Essential Question:
How do the plagues of the 14th century compare to the plagues of the 21st century?

Instructions:
1. (Packet users) Using the reading packet given to you (articles) answer the following questions on your own paper. Hold your written answers until time to return all your work.
2. (Google Classroom users) Read the information from the articles that are given to you. Answer each question listed below. When you are finished you can submit your work on Google Classroom.
3. If you are using a packet, please put your completed work in a safe place where you can easily find it when the time comes to collect the work.
4. The question should be answered using complete sentences in PARAGRAPH form.

Assignment:
Read the articles attached and answer the following question using PARAGRAPHS and complete sentences. You should end up with several well organized paragraphs that answer the question.

When a highly contagious disease/virus begins to infect people, there is always concern. When this highly contagious disease begins to spread throughout countries and continents, it becomes problematic pandemic. Throughout history, pandemics have been documented and studied so as to be better prepared for the next. After looking at the Bubonic Plague (Black Death), there are several commonalities and blaring differences between it and the Covid 19 pandemic.

After reading the following articles that are attached, write a four (4) paragraph essay comparing and contrasting the way that the Bubonic Plague spread throughout the world to the Covid 19 pandemic. Think of the ways the viruses, in both cases, moved around the world and how contagious both were. You should be using specific examples from the articles or articles that you have found on your own to back up your comparisons. Your last paragraph should be an assessment of how to prevent the spread of a virus so that it does not become a pandemic.

- https://history.howstuffworks.com/historical-events/black-death1.htm

(A.) Bubonic Plague
The plague, named the Black Death by later historians, had a devastating effect on the European population in the fourteenth century.

Trade and disease
The spread of disease and trade went hand in hand, and no event illustrates this relationship better than the outbreak of bubonic plague in the mid-14th century, an event more commonly known today as the Black Death.
In a passage from his book titled *The Decameron*, Florence, Italy resident Giovani Boccaccio described the Black Death, which reached Florence in 1348:

It first betrayed itself by the emergence of certain tumors in the groin or the armpits, some of which grew as large as a common apple, others as an egg, some more, some less . . .

From the two said parts of the body this deadly [bubo] soon began to propagate and spread itself in all directions indifferently; after which the form of the malady began to change, black spots or livid making their appearance in many cases on the arm or the thigh or elsewhere, now few and large, then minute and numerous.

Historians and epidemiologists are confident that the Black Death originated in east-central Asia, which raises the question: How did the plague make it to Europe?

To understand how the plague spread, we need to understand how the disease was transmitted, along with the broader economic and political contexts that made its spread possible.

**Origins of the plague outbreak**

The bacterium that causes the bubonic plague is called *yersinia pestis*. It can survive in rodent populations and is spread to other mammals, including humans, through flea bites. The point of origin for the Black Death was most likely a population of marmots—small, prairie-dog like rodents—in Central Asia.

Marmots generally avoid contact with humans, but rats will readily come in contact with both marmot and human populations. Rats also carry fleas, making them an ideal vehicle—from the perspective of the plague, at least—for spreading the bubonic plague.

The plague caused an epidemic in China in the 1330s, and again in the 1350s, causing tens of millions of deaths. The 1330s outbreak also spread west across Central Asia via traders using the Silk Road. Historian William McNeill argued that *caravanserai* - rest stops for traders - facilitated the spread of the disease as traders and their animals interacted in close quarters. That proximity provided new hosts for the disease, who then carried it to new locations, repeating the process of introducing and spreading the plague along overland trade routes.

**The plague spreads**

By the 1300s, several Italian city-states had established trade relationships throughout the Mediterranean and Black Seas. The Genoese had a successful colony at the city of Kaffa on the Crimean Peninsula, which they held with the permission of the Mongol rulers of the region. In 1344, disagreements between the Genoese and the Mongols led to conflict.

In 1346, the plague reached the Mongol soldiers who were besieging the city of Kaffa. Stories from the period tell us that the plague devastated the Mongol army, forcing it to give up the siege. Some of these stories also include a more gruesome detail: the Mongols catapulted the dead bodies of the soldiers who died of the plague into the city.

Whether the Mongols intended to spread the disease, and whether the story is even true, is not clear. What is clear is that some residents of Kaffa were infected with plague.

The plague continued to travel through Asia, eventually hitting major cities such as Baghdad and Constantinople. From there, it traveled to Alexandria in Egypt, Damascus in Syria, and down the Red Sea to Mecca. From there it almost certainly entered the Indian Ocean trade networks. The plague also traveled with Genoese merchants back to Italy, first to the port of Messina in 1347, and then north through Europe over the next several years.

**Effects of the plague**

Most in-depth studies of the Black Death focus on Europe, but this is a result of the available source material and what historians have chosen to study, rather than any major differences in its severity or impact between Europe and Asia.

After all, Europe had a smaller population than China. In terms of deaths, it is likely the plague did more damage in China. Given the large volume of trade in the Indian Ocean, it is not surprising to find accounts that hint at the plague spreading throughout the Middle East and South Asia at this time as well.
Although the lack of clear records makes it hard to be precise, historians generally estimate the Black Death killed between 30% and 60% of Europe’s population between 1347 and 1351. However, death rates varied from place to place. Some areas saw mortality of 80% or higher, while other places remained almost untouched by the disease.

Whatever the actual numbers, the massive loss of population - both human and animal - had major economic consequences. Those cities hit with the plague shrank, leading to a decrease in demand for goods and services and reduced productive capacity.

As laborers became more scarce, they were able to demand higher wages. This had several major effects:

1. Serfdom began to disappear as peasants had better opportunities to sell their labor.
2. High labor costs caused landowners to look for more efficient and profitable ways to use their land and resources, such as increasing livestock production and payments of rent in money, rather than labor.
3. High labor costs also caused governments to impose price controls on wages, but these efforts were often unsuccessful and sometimes met with rebellion.
4. The fear and confusion caused by the plague sometimes led to violence, in part because of a lack of medical knowledge regarding how the plague spread. Jews, Romani, lepers, and other religious and cultural minorities were sometimes blamed for causing or spreading the plague and became targets of attacks. It should be noted that the plague did not cause these social tensions, but rather created a context that made these tensions stronger and more likely to lead to violence.

Conclusion

Although today we understand the medical aspects of the plague in ways that fourteenth century people could not, as historians we consider how the people who lived through it understood the plague and what impact it had on their actions.

From the broader perspective of world history, the real takeaway from the Black Death is how the vast, interconnected trading networks that existed at this time made the spread of a disease like plague possible in the first place, and how it dramatically altered the local communities it infected.

The expansion of trade brought many benefits, increasing access to material goods and technology, as well as spreading knowledge. However, the plague illustrates how increased cross-cultural contacts along denser trade networks increased the potential damage that could be caused by disease.

It was not a coincidence that the plague outbreak in the mid-fourteenth century did more damage than the outbreak in the mid-sixth century. Rather, the greater devastation occurred because the world of the mid-fourteenth century was more connected through trade.

(B.) How the Black Death Worked

BY MOLLY EDMONDS

How Did the Black Death Spread?

Because Europe was trading with the East, some medieval Europeans were aware of a mysterious disease sweeping through Asia in the 1330s. From Central Asia, the disease moved along an established trade route, passing through Turkestan and the Black Sea Region (Crimea and the Byzantine Empire).

In 1347, Kaffa, a town in modern-day Ukraine that was a Genoese trading post, came under attack by a Tartar army. When the Tartars were killed by the plague, the Genoese at first rejoiced: God had answered their prayers and punished their enemy. But that celebration ended when the Tartars began launching the corpses of plague victims over the walls of the city, hoping that the smell of rot would kill everyone in town. The smell didn't kill the Genoese, of course, but the disease did. The panicked Genoese threw the corpses back or submerged them in water. But it was no use; they were already exposed. As the dying Tartars retreated, the Genoese fled by ship to Sicily, taking the deadly disease with them to Europe.

Kaffa wasn't the only eastern trading port on the Black Death's path, but Genoa's ships took the blame for bringing the pestilence. Once it hit Europe, the Black Death moved fast, traveling at an average speed of 2.5 miles per day.
(4 kilometers per day) [source: Duncan, Scott]. From the Mediterranean ports, the disease took two paths; one through France that eventually made its way to England and Ireland, and one through Italy that went to Austria and Germany.

Written accounts state that the disease was frightfully contagious, and that death occurred only a few days after symptoms appeared. Other than this, people seemed to have no idea what was happening. Many felt that God's wrath was ravaging the earth and that the end of the world was near. Some theorized that Jews were contaminating the water supply. Both of these ideas spurred extreme responses that we'll explore in the next section.

When people began dying in France, King Philip VI turned to the Paris College of Physicians, the most highly-regarded medical authorities of the time, to learn the cause. The physicians produced a report that blamed the mass deaths on an event that occurred at 1 p.m. on March 20, 1345 -- the triple conjunction of the planets Saturn, Jupiter and Mars in Aquarius. The report explained that Jupiter, a wet and hot planet, soaked up evil vapors from Earth. And Mars, a dry planet, ignited the vapors and spread them through the air, which is how Europe got enveloped in a fog of death.

Interesting -- a fog of death. So, how do you cure a fog of death? And how do you protect yourself from catching it? In the next section, we'll learn how people dealt with the ugly spread of the Black Death.

(C.) Virus Mutations Reveal How COVID-19 Really Spread

Globe-trotting humans were the culprits

By Mark Fischetti, Martin Krzywinski on May 4, 2020

The world struggled to understand how COVID-19 spread during the pandemic's first four months, but genetic sequences of the coronavirus reported by laboratories tell the real story—when the virus arrived in each place and where it came from. The sequences, which advance from left to right in the graphic, show that the virus jumped from an animal to humans in China, humans transmitted it to one another within China, then people traveling from there spread it globally person to person. The virus had not mutated significantly as of March 31, 2020; human contact created the pandemic, not a wildly evolving pathogen. Mapping the spread also substantiates actions that could have best mitigated it: faster, wider testing in China; earlier, stricter global travel bans and isolation of infected people; and more immediate social distancing worldwide.
Each dot is a coronavirus genome from a single, infected person on a specific date. Dot color shows where the person was tested. There are 2,447 dots (many overlapping), a small fraction of all cases.

- China
- Italy
- Oceania and rest of Asia
- Africa
- Washington State
- Rest of U.S.
- Rest of North America
- South and Central America

Dot size represents total number of mutations in a genome, compared with the first genome sampled in Wuhan, China. The genome is roughly 29,000 “letters” long, so even 16 mutations constitute a very small change.

Dots on the same line are virus samples that have basically identical genomes, tracing back to a common ancestor. Tight groups of horizontal lines share genome sequences that are closely related.

**China, Case One:** Human infection began earlier than reported, between October 9 and December 20, 2019, according to mutations tracing back to December 4.

**Early Spread:** The coronavirus was already expanding across China sometime between December 1 and December 21, according to mutations dating back to December 10. This family tree is a model created by Nextstrain, based on genomes uploaded to the GISAID database. Uncertainties remain but will narrow as labs send more samples. Scientific American downloaded these virus data on March 31.

**U.S.:** Multiple viruses entered the country from different locations on different dates. But most of these sequences in Washington State are closely related, likely beginning with one individual and spreading person to person.

**Grand Princess cruise ship:** Nine gene sequences from crew members and guests (blue outlines) traced back to a single introduction to the U.S., which then moved to the ship.

**Iran:** Although Iran had not uploaded complete genomes, mutation patterns in sequences from other countries (black outlines), combined with patient travel histories, indicate some viruses spread from there to the U.S., U.K., and Australia.

**Italy:** At least two or three different incoming infections sparked the extensive outbreak in northern Italy, not a single source.