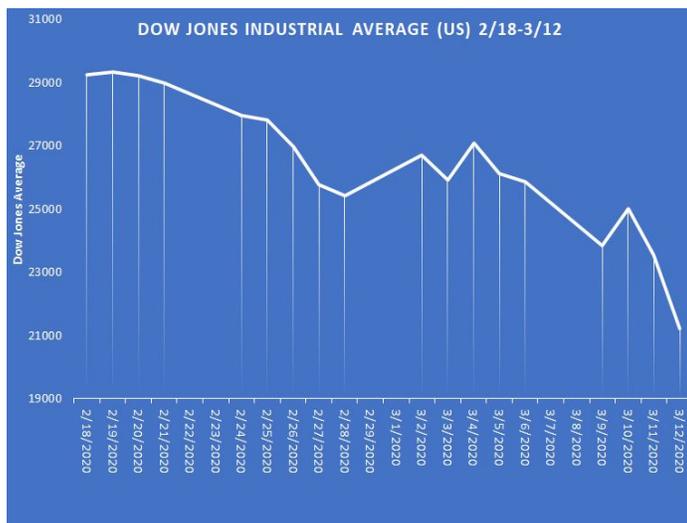


<https://www.theverge.com/2020/2/18/21141924/coronavirus-tech-industry-impact-report-trendforce>  
<https://comtrade.un.org/data/>

Answer the following questions:

1. What trends can be identified in the data above?
2. How do the trends demonstrate economic interdependence?
3. Which country's automobile industry would you predict to be most affected by factory shutdowns in China?

## ACTIVITY 1 -- ECONOMIC DATA SET: STOCK MARKETS IMPACTS



Google Market Summary 3/14/2020

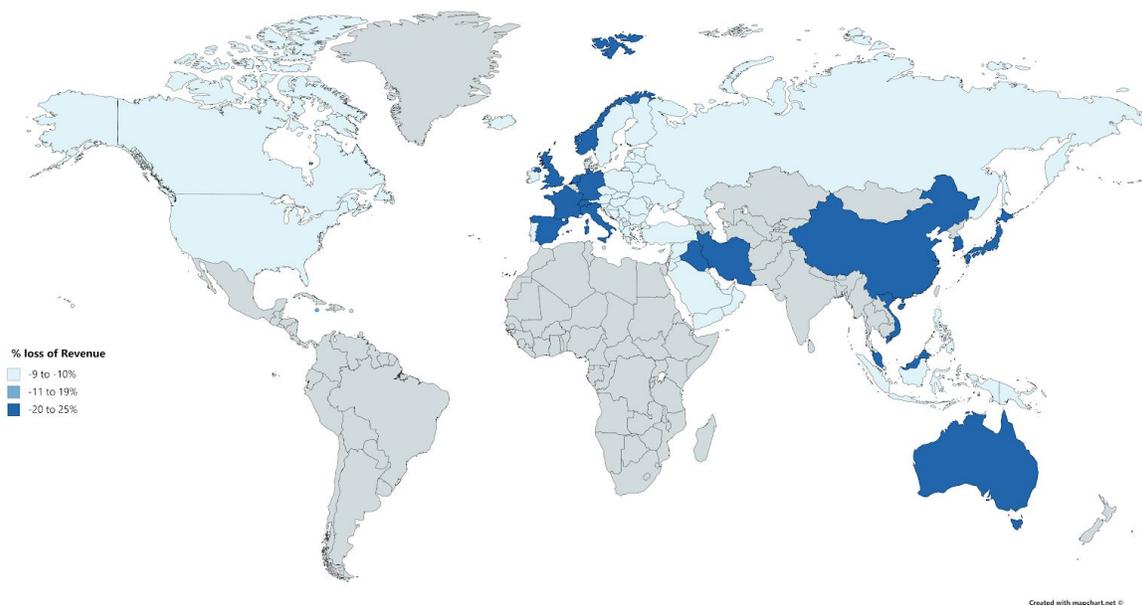
The graphs above show the value of stocks from Feb 18 - March 12, 2020 following the outbreak of the Coronavirus.

Answer the following questions:

1. What trends can be identified in the data above?
2. How do the trends above demonstrate economic interdependence?
3. What impact has the COVID-19 had on the stock markets? (Consider including COVID-19 data from Activity 1 as part of this answer.)

## ACTIVITY 1 -- ECONOMIC DATA SET: TOURISM IMPACT

### Loss of Revenue for Airlines due to COVID-19



<https://www.investopedia.com/coronavirus-could-cost-airlines-usd113-billion-in-revenue-4798861>

United Airlines handled a million fewer passengers in the first two weeks of March than last year at the same time and this could lead revenues to fall by \$1.5 billion dollars compared to last year according to CEO Oscar Munoz and President Scott Kirby

<https://www.chicagotribune.com/coronavirus/ct-nw-coronavirus-united-airlines-cancel-flights-20200316-vnel2kin4rdftoomlrfgvmv4ve-story.html>

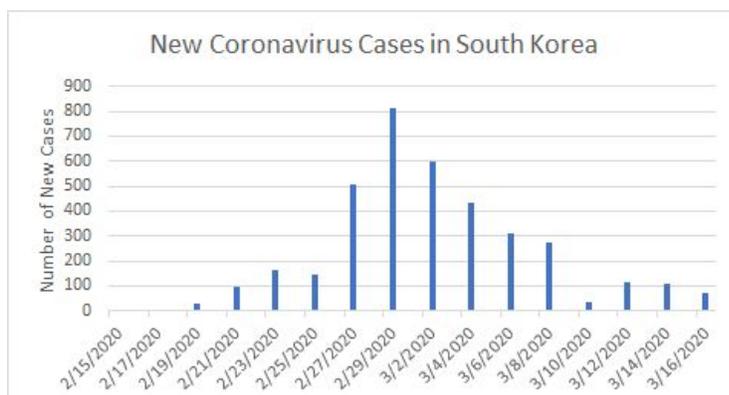
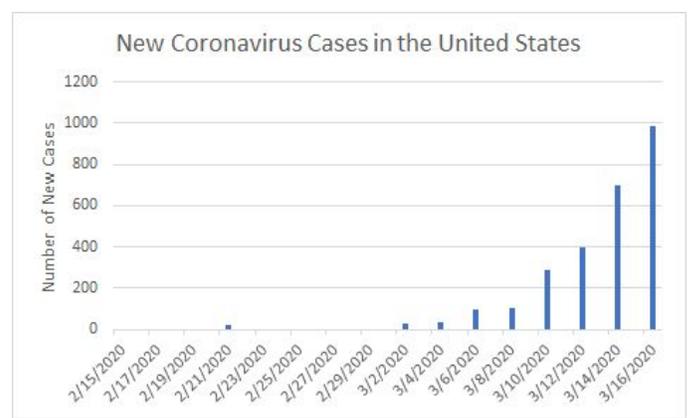
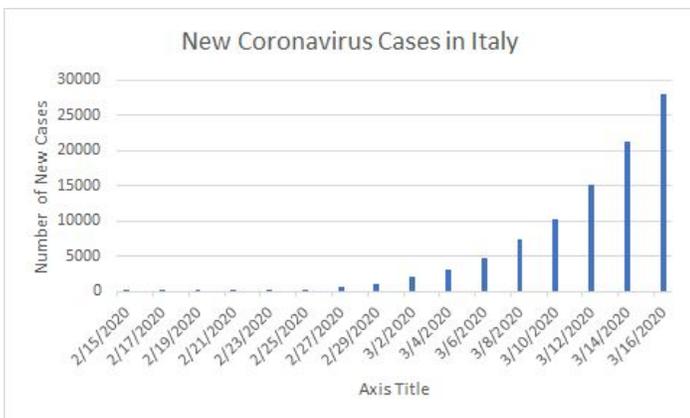
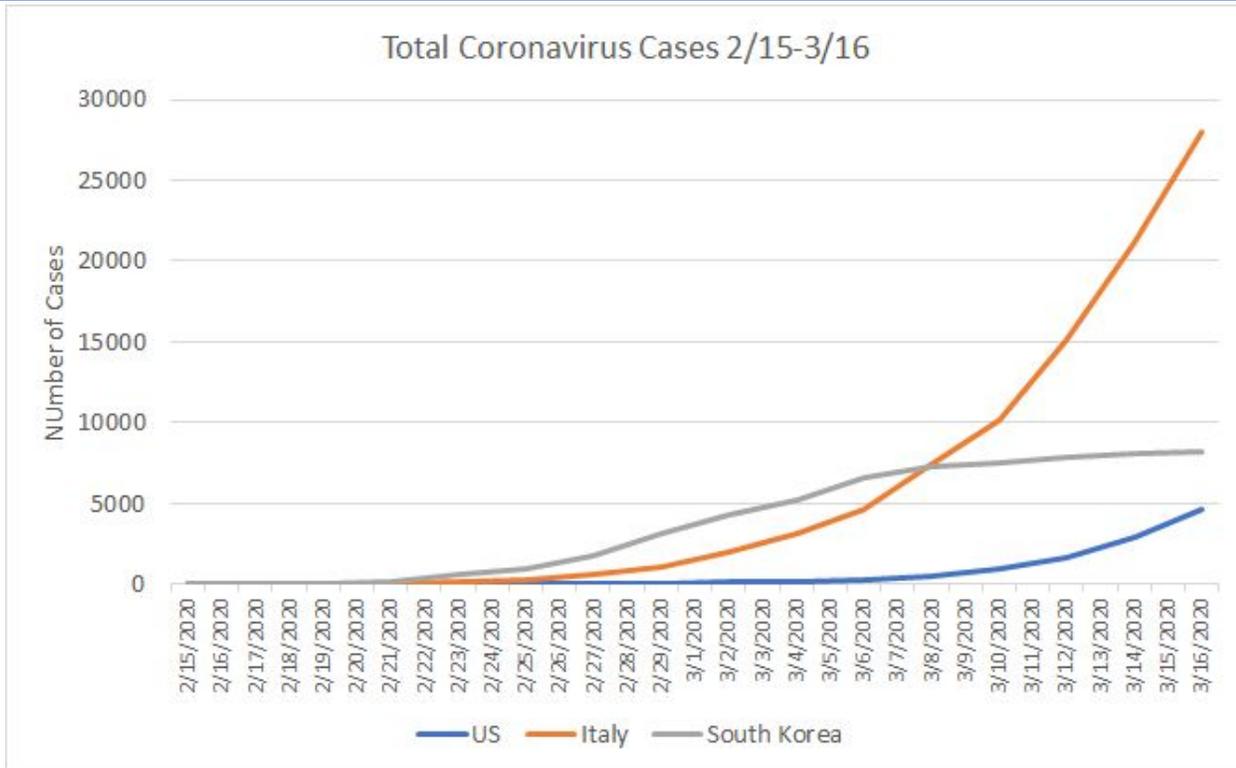
Even though it is too early to predict, coronavirus has already caused losses of \$750 million in the first months of this year. For example, when Royal Caribbean canceled just 18 trips to Asia, the cost to the company was about \$130 million. Norwegian Cruises estimates that just halting operations in Asia until April could cost \$440 million.

<https://www.cbsnews.com/news/coronavirus-costs-cruise-line-companies-tens-of-millions/>

Answer the following questions:

1. What trends can be identified in the data above?
2. How do the trends demonstrate global interdependence?

## ACTIVITY 2 - CORONAVIRUS DATA



<https://www.worldometers.info/coronavirus/country/>

## ACTIVITY 2 - ANALYSIS QUESTIONS

**Doubling Time** is the amount of time it takes for a phenomenon to double. Doubling time is frequently used to calculate how long it will take for a population to double or how long it will take for an investment to double. In this case, doubling time refers to how long it takes for the number of cases of COVID-19 to double.

**Use the graph “Total Coronavirus Cases” to answer questions 1-3.**

(Note: use Activity 2 Supplementary Reading on Reading Graphs)

1. Compare and contrast the data for all 3 countries.
2. The growth of cases in Italy and the US would be referred to as what type of growth? Why?
3. The growth of cases in South Korea would be referred to as what type of growth? Why?
<p>4. Analyze all the graphs to complete this task. Write a paragraph in which you argue...</p> <ul style="list-style-type: none"> <li>-which country you believe will see the number of total cases grow in the immediate future</li> <li>-which country you believe will see the cases slow in the immediate future</li> </ul> <p>Explain using evidence from at least two graphs.</p>

## ACTIVITY 3: GOVERNMENT APPROACHES TO ADDRESS THE SPREAD OF COVID-19

### South Korea

[Tests Per Million \(AS 4/13\)](#) -- 4,813

[Time for COVID-19 cases to double](#) - 11 days

#### What has been the government approach?

South Korea has been very aggressive in response to the spread of COVID-19, especially in testing since the outbreak. This approach can be connected to lessons learned from a MERS outbreak in 2015 that has led to increased government support to analyze samples during any outbreak. One solution has been creating drive-through clinics that increase access as well as limit human contact. This increased level of testing and medical care, including hospitalization, is covered by the South Korean government. To address costs for the health care system, child care, and the economic impacts on small and medium size businesses, the South Korean government proposed an additional spending of \$13.7 billion dollars on March 4.

Adapted from [NPR report Reuters](#) and [Haaretz](#)

#### 3 Notes on South Korea's Approach (and note how effective)

- 
- 
- 

### Italy

[Tests Per Million \(AS 4/13\)](#) -- 1420.5

[Time for COVID-19 cases to double](#) - 4 days

#### What has been the government approach?

Italy started by testing more aggressively than other European countries but has recently slowed in testing to minimize the number of samples that need to be processed. Testing fewer people meant that infected people not displaying symptoms could still spread the virus. By March 10, the Italian government proposed a \$28 Billion dollar stimulus to help workers who have lost jobs, increase funds to small businesses, and potentially offer rent assistance.

Adapted from [NY Times](#) and [Bloomberg](#)

#### 3 Notes on Italy's Approach (and note how effective)

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## United States

[Tests Per Million \(AS 4/13\)](#) -- 41.8

[Time for COVID-19 cases to double](#) - 6 days

### What has been the government approach?

Initial government responses were skeptical of the seriousness of the spread of COVID-19 until March 13, 2020 when a National Emergency was declared. Due to a limited supply of testing kits, early testing has been limited as labs initially performed 40 to 60 tests a day. By March 15th the government stated that 2000 commercial labs would begin to process tests, significantly increasing the number of tests. The Federal government helped to set-up drive through testing facilities similar to those in South Korea. The cost of testing and office or hospital visits remains a significant concern to many Americans without healthcare coverage. The Federal government has approved \$8.3 billion to address health care costs such as testing, creating or buying vaccines, and funds to help state and local health departments. Additional funding is also being discussed to provide economic relief for those impacted by COVID-19.

Adapted from [NY Times](#), [NPR](#), and [Market Watch](#)

### 3 Notes on the United States' Approach (and note how effective)

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### **ANALYSIS QUESTIONS**

What are the most important differences in the approaches of these three governments?

What is similar in all three approaches?

## ACTIVITY 3: SYNTHESIS

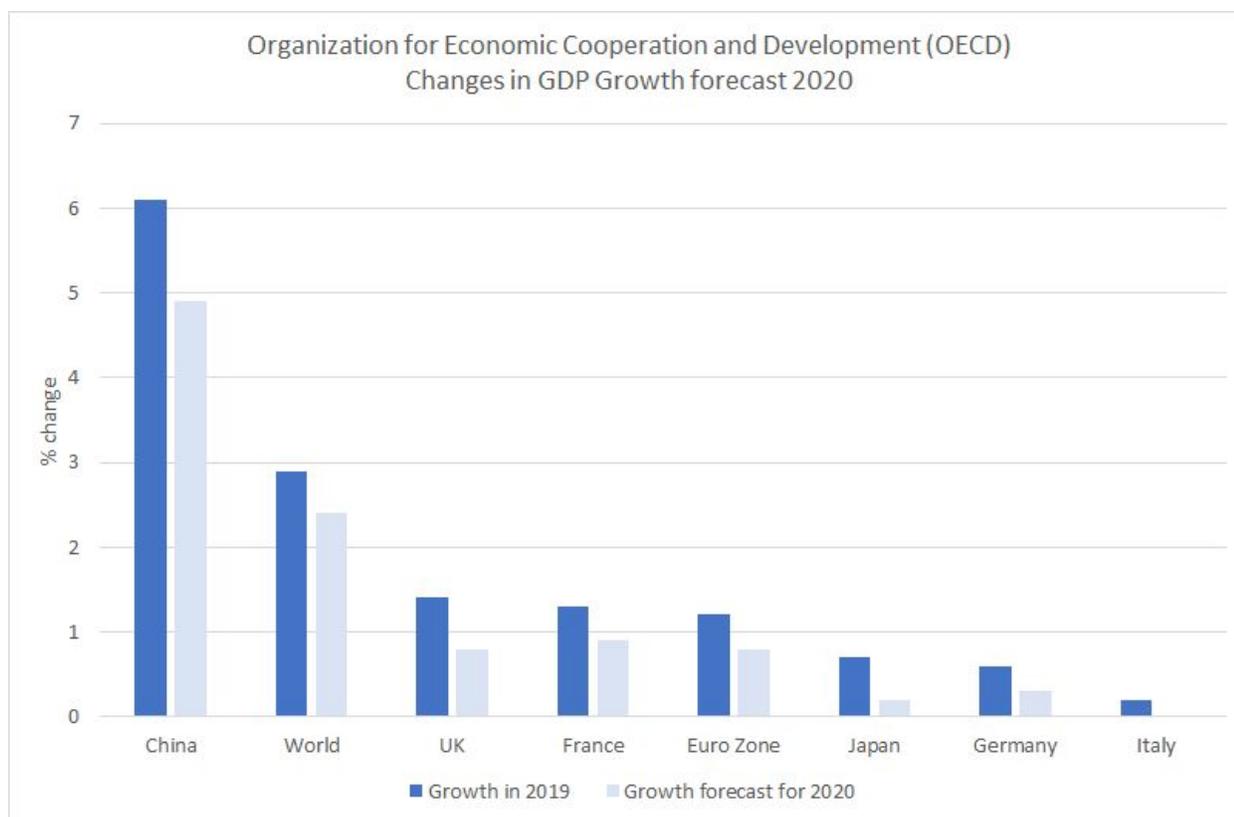
### SYNTHESIS QUESTION:

Use evidence from

- the government responses of South Korea, Italy, and the United States in Activity 2
- COVID-19 data in Activity 1

**Explain how the responses of South Korea, Italy, and the US have contributed to the current and predicted growth of COVID-19 cases in each country.**

## CHECK FOR UNDERSTANDING - GLOBAL IMPACT OF COVID-19



<http://www.oecd.org/berlin/publikationen/Interim-Economic-Assessment-2-March-2020.pdf>

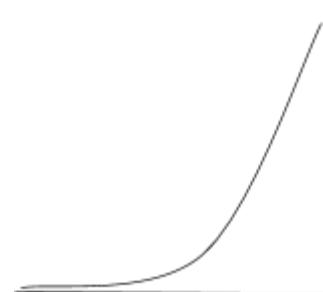
The Graph above shows preliminary impacts of the COVID-19. Answer the following questions:

- Describe economic interdependence.
- Describe the economic data shown in the graph above.
- Identify and explain two factors that have contributed to the trend shown in the graph.
- Identify and explain which country's approach has been most successful in addressing the growth of COVID-19 within their borders?
- Explain the relationship between local decisions and global economic impacts.

## OPTIONAL / SUPPLEMENTAL ACTIVITY 2 HANDOUT: READING GRAPHS

Graphs can help with understanding current conditions and with making predictions. When analyzing a graph here are some key things to consider.

- **Exponential Growth** - Growth that occurs with the doubling of a phenomena. Doubling time is the time it takes for a phenomena to double. Typically doubling time is used when discussing population growth, but it can be applied to the spread of viruses such as the coronavirus. In this case, doubling time refers to the amount of time for the number of cases to double.



Exponential Growth

- **S-Curve** - shows early exponential growth with a slowing of growth.



S-Curve

- **Trends** - Graphs show us what is currently happening with a data set, but also provide information to make predictions about the future

## OPTIONAL / SUPPLEMENTAL ACTIVITY 3 HANDOUT

1. Using the information for the three countries above complete the Venn diagram below.

