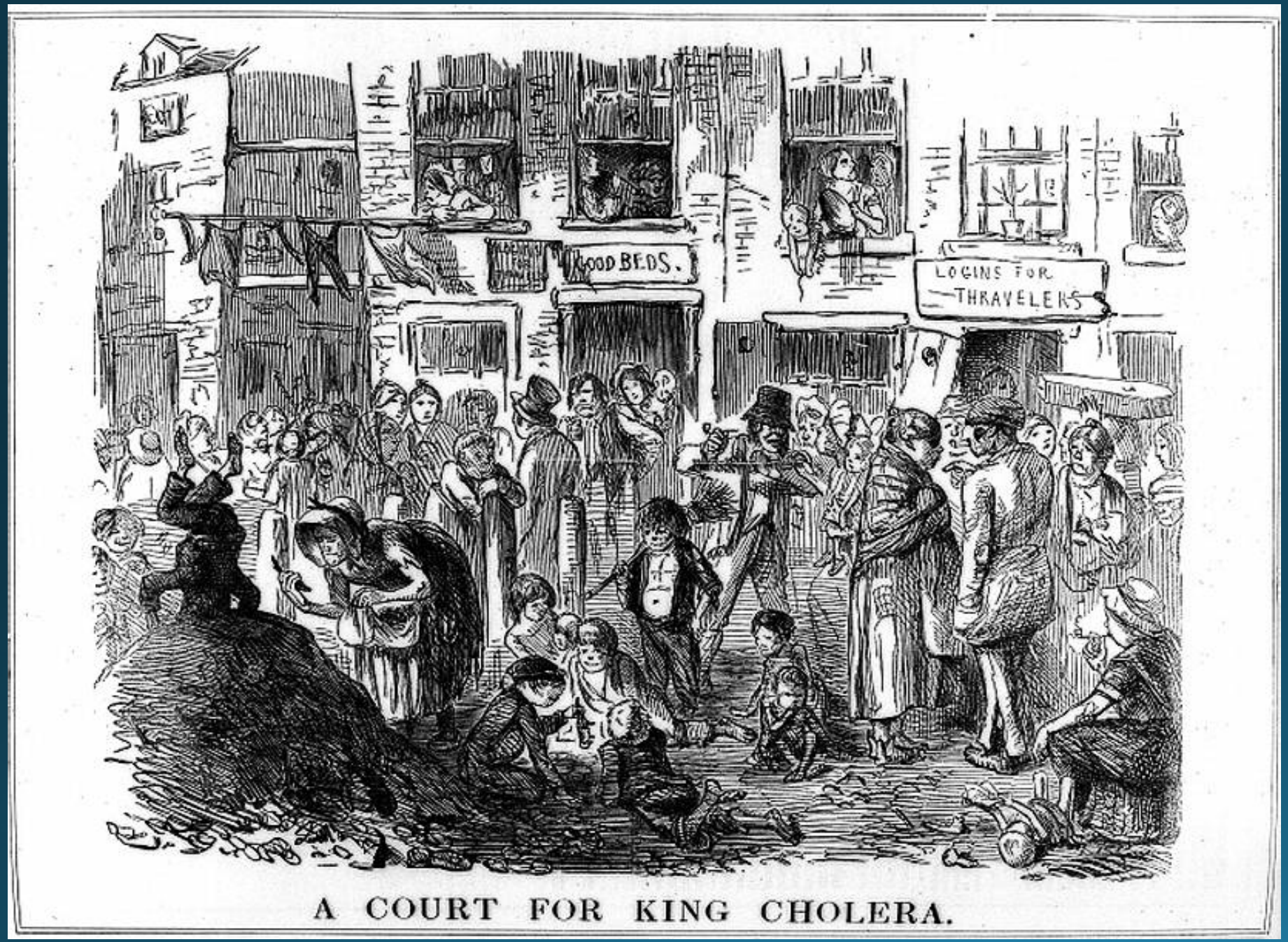
www.stchistory.com

GCSE 9-1

Case Study:

Cholera & John Snow



A COURT FOR KING CHOLERA.

Source A: Drawn in 1852 for Punch magazine.

List all of the threats to health you can see in this cartoon.

Cholera was a terrible disease. It caused diarrhoea and sickness that became so bad the victim would become dehydrated and probably die within 2-6 days. The blood would thicken and rupture under the skin, this turned their skin blue. It was therefore nicknamed the 'Blue Death'.

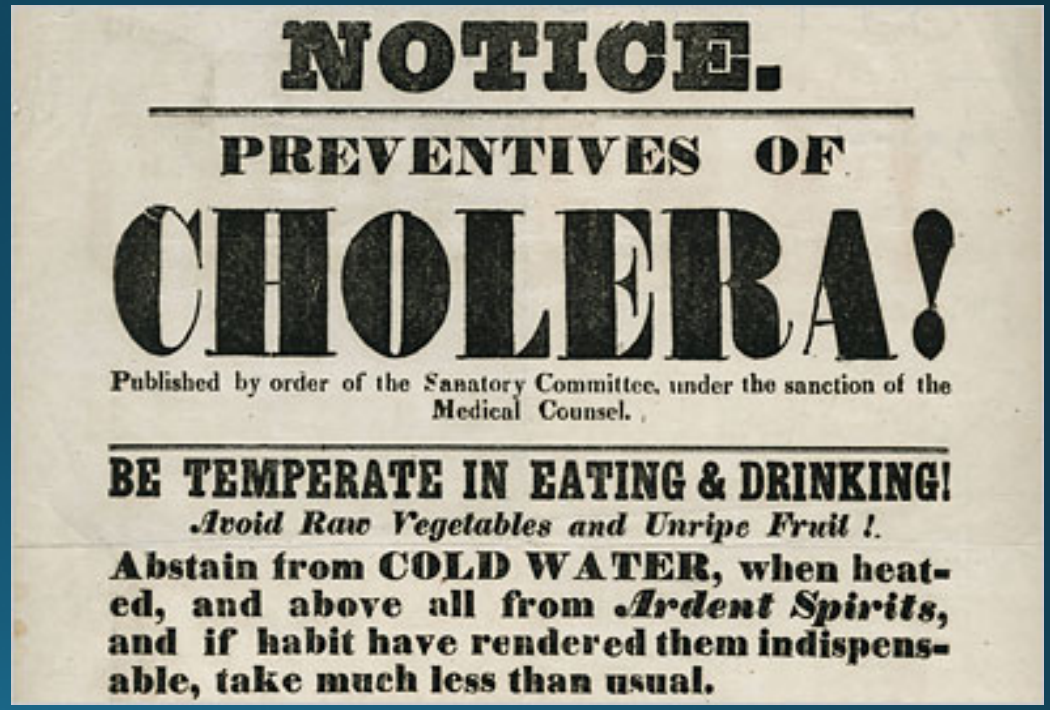
It was spread through person-to-person contact or water contaminated with poo!

When did it get to Britain?

- Cholera arrived in 1831 in the first outbreak and spread quickly around Britain. It reached London in 1832 causing 5275 deaths.

- Cholera mainly affected the poorest people with many cases in the slums, workhouses, prisons and asylums. Some wealthier districts were not immune ***SIMILAR*** to the Great Plague.

- Doctors found it impossible to treat and there were 3 more severe epidemics in the following decades across the country



NOTICE.

PREVENTIVES OF

CHOLERA!

Published by order of the Sanatory Committee, under the sanction of the Medical Counsel.

BE TEMPERATE IN EATING & DRINKING!

Avoid Raw Vegetables and Unripe Fruit !.

Abstain from COLD WATER, when heated, and above all from *Ardent Spirits*, and if habit have rendered them indispensable, take much less than usual.

Year of epidemic	Total cholera-related deaths in England and Wales
1831–32	21,882
1848–49	53,293
1853–54	20,097
1865–66	14,378

There were attempts to prevent the spread of Cholera. They tried to clean up the filthiest areas of the cities to stop it spreading.

The belief of Miasma was still widespread so attention was turned to the mess people were living in.

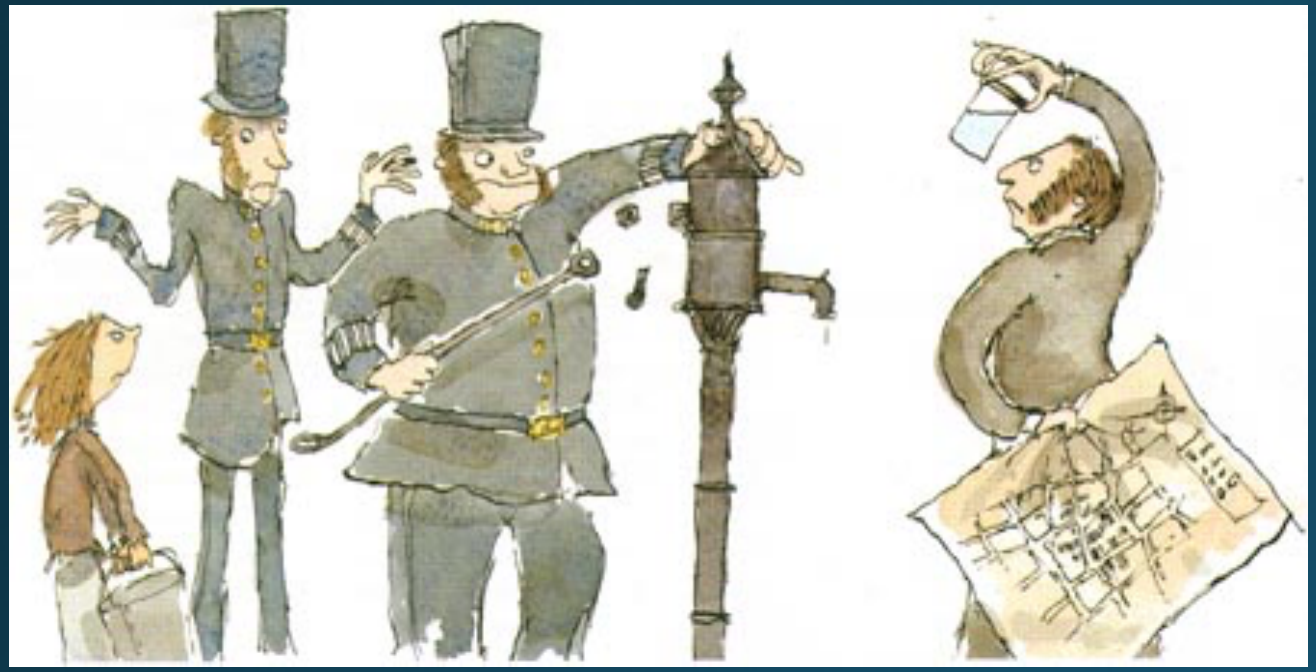
The government had a very ***LAISSEZ FAIRE*** attitude (staying out of people's business)

Sir, May we be and beseech your protection and power. We are Sir, as it may be, living in a wilderness, so far as the rest of London knows anything of us, or as the rich and great people care about. We live in muck and filth. We ain't got no privies [toilets], no dust bins, no drains, no water-supplies, and no drain or sewer in the whole place. The Sewer Company, in Greek Street, Soho Square, all great, rich powerful men take no notice whatsoever of our complaints. The stench of a gully-hole is disgusting. We all of us suffer, and numbers are ill, and if the cholera comes Lord help us all.

What can you learn about living conditions from this source?

Printed in the Times in 1849, during the 2nd outbreak, from a group of Soho residents

John Snow – Our Hero?



"Cholera is clearly transmitted by dirty drinking water!"

John Snow was a surgeon who had moved to Soho in 1836. He became London's no.1 anaesthetist, helping Queen Victoria with her child birth. He was popular and well respected.

Snow took it upon himself to look in to this 2nd Cholera outbreak (1848-49).

He suggested that:

- Cholera could not be transmitted by miasma because it affected the gut not the lungs.
- Drinking water was being contaminated by the cholera-ridden faeces being disposed of in the city's drains.

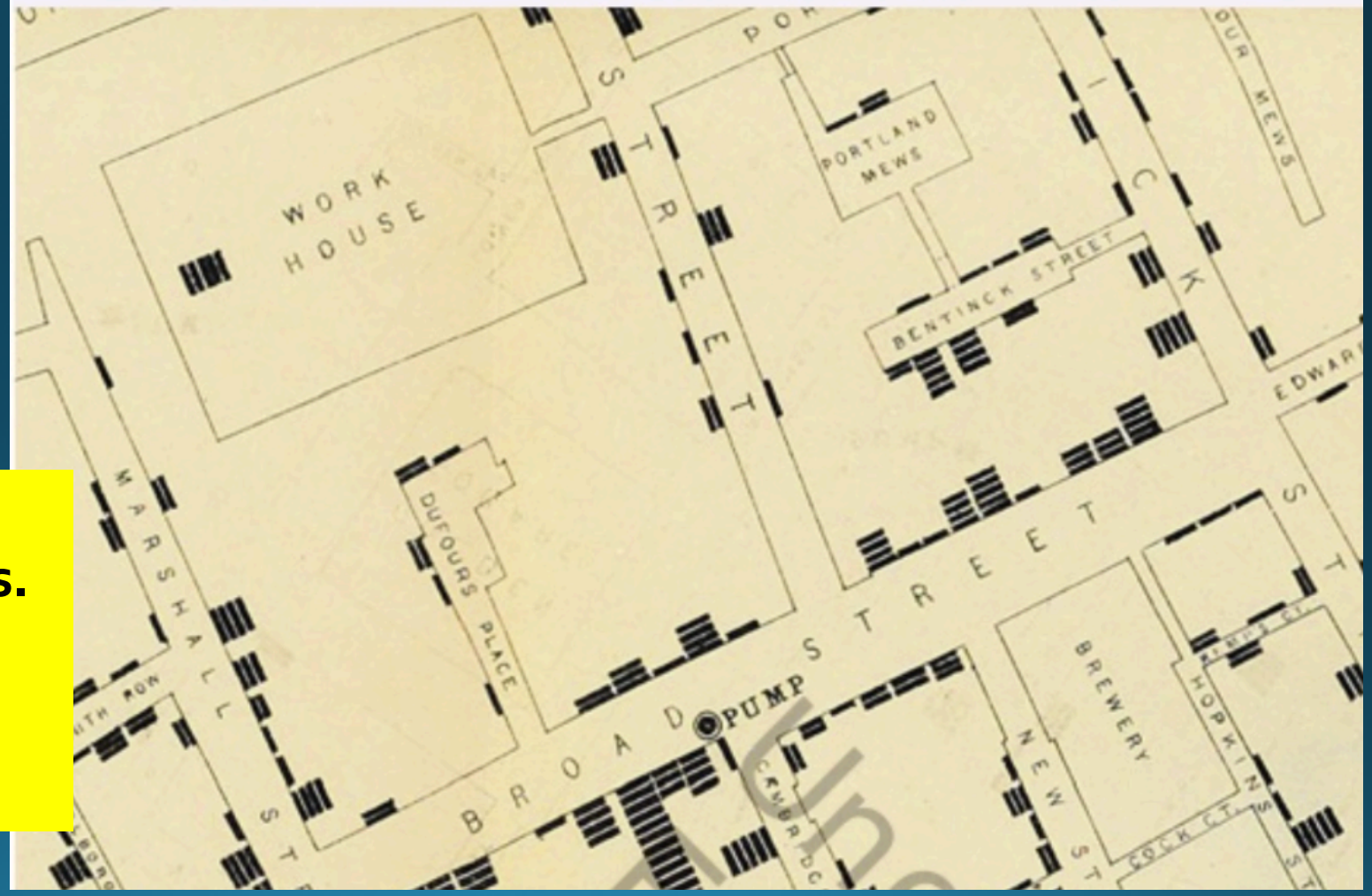
1854 Epidemic – The 3rd Outbreak

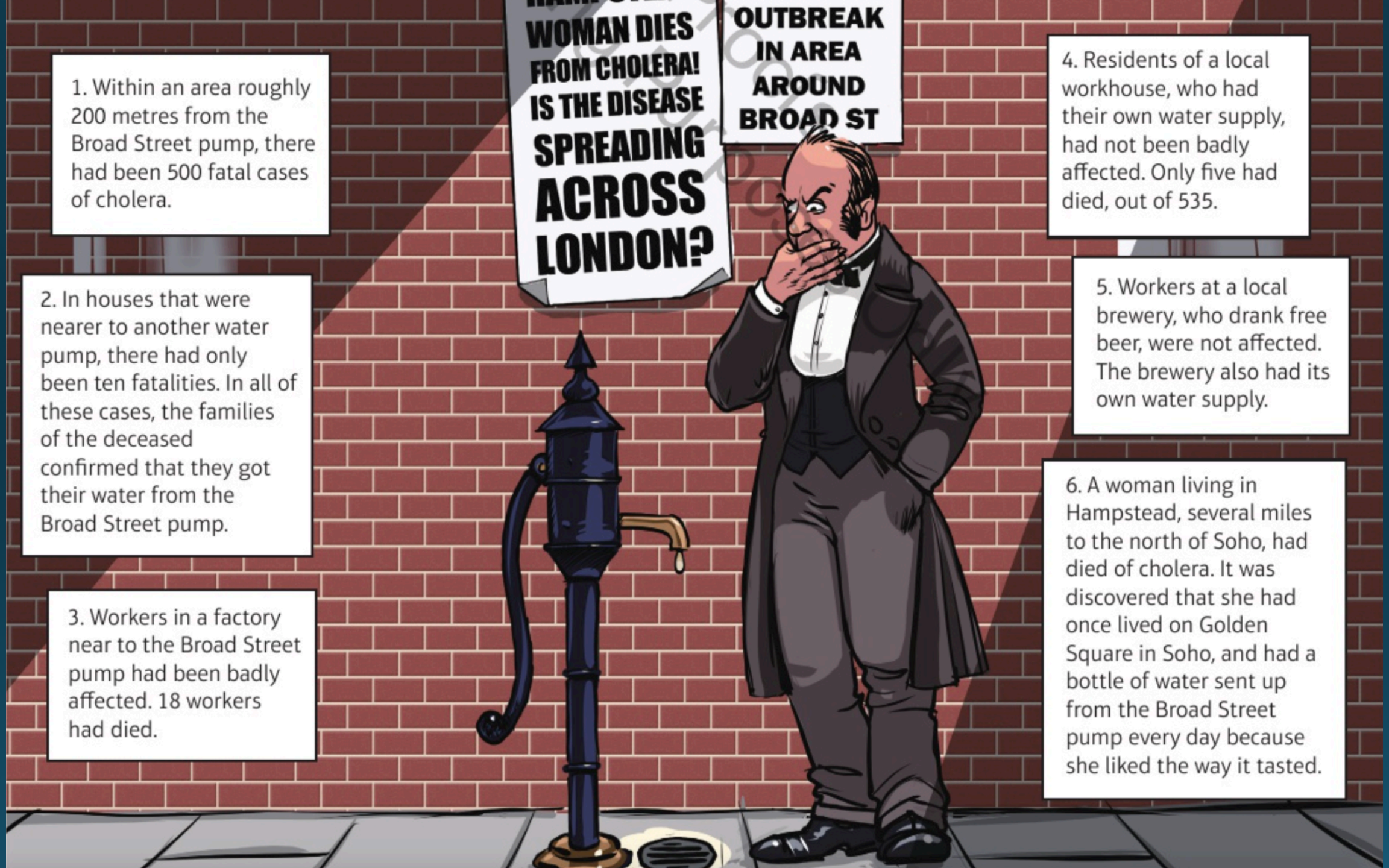
- In August 1854, cholera broke out in Soho, where Snow lived. This prompted Snow to investigate the 93 deaths in his area. Snow created a spot map to show where the deaths occurred around Broad Street.

Use this map to come up with some observations and theories.

Do you find anything peculiar? Any patterns?

A section of John Snow's cholera spot map, 1854.




WOMAN DIES FROM CHOLERA! IS THE DISEASE SPREADING ACROSS LONDON?
OUTBREAK IN AREA AROUND BROAD ST
1. Within an area roughly 200 metres from the Broad Street pump, there had been 500 fatal cases of cholera.
2. In houses that were nearer to another water pump, there had only been ten fatalities. In all of these cases, the families of the deceased confirmed that they got their water from the Broad Street pump.
3. Workers in a factory near to the Broad Street pump had been badly affected. 18 workers had died.
4. Residents of a local workhouse, who had their own water supply, had not been badly affected. Only five had died, out of 535.
5. Workers at a local brewery, who drank free beer, were not affected. The brewery also had its own water supply.
6. A woman living in Hampstead, several miles to the north of Soho, had died of cholera. It was discovered that she had once lived on Golden Square in Soho, and had a bottle of water sent up from the Broad Street pump every day because she liked the way it tasted.

After looking at the map, John Snow realised that there was a pattern?

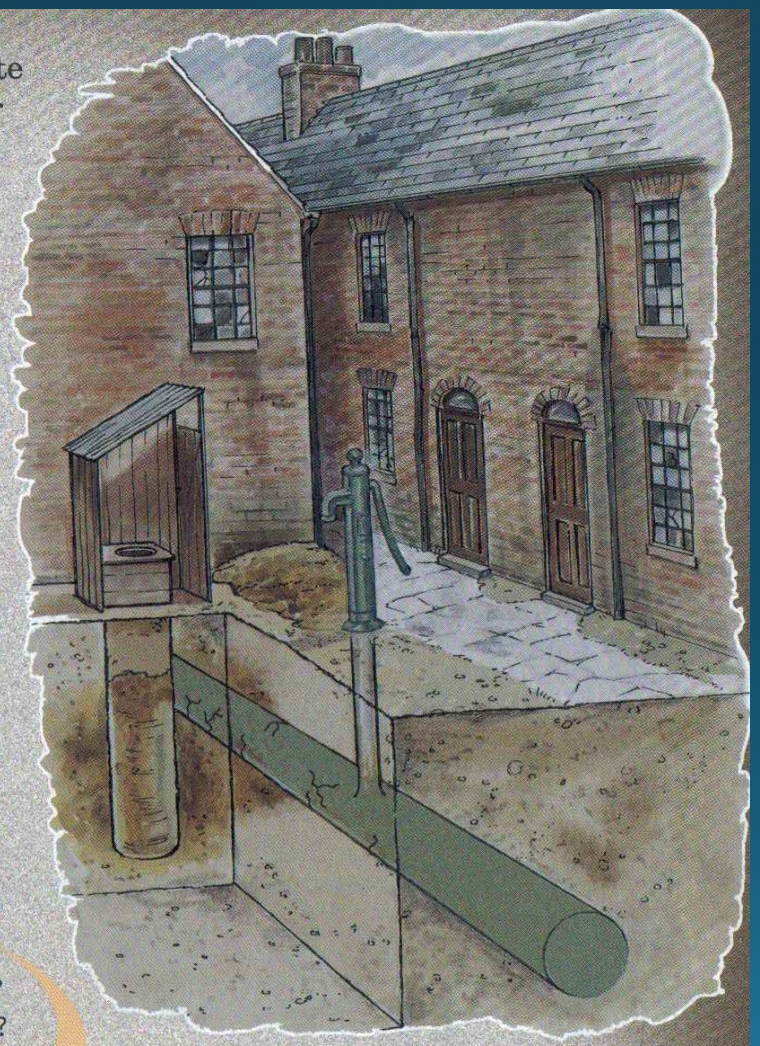
There was a large number of deaths around the pump on Broad Street. To Snow, it was clear that the water pump was the source of the infection. He immediately removed the handle from the pump and…

No more deaths from Cholera!!

The terrible smells came not only from waste water, but also from the **privies** which poor families shared. This is how one observer described the Leeds privies in 1845:

> The privies are few in proportion to the number of inhabitants. They are open to view in front and rear and are inevitably in a filthy condition. They often remain without any removal of the filth for six months.

The privies were not connected to sewers. Instead, the sewage collected in cesspits under the ground. From time to time night-soilmen cleaned out the cesspits. They piled the sewage in dunghills and sold it to local farmers. But some landlords did not like to pay night-soilmen and cesspits were left to overflow. This picture shows what could happen.



A cross-section of a Leeds yard

Think

- What has happened to the cesspit in this picture?
- Why was this cesspit a danger to people's health?
- Why do you think the cesspit was allowed to overflow?

Later inspections of the well underneath the pump revealed it was very close to a cesspit – less than one metre away! The brick lining had cracked meaning waste and faeces was seeping into the well.

Snow's legacy!

Snow's impact:

- In 1855, Snow presented his findings to a House of Commons committee, he showed his evidence and asked the government to make massive improvements in the sewer systems.
- The government, eventually, did invest in a new sewer system completed in 1875 by Joseph Bazalgette. This was, however, probably more to do with the 'Great Stink' of 1858 – This was the push the government needed to finally end their Laissez Faire attitude.
- The General Board of Health rejected Snow and clung to Miasma. Although he had practical evidence, he had no scientific evidence. We'll get that in 1861 with Louis Pasteur.
- In the end, Snow's impact was only locally in Soho around the pump, but he would be proven right, after his death.

Factors:

Preventing cholera: the role of individuals and institutions

Role of the government	Role of the individual: John Snow
Encouraged local councils to clean up their cities and provide clean water.	Observed the pattern of cholera cases.
Listened to John Snow's evidence about cholera.	Designed an experiment to prove that cholera was caused by dirty water.
Arranged for a new sewer system to be built in London.	Prevented residents from drinking the water.
Eventually passed the 1875 Public Health Act to force other cities to clean up.	Presented his findings to the government.

Government Action – At last!

Following Cholera and the Great Stink, the government took a much more active role in Public Health. Laissez Faire was dead! (Partly due to the fact more men were voting and so needed to be appealed to, but mainly because they had no choice).

Edwin Chadwick:

In 1842 Chadwick researched and published a report on the "sanitary conditions of the labouring classes" (poor). He showed the people living in poor filthy conditions were more likely to get ill and die than those living in the country side. He campaigned for boards of health to be set up who would be responsible for clean water and disposing of sewage. Nothing was really done with this work until much later following the Cholera epidemics and Great Stink.

- Sewers were built in 1865 (complete in 1875) by Joseph Bazzalgette
- Slums were destroyed in Birmingham
- In Leeds, the courts prevented sewage from being drained into the rivers.

The government then introduced a 2nd Public Health Act in 1875.

They also checked the quality of food in the shops for example, in a bakers, as some bakers mixed chalk into the flour to make it whiter.

The government had taken solid steps to prevent the spread of disease – and it worked. The last Cholera outbreak was in 1866-67 and had a lower mortality rate.

Extend your knowledge

The first Public Health Act, 1848

The aim of the first Public Health Act was to improve the sanitary condition of towns in England and Wales by encouraging cities to set up boards of health and provide clean water supplies. However, it was not compulsory, so did not have much impact on the health of the people. It was not until 1875 that rules were put in place to improve sanitary conditions that were compulsory – they had to be followed.

1875 Public Health Act

- Provide clean water to stop diseases spread in dirty water
- Dispose of Sewage to avoid drinking or washing in dirty water
- Build public toilets to avoid pollution
- Employ a public officer for health to monitor outbreaks
- New houses must all have their own toilet and be better quality to stop damp and overcrowding
- Provide public parks for exercise
- Street lighting to prevent accidents

Summary

- Cholera first appeared in Britain in 1831.
- There were four major epidemics in the 19th century and they particularly affected poor people living in cities.
- John Snow thought that cholera was spread by water, not by a miasma.
- During the 1854 epidemic, he mapped the cholera fatalities around Golden Square in Soho. The evidence suggested that the outbreak was connected to the Broad Street pump.
- Snow presented his findings to the government. However, they did not take action straight away.
- By 1858 the government were ready to take action to provide clean water for the population. The final outbreak of cholera was much less severe as a result of this action.

Checkpoint:

Strengthen

S1: When were the four cholera epidemics in Britain?
S2: Describe the actions that John Snow took to prove that Cholera was a waterborne disease
S3: What event finally forced the British Government to take action on Cholera?

Challenge

C1: Explain why Snow's theory was not widely accepted when he published it.
C2: Attitudes in society were changing during this period and people were recognising the link between dirt and disease. How do you know?