

World Pandemics

- How have diseases affected mankind?



Learning objective

I can identify the cause of the Black Plague and give supporting details as to why it was so deadly



Bubonic Plague

Background

- Deadly plague that swept across Asia & Europe killing millions of people in the mid 1300s
 - Global epidemic
 - What is an epidemic?
 - *Yersinia pestis* ➡ **Pestilence = disease**
- Thought to have originated in Asia (possibly Manchuria)
 - Travelled into Europe via the silk road trading route & merchant ships
 - “disease spreads faster by water than land”

What's the fastest
way it spreads today?

Mapping the spread of infection & stats

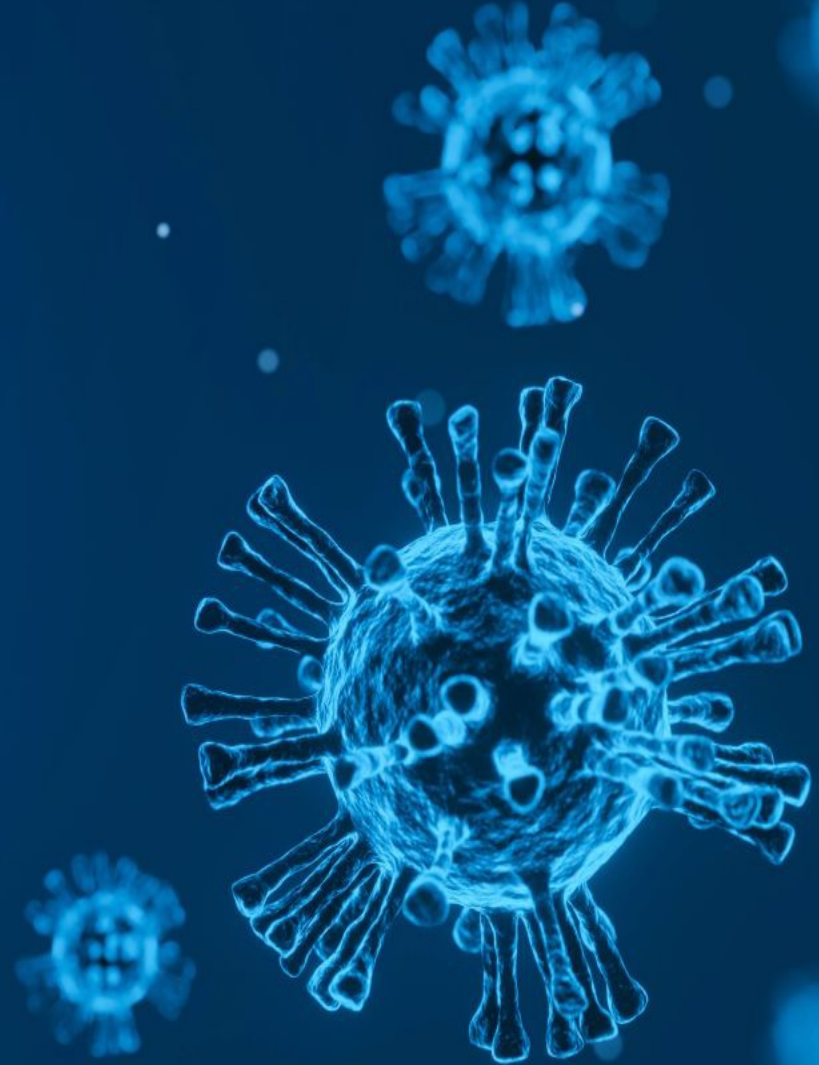
- **Est. 30–60% of Europe's total population dead**
- **Est. up to 100 million dead worldwide**

Staggering loss of life- think about 100,000,000 people!

Origin & Pathology

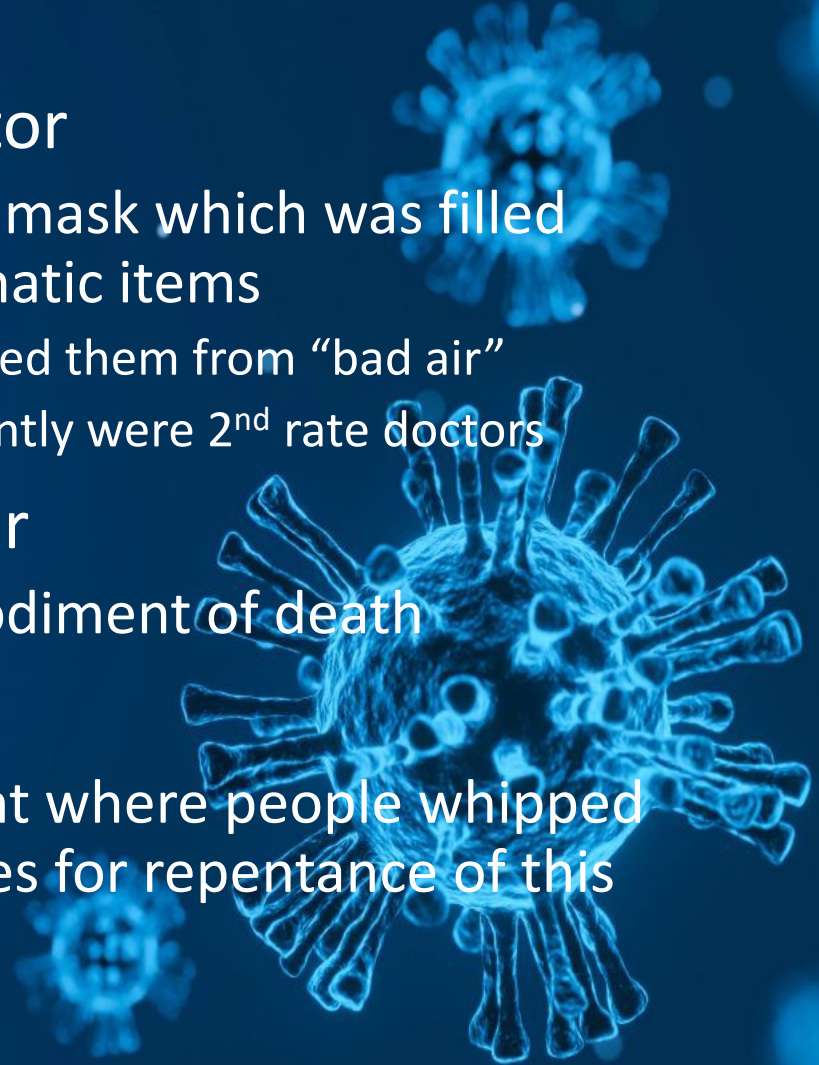
- Unsanitary living conditions
 - Rats & Fleas
 - Carriers of the infection
- Transmission:
 - Bite
 - Air
 - Contact with infected body fluids

Communicability
High / low?



Plague doctor & the Grim Reaper

- Plague doctor
 - beak-like mask which was filled with aromatic items
 - Protected them from “bad air”
 - Frequently were 2nd rate doctors
- Grim Reaper
 - The embodiment of death
- Flagellants
 - Movement where people whipped themselves for repentance of this plague



Further study:

- William Hardy McNeill (1998). *Plagues and Peoples*.

- Jared Diamond (1997). *Guns, Germs and Steel*.

JOURNAL

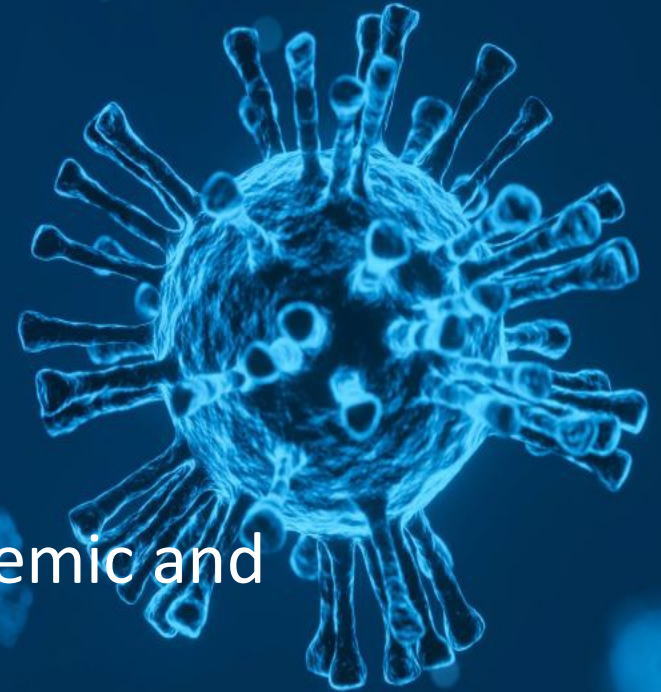
- You've seen how devastating this plague was to the world in the mid 1300s. Journal describing how awful it is. Are you sick or not... you decide.
 - What you see
 - What you smell
 - What you feel about the future
 - What your family is doing

Be creative

**6-8 sentences
minumum**

Learning Objective:

- I can identify the cause of the 1918 pandemic and provide details on its *severity.
 - Severity: the fact or condition of being dangerous



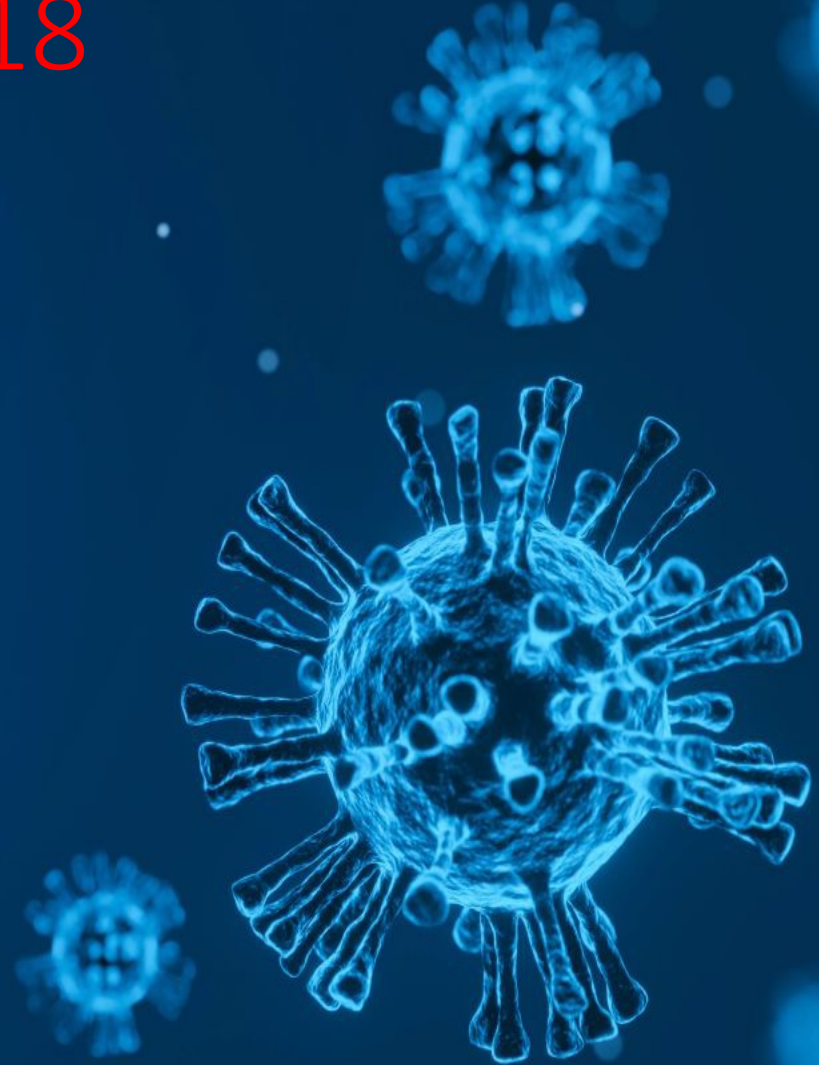
THINK ON IT!

- Describe the worst sickness you've had and explain how you contracted it (if you know).
 - Provide details



Spanish Flu pandemic of 1918

- Extremely deadly strand of influenza
 - “Spanish” because Spain was the first country to report it
 - Unclear where it started
 - Europe?
 - Asia?
 - United States?
 - Spread towards the end of WWI
 - By 1918 it was world wide



How did it spread?

- Coughing
- Sneezing
- Touch
- Body Fluids
like saliva
- Aerosolized
(in the air)

**Just as the war is ending, an influenza epidemic
breaks out killing 20-50 Million people worldwide
(1918-1920)**

**Became
known as
“The
Spanish Flu”**

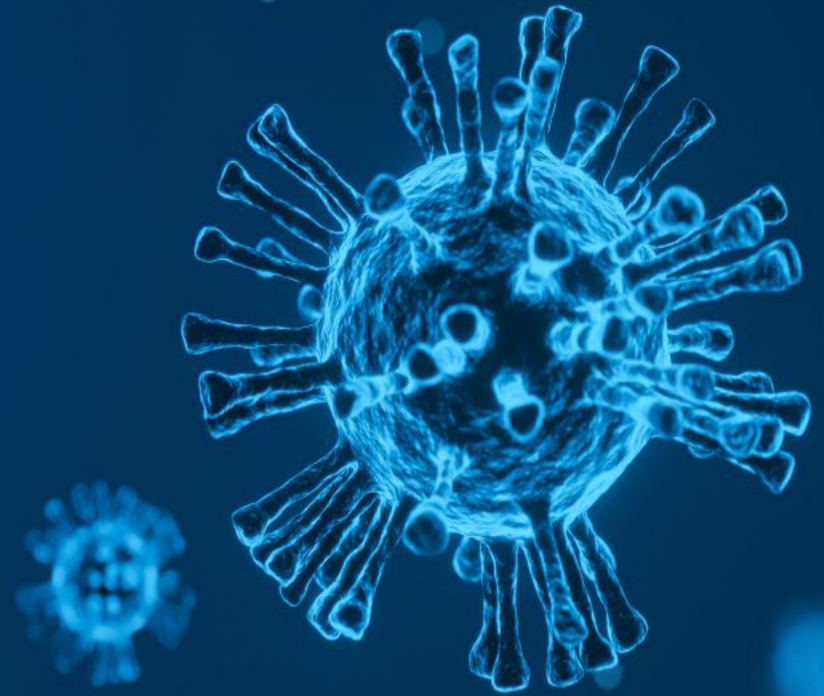
Who's had the flu before?



- **It might be hard to believe but more people died in the Influenza epidemic of 1918 than in World War I...**

- **... As many as 500,000 Americans die from this outbreak.**
- **Some estimates suggest this killed a similar number of people (worldwide) as the Black Plague**

How did it spread?



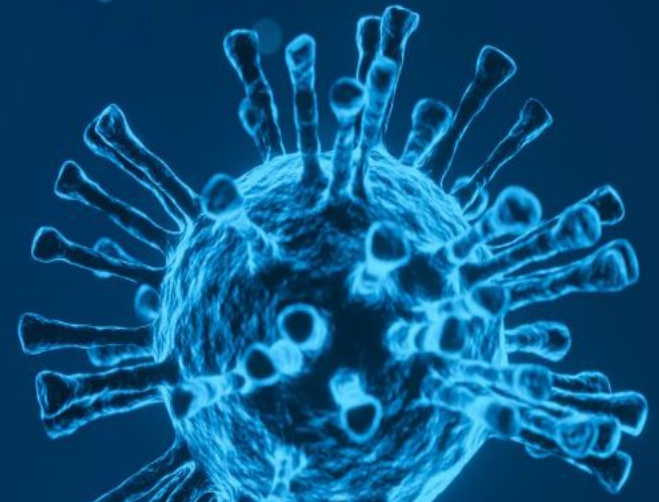
Exit Ticket:

- **Why was 1918 so deadly for so many people?**
- **How is disease typically spread?**
- **Come up with a prevention plan to save lives...**

(explain what policies you would put forth)

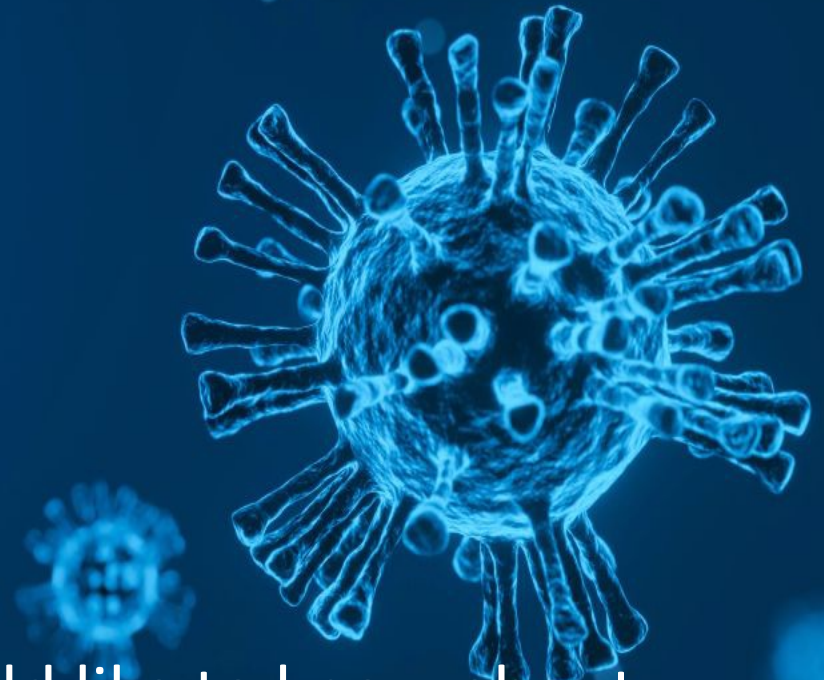
Learning Objective:

- I can describe symptoms of Cholera and explain how it *impacts the world.
 - Impact: to have a strong effect on someone or something



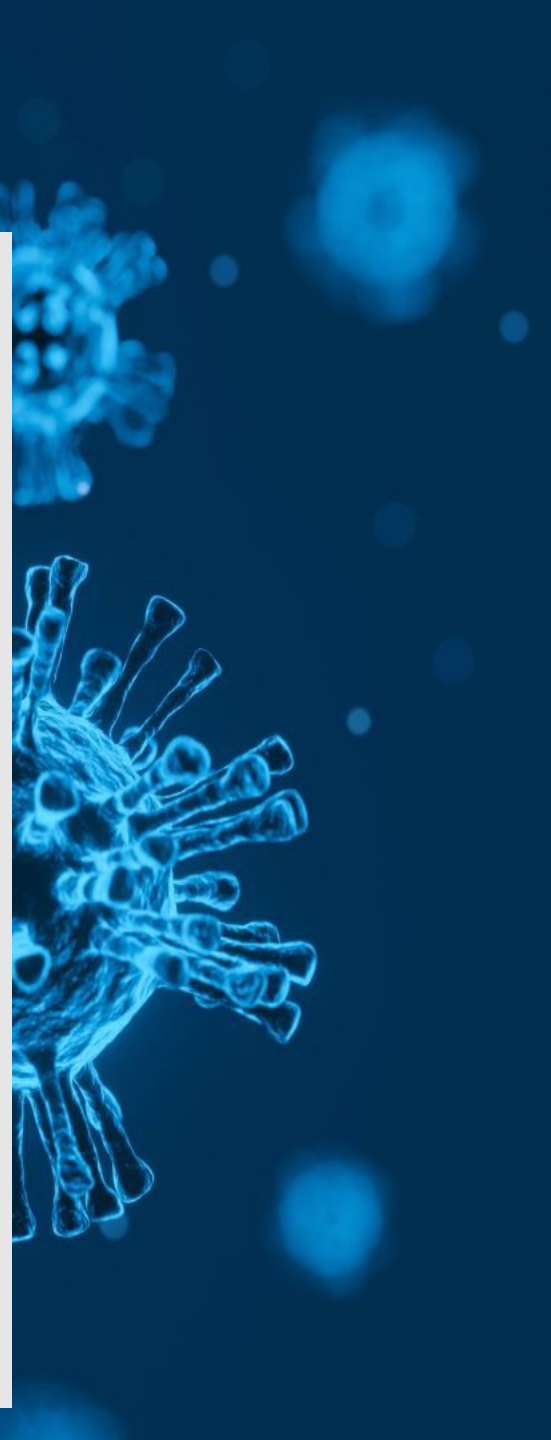
Kickstarter:

- Formulate 3 questions that you would like to know about this photos. ASK ANYTHING!



Historical Background:

- Cholera has been with mankind (presumably) since the birth of our species
 - Bacterium called *Vibrio cholerae*
- Each year, cholera infects 1.3 to 4 million people around the world [according to the World Health Organization]
 - Death toll: (avg.) 21,000 to 143,000 people [WHO]
 - Which places might be most prone to this bacteria?
 - Why?
- Industrial Britain was hit by outbreaks of cholera in between 1831-1867.
 - Cause— sewage was being allowed to come into contact with drinking water and contaminating it

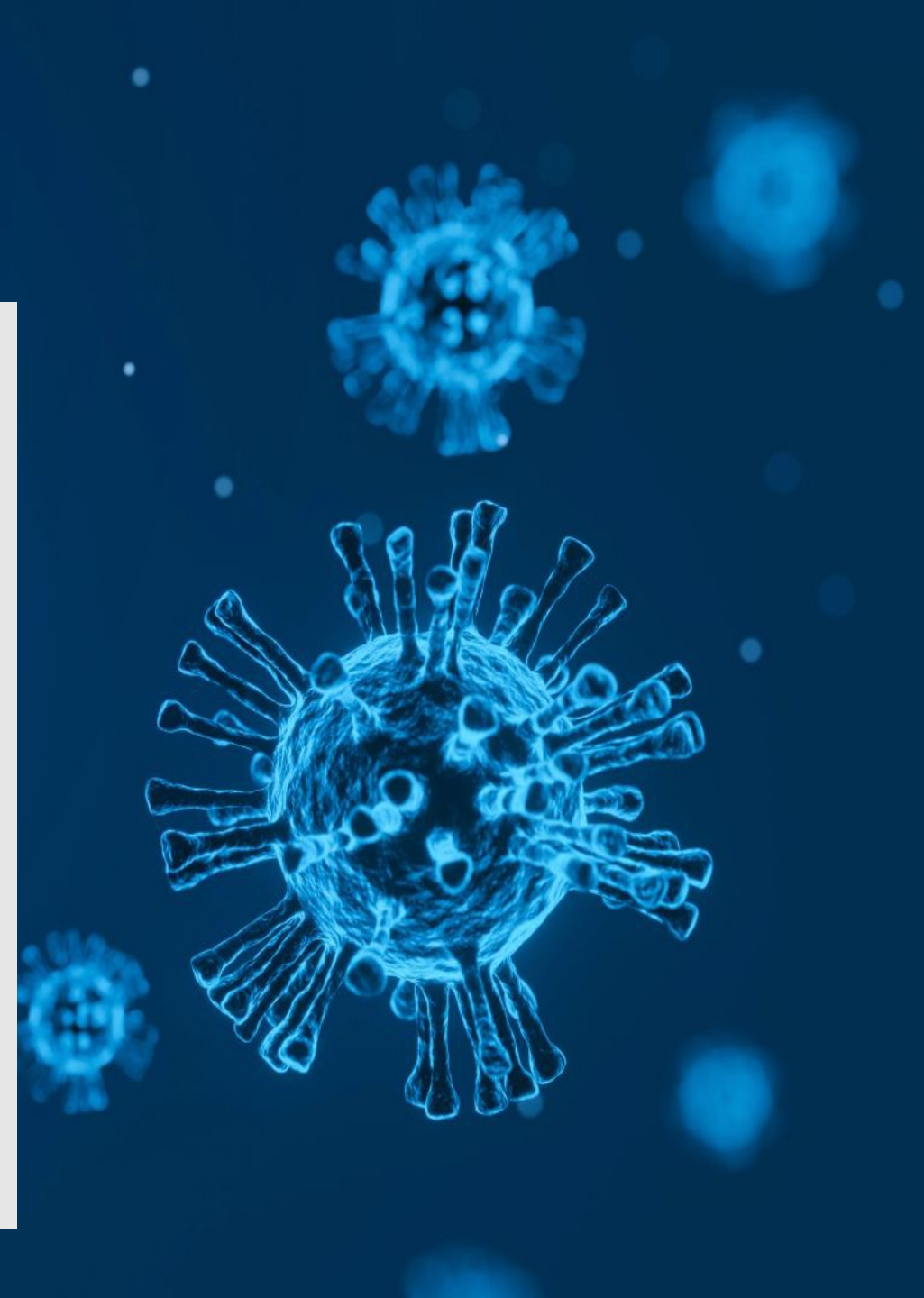


What does Cholera do to you?

- Severe diarrhea
- Vomiting
- rapid heart rate
- dry mucous membranes
- Can lower blood pressure
- thirst
- muscle cramps
- restlessness or irritability

Recent outbreaks:

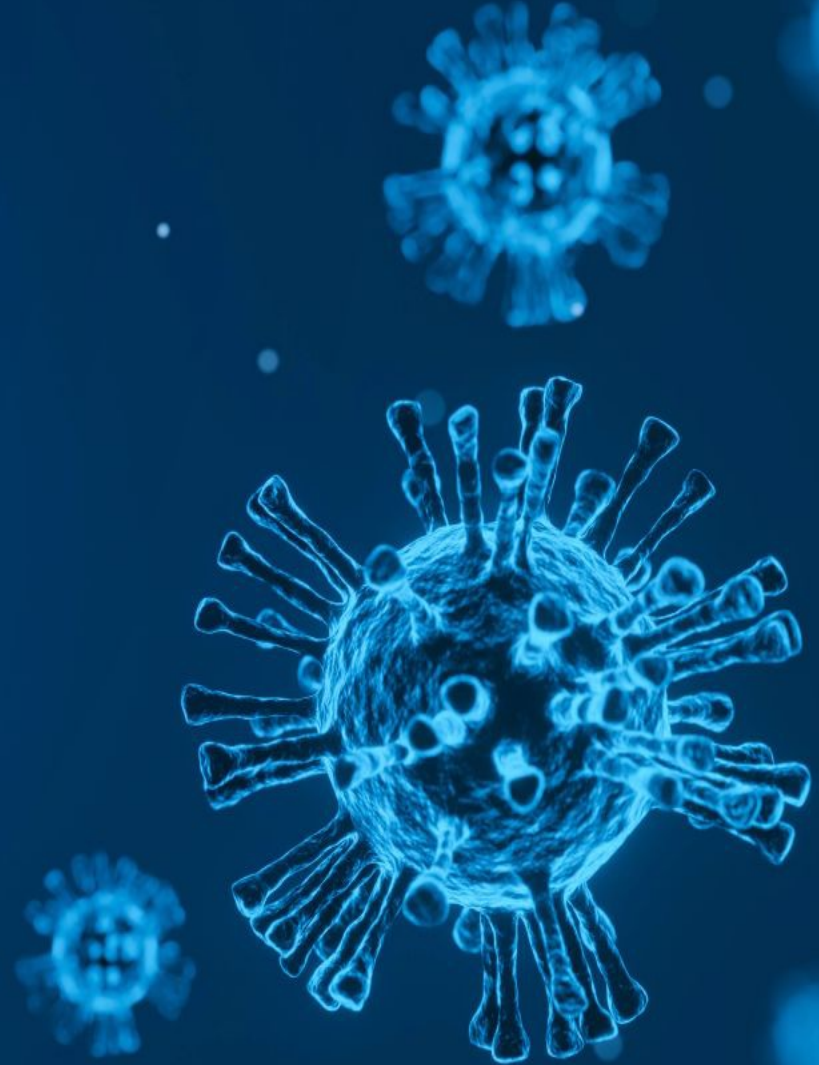
- On October 20, 2010, an outbreak of cholera was confirmed in Haiti for the first time in more than a century
 - Ten months after the catastrophic earthquake that killed over 200,000 people
- This cholera outbreak is the worst in recent history with over 665,000 cases and 8,183 deaths
 - CDC has worked closely with the Haitian Ministry of Public Health and Population to combat the cholera epidemic



Recent outbreaks:

- 2004 Indian Ocean earthquake & tsunami
 - India: over 200,000 dead
 - 30 foot high wave wall
 - Massive flooding

**Cholera set in
after the tsunami
stopped...
why?**

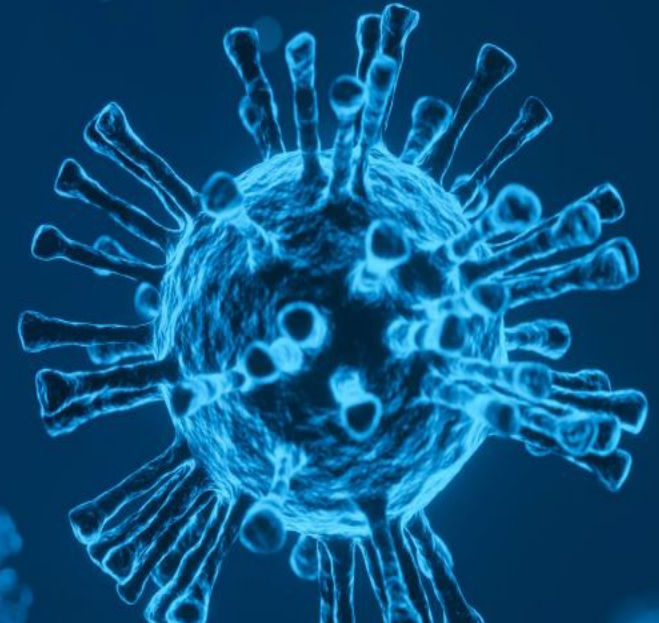


U.S. Case Study: Hurricane Katrina

- August 2005
- Category 5 hurricane
 - Cat. 3 when it hit landfall
- Location: New Orleans & surrounding areas
- Damage:
 - 1,800 deaths
 - \$125 billion in damage
- Guess what disease came into the flooded area...
 - Cholera

Knowledge Check

*Example: Cholera causes death
(Don't use this sentence)

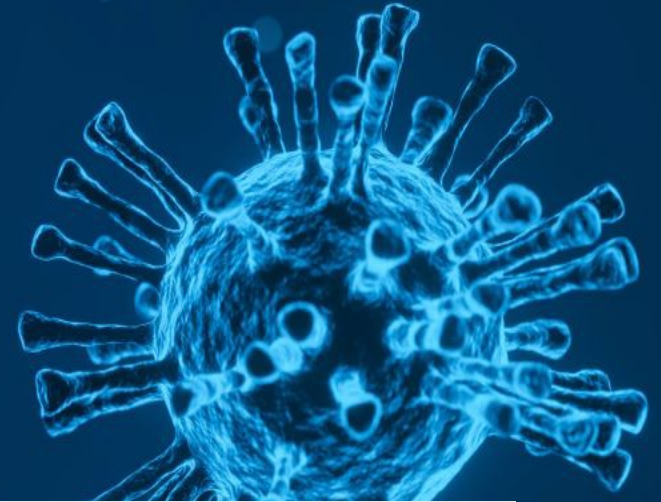


Look at this word cloud and formulate a sentence using two of the words above. Do this three times with different words to create three different sentences that are factually correct about Cholera.

Learning Objective:

- I can explain the deadly effects of the Coronavirus and formulate a COVID19 safety plan.

CHECK IN!



Discussion starter- what is your personal experience with COVID19? Yourself, your family, your friends.. Etc.

Background & origin

- **COVID19 is a novel virus**
 - Novel- New to the scene
- **COVID-19- caused by a coronavirus called SARS-CoV-2**
 - Coronaviruses are a large family of viruses that are common in people and many different species of animals, including camels, cattle, cats, and bats
- **Contraction:**
 - Sneezing/coughing in close contact with others
 - Touching with infected person
 - Aerosolized

Background & origin

- **Where did it come from?**
 - Wuhan China
- **How did it jump to humans?**
 - A person came in contact with a bat who had it in one of china's infamous "wet markets?"
 - Wuhan Bioweapons facility?
 - Leaked by accident?
 - Leaked on purpose?
- **Do we really know? Which scenario is most plausible and credible?**

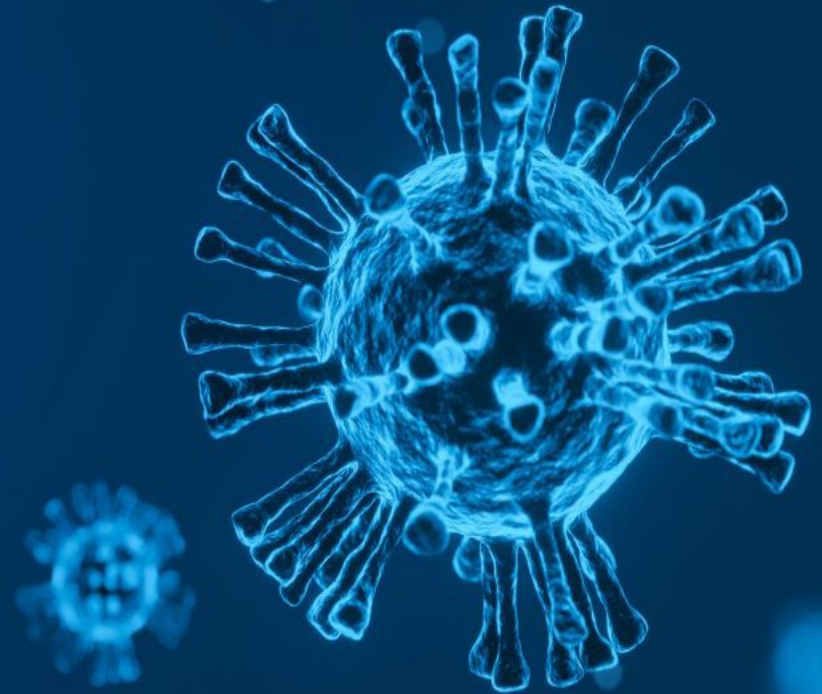
- <https://www.youtube.com/watch?v=hG4VQX5ZZyA>

Signs & Symptoms:

- **Symptoms may appear 2-14 days after exposure to the virus. People with these symptoms may have COVID-19:**
 - Fever or chills
 - Cough
 - Shortness of breath or difficulty breathing
 - Fatigue
 - Muscle or body aches
 - Headache
 - New loss of taste or smell
 - Sore throat
 - Congestion or runny nose
 - Nausea or vomiting
 - Diarrhea
- **Look for emergency warning signs for COVID-19. If someone is showing any of these signs, seek emergency medical care immediately:**
 - Trouble breathing
 - Persistent pain or pressure in the chest
 - New confusion
 - Inability to wake or stay awake
 - Bluish lips or face



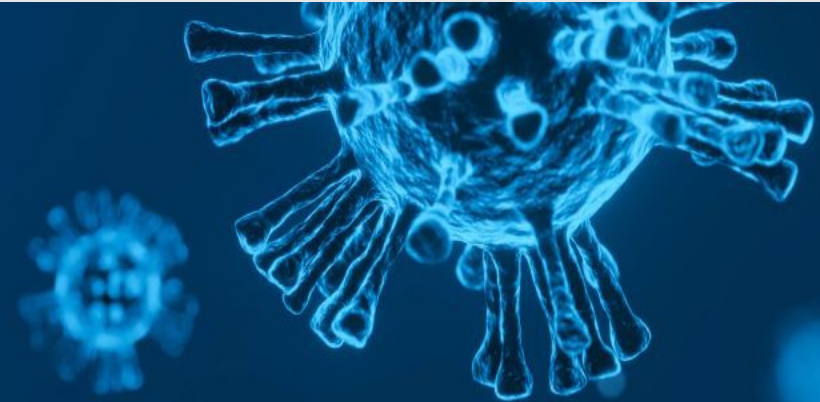
**Places like Italy and
New York City were
hit very hard in
terms of loss of life
and contraction
rates**



NY Governor Andrew Cuomo gave daily addresses on the COVID19 outbreak in New York.

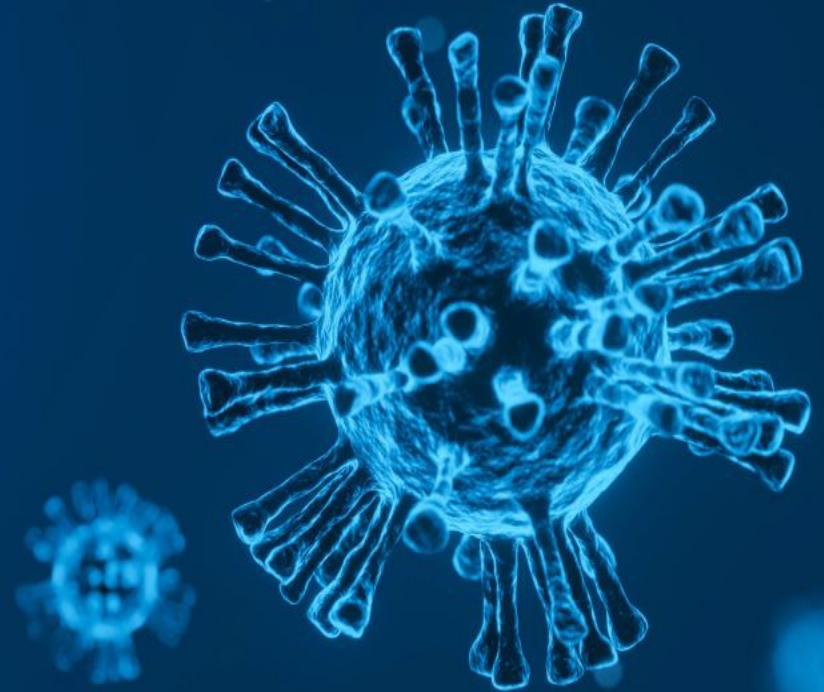
He is praised by some for his handling of the virus citing it could've been far worse.

Others criticize him for placing COVID19 patients back into nursing homes which was problematic for many older and vulnerable people living there



President Trump's response is praised by some for his actions like deploying hospital ship USNS Comfort to aid NYC and encouraged GM to stop producing cars and switch to ventilators.

While others criticism him for "downplaying" the virus and not being a unifying leader



Assessment:

Build a plan to prevent the spread and save lives for the following two scenarios:

1. You live in a city that is a hotspot for COVID19. How do you save lives & prevent the spread?
2. You live in a very low contraction area yet you still need to build a safety plan for those in your area. How do you keep people from getting it & spreading it?