



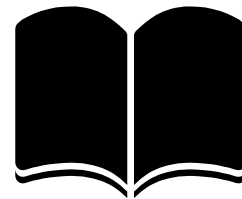
# SCHOOL HISTORY

## Part Two: The Beginnings of Change

Paper 2: Shaping the Nation  
Section A: Thematic Studies

[AA Britain: Health and the people: c1000 to the present  
day](#)





# Instructions for use

## EDIT IN GOOGLE SLIDES

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# Learning Objectives

At the end of the lesson, students should have good understanding of:

- ❑ The impact of the Renaissance on British medicine: challenge to medical authority in anatomy, physiology and surgery
- ❑ Dealing with disease: traditional and new methods of treatments; quackery; methods of treating disease; the plague; the growth of hospitals; changes to the training and status of surgeons and physicians; the work of John Hunter.
- ❑ Prevention of disease: Inoculation; Edward Jenner; vaccination and opposition to change



## Important Keywords

Renaissance

Plague of London

Dissection

Jenner

Andreas Vesalius

The Great

Edward

Inoculation





*All we know is still infinitely less than all that remains unknown.*

*I profess both to learn and to teach anatomy, not from books but from dissections; not from positions of philosophers but from the fabric of nature.*

*There is a lust in man no charm can tame: Of loudly publishing his neighbor's shame: On eagles wings immortal scandals fly, while virtuous actions are born and die.*

*I avow myself the partisan of truth alone.*

- William Harvey







## The Renaissance: how it changed medicine

The Renaissance was a period in European history between the 14th and 17th centuries and marked the transition from the middle ages to modernity. It arrived in England in the 16th century after the War of the Roses ended and reached its height in the Elizabethan age. It influenced medicine in the following

**REDISCOVERY** The Renaissance saw the rediscovery of classical Greek philosophy, which brought about new thinking in the arts, architecture, politics, science and medicine. After the Black Death, new ideas and more knowledge was needed in medicine.

**LITERACY** The invention of the movable type printing press in the late 15th century meant that ideas and knowledge could be spread to a wider audience and much more quickly. As more people learned to read, educational reform began, too.

**CHALLENGING** New ideas challenged the Church's grip on power and knowledge. Scholars questioned doctrines and began seeking more scientific and evidence-based answers to questions that ordinarily the Church answered in accordance with the

**COLLABORATION** Artists and physicians mutually benefited from collaborations. Artists wanted to create more natural and anatomically correct bodies, so they observed dissections, while physicians needed artists to accurately draw their findings from dissections.



# The Renaissance: how it changed medicine

## SIX KEY CHANGES

7

**1** Henry VIII, Elizabeth I and other governments were strong and rich. With a booming economy, prosperity rose and ordinary tradesmen could afford to use a doctor.

**2** The discovery of the New World saw Columbus and other explorers bring back different knowledge and new kinds of food and medicine.

**3** Artists wanted to study the body to create more natural works. By studying the body and drawing it in detail, knowledge of anatomy improved. See caption.



**4** Learning was revived with universities creating schools of medicine. Scientific methods of experimenting, collecting data and recording observations emerged. This led to questioning ancient Greek and Roman teachings.

**5** Many new inventions were used for battle. The arrival of gunpowder, for example, saw soldiers getting new injuries that doctors needed to learn how to treat.

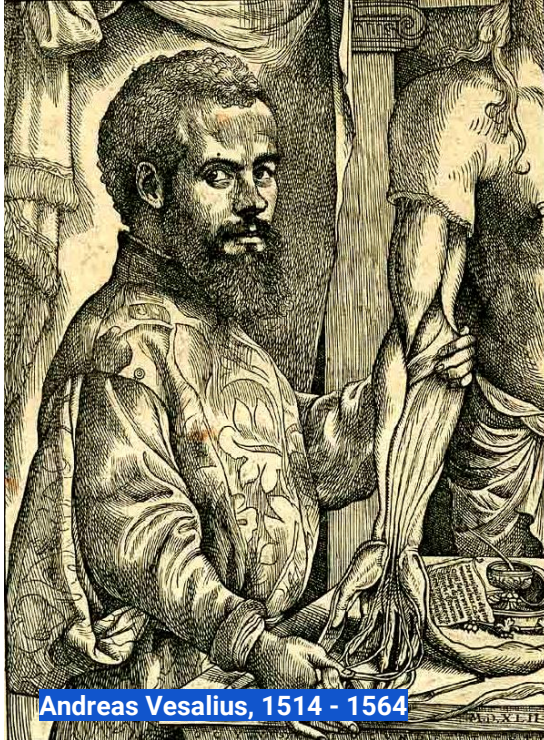
**6** Gutenberg's printing press allowed new ideas to spread more quickly.







## Challenging medical authority: Andreas Vesalius



Andreas Vesalius, 1514 - 1564

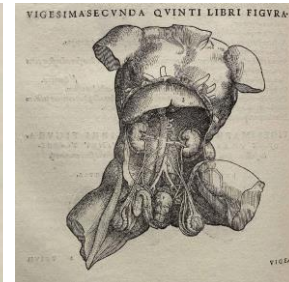
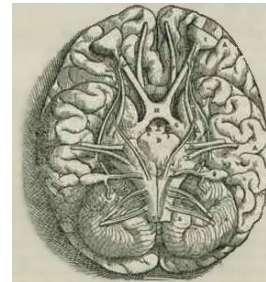
### Influence of Vesalius

Born in Brussels, he grew up in a medical family. Vesalius is noted for furthering the understanding of the human body. He provided the first true and accurate description of the human body which disproved Galen. Because dissection was not permitted during this time, he'd ransack graves to get bodies. Vesalius transformed the study of anatomy by encouraging students to dissect bodies rather than just observe

Through detailed study, he disproved many Galenic theories about anatomy.

His findings were compiled in a book, *The Fabric of the Human Body*, published in 1543.

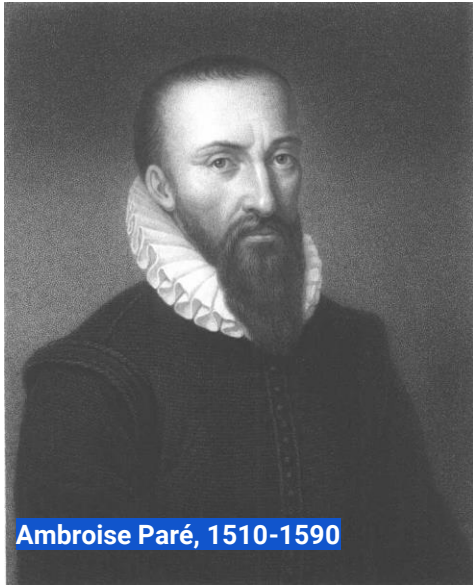
English physicians and medical scholars applied his new ideas to their work. They amended old books based on Vesalius' books and the first human dissection took place at Cambridge in 1563.







## Challenging medical authority: Ambroise Paré



Ambroise Paré, 1510-1590

A French barber-surgeon turned battlefield surgeon, he's considered one of the fathers of surgery and modern forensic pathology.

He wrote *Notes on Surgery* in 1564 and later served kings Henry II, Francis II, Charles IX and Henry III.

Paré pioneered surgical techniques and battlefield medicine including the ligation of arteries rather than cauterisation during amputation.

With guns being used in battle, Paré was dealing with new injuries. Wounds were traditionally cauterised with boiling oil, but when he ran out of oil, he used a Roman balm recipe of oil of roses, turpentine and egg yolk and saw better recovery.

He wrote and published an autobiography, *Journeys in Diverse Places*, in which he compares the recovery of soldiers treated with an antiseptic balm versus cauterisation.

Disproved the efficacy of bezoar stones to cure the effects of poison. A cook sentenced to death was given the choice to use bezoar stones after poison, but he died anyway, disproving Galen.

In forensics, Paré studied the effects of violent death on internal organs. He wrote *Reports in Court*, on how to write legal medical reports, which is considered the start of modern forensic pathology.

Paré made significant contributions to surgical amputations and the design of limb prosthetics. He also invented eye prosthetics from enamelled gold, silver, porcelain and glass.



## Challenging medical authority: William Harvey



He studied medicine in Padua, Italy, from 1598 - 1602, a time when Galen theories were being challenged. He worked as a doctor in London then as a lecturer in anatomy. In 1618, he served as physician to James I

As Harvey was unable to study the human body as a living system, he dissected animals and drew conclusions about human physiology

He completely described systemic circulation and blood being pumped to the brain and body by the heart. He differentiated veins and arteries.

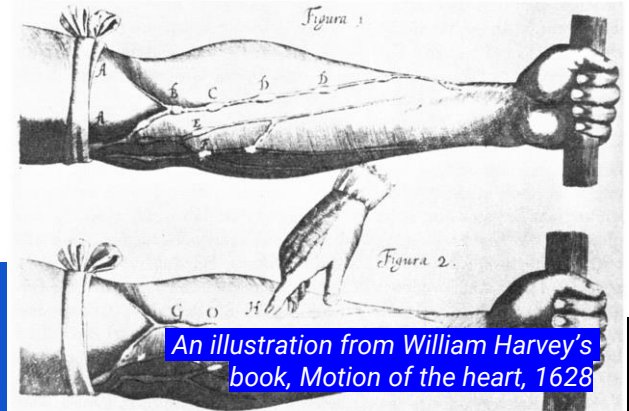
His studies proved that the heart pumped blood and the Galen theory of blood being used up was wrong, making bloodletting pointless and weakening.

Harvey's book *An Anatomical Account of the Motion of the Heart and Blood* was published in 1628 and his theories replaced

Galen's.

A man of science, Harvey was a prominent sceptic of allegations of witchcraft. He was responsible for writing reports that acquitted four Lancashire women of witchcraft in

Experienced severe resistance to his anatomical and physiological findings.





## Challenging medical authority: William Harvey

11

Watch the video below to get a better understanding of the revolutionary work of William Harvey...



*Ceaseless motion:  
William Harvey's  
experiments in  
circulation*

[https://www.youtube.com/watch?v=w6q50\\_qNMoA](https://www.youtube.com/watch?v=w6q50_qNMoA)





## Dealing with disease: Seeking treatment

The way people sought help for diseases was very different to how it is today. Here are some examples of who dispensed medical knowledge...

### Unlicensed practitioners



#### Wise women

They were found in every town and village. Respected and trusted for their knowledge of remedies. Experimented with herbs and plants and if things went wrong risked being accused as a witch



#### Lady of the manor

A girl from a wealthy family. Being literate, she was given books with medical advice and remedies. She treated people from the village and surrounding farms.



#### Family members

Usually the wife or mother, she was generally the first person to treat the sick using knowledge acquired from her own mother and grandmother.



#### Quack doctors

Unlicensed, untrained and unqualified travelling salesmen, quacks set up stages in towns and claimed their remedies cured anything. Cheaper than doctors and scientific methods didn't always work either. Their remedies had secret ingredients that could be dangerous or addictive.



# Dealing with disease: Seeking treatment

The way people sought help for diseases was very different to how it is today. Here are some examples of who dispensed medical knowledge...

## Licensed practitioners



### Midwives

Licensed by the bishop, they supervised the last few weeks of pregnancy and delivered babies. They handed over to a doctor when there were complications.



### Surgeons

Given licenses as medical practitioners by the bishop, they learned by observing and copying through a surgical apprenticeship. They performed basic procedures like lancing boils, tooth extraction etc. and were looked down on as lowly doctors by physicians.



### Apothecaries

Physicians prescribed medicines that the apothecary would make up and sell. They weren't supposed to treat the sick but many would do so for a small fee.



### Physician

These were qualified doctors who'd studied at university. They were rare and expensive. They used the works of Galen, Vesalius, Pare and Harvey to diagnose and treat. They were all men.





## Dealing with disease: Methods of treating disease

Though some headway was being made in learning about medicine, the Renaissance was about reviving the learnings of ancient Greece and Rome. Consequently, the methods for treating diseases were also antiquated...

Methods for treating diseases hadn't really changed from the Middle Ages.

Treatments were questionable.  
**E.g. 1.** Syphilis was treated with mercury. Because outward symptoms would come and go, it was believed mercury was successfully treating skin lesions.

**E.g. 2.** Even after Paré disproved bezoar stones, Charles I was still being treated with them.

**E.g. 3.** Belief in the supernatural saw people with Scrofula (TB of the neck) beg for the King's healing touch.

Causes of diseases were still rooted in religion and superstition: Syphilis was believed to be punishment from God / the position of Saturn.

The revival of ancient medicine saw renewed belief in the four humours that were treated by doctors by prescribing opposites.

Renaissance doctors still had no clue about bacteria and viruses, nor their transmission and treatment. Infectious illnesses like small pox, syphilis, dysentery, cholera and plague were a big problem.

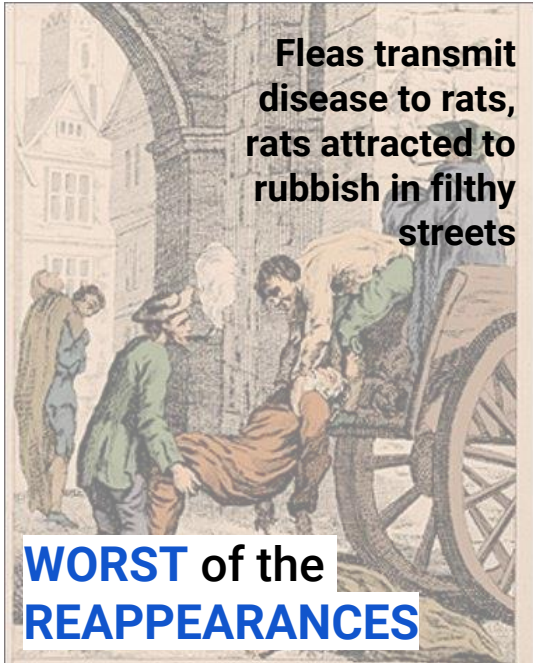




# Dealing with disease: The Great Plague of London (1665-66)



Not to be confused with the Black Death (1347 to 1351)



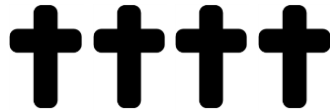
Fleas transmit disease to rats, rats attracted to rubbish in filthy streets

**WORST** of the **REAPPEARANCES**

## culprits



**100 000** deaths in London



NEW IDEA...



Map of London c. 1665

Slightly less than 1300s

Realised the plague was contagious but hadn't figured out **GERMS**



**POWERLESS** to contain its spread, until...



**The Great Fire of London** (1666) essentially sterilises the city



# Dealing with disease: The Great Plague of London (1665-66)

Infected households were locked inside their homes. Guardsmen prevented them or visitors from entering or leaving.

“The Lord have mercy upon us” and a red cross was painted on doors as warning to others of an infected household.

Stray animals like pigs, dogs, cats and rabbits were killed to prevent the disease from spreading. Beggars were prevented from wandering the streets.

Public Health  
during the  
Great Plague



Infected households were quarantined for up to a month. Appointed examiners and searchers looked for suspected plague infections.

“Bring out your dead!” Government carts would travel the city streets collecting the dead. They were buried at night in mass graves and mourners could not visit the sites.

Those that could afford to fled the city. This included King Charles II.





## Dealing with disease: The growth of hospitals

Hospitals in the Middle Ages and Renaissance were very different to modern-day institutions...

### Medieval hospitals

Monasteries run by nuns and monks who believed it was their Christian duty to care for the sick.

- As such, health and religion were closely connected.
- Wealthy Christians financed monasteries, which had plumbing, toilets and clean water. >>

### Who couldn't be admitted

Lepers, lunatics, people with falling sickness, contagious diseases.

- No pregnant women or women with breastfeeding infants.
- No intolerable people even if they're poor or infirm.

If anyone of these are admitted by mistake, they're to be expelled

immediately. >> Hospital tiles, St. John, Bridgwater, 1219

### Things only really began to change in the 18th century

New hospitals were built with wards for different diseases.

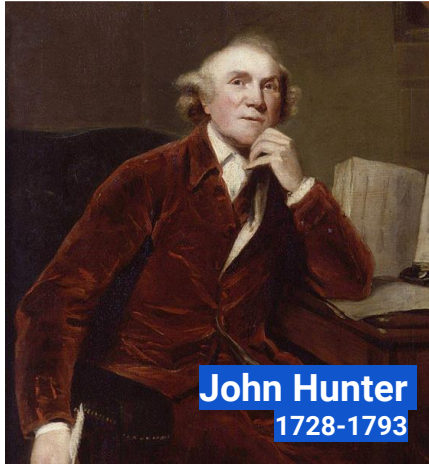
Pharmacies emerged to give the poor free medicine.

- Scientific approaches to surgery based on dissection meant more sophisticated procedures and techniques.
- The microscope (16th century) and discovery of bacteria (17th century) later led to Edward Jenner discovering a smallpox vaccine in 1796.





## Dealing with disease: John Hunter



**John Hunter**  
1728-1793

A Scottish surgeon, he was one of the most distinguished scientists and surgeons of his day. He was an anatomy expert and an early advocate of careful observation and scientific method in medicine.

Hunter taught and collaborated with Edward Jenner, who pioneered the smallpox vaccine.

In 1764, he set up his own anatomy school in London and his own private surgical practise.

In 1767, Hunter was elected as Fellow of the Royal Society. He was considered the leading authority on venereal diseases and believed that STDs were caused by a single pathogen. He advocated treatment with mercury and cauterisation.

In 1768, Hunter was appointed as surgeon to St George's Hospital. He went on to become a member of the Company of Surgeons and, in 1776, became surgeon to King George III.

### Hunter improved medical understanding of:

- Human teeth, bone growth and remodelling.
- Inflammation
- Gunshot wounds
- STDs
- Digestion
- The lymphatic system
- Maternal and foetal blood supply
- Child development







# Preventing disease: inoculation, Edward Jenner and vaccination

## Understanding Smallpox

- A highly infectious virus
- One of the 18th century's biggest killers
- 30% died from the infection
- Those that survived were left with disfiguring scars and sometimes blindness
- Epidemics broke out every few years in Britain
- Most people couldn't afford disinfecting services
- The poor feared losing their jobs so hid the disease.



## Methods for Prevention

### Inoculation

A healthy person is made immune to the disease by exposing them to pus from sores of someone with a **weak form** of the **smallpox**. The healthy person develops a weak form of the disease and gains immunity.

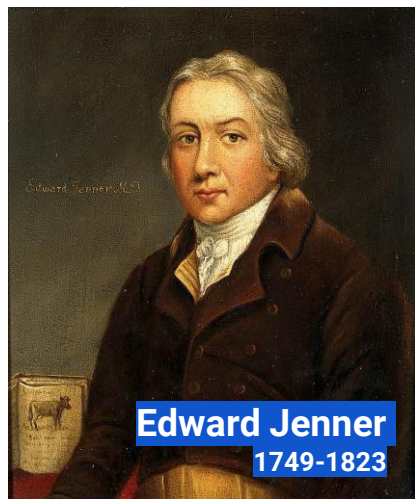
### Vaccination

Similar to inoculation, however, a patient is exposed to the pus of a sore from a **different and milder** disease, **cowpox**. The healthy person then becomes immune to smallpox.

**OBJECTIONS TO INOCULATION** People could die from mild doses given and others could become carriers, therefore, some flat out refused inoculation. Lady Mary Wortley Montagu is credited for making inoculation fashionable in Britain after observing it in Turkey. It was big business and expensive, so it was only for the rich.

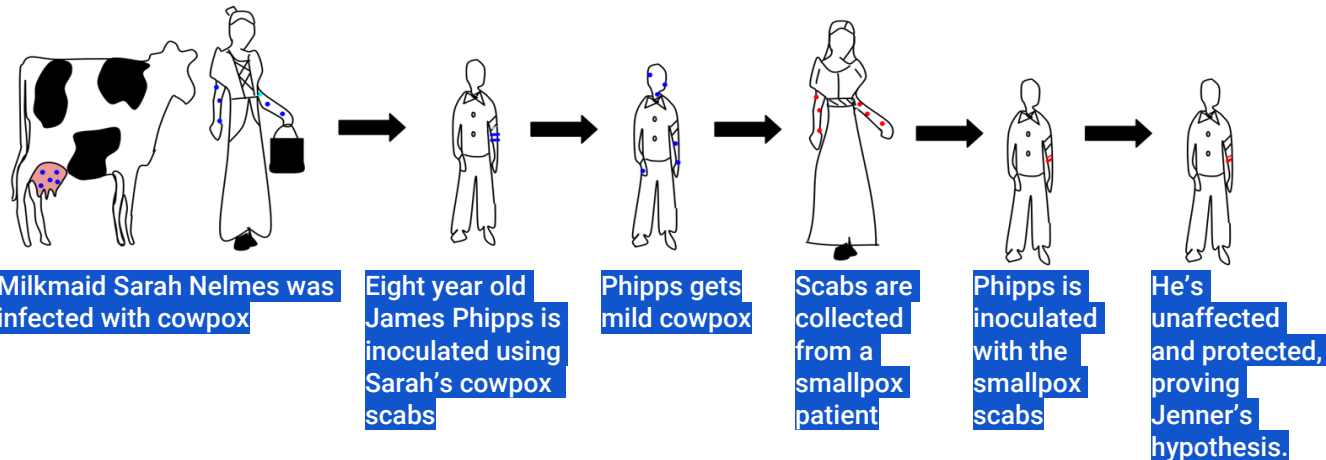


# Preventing disease: inoculation, Edward Jenner and vaccination



**Edward Jenner**  
1749-1823

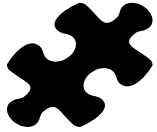
## Edward Jenner's path to developing the smallpox vaccine, May 1796



He was an English physician and scientist who pioneered the world's first vaccine. While working as an inoculator for smallpox in Gloucestershire, he made the connection that milkmaids with cowpox didn't get smallpox.

**SUPPORTERS** As cowpox was much less severe, people preferred being vaccinated. By 1852, vaccination was compulsory in Britain.  
**OPPOSITION** inoculation was big business and some doctors feared losing money. Sceptics criticised Jenner because he couldn't explain why it worked. Doctors mixed up the order and some people died. Conservative people worried about side effects of being infected with a disease from a cow.





# Glossary of Terms

## Renaissance

A period in Europe between the 14th and 17th centuries in which there was renewed interest in learning, revisiting ancient philosophy and exploring new ideas.

## Dissection

The process of cutting open a plant, animal or body to study its internal parts. Was banned by the Church in Middle Ages.

## Anatomy

A branch of science studying bodily structures.

## Andreas Vesalius

Responsible for publishing anatomy book *On the Fabric of the Human Body* in 1543.

## William Harvey

English physician who contributed to the study of anatomy and physiology. Debunked Galenic theories.

## Quackery

Unlicensed, untrained and unqualified travelling salesmen selling home-made remedies to cure just about anything.

## Inoculation

Using a weaker form of a serious illness to infect a person so they gain immunity. Dangerous and not always effective.

## Vaccine

The process of using a different and less severe disease to create immunity to another disease. E.g. Jenner's cowpox vaccine to create immunity to smallpox.





## Task #1

### SOURCE A

*“No lepers, lunatics or persons having the falling sickness [epilepsy] or other contagious disease, and no pregnant women, or sucking infants, and no intolerable persons, even though they be poor and infirm, are to be admitted in the house; and if such be admitted by mistake, they are to be expelled as soon as possible. And when the other poor and infirm persons have recovered, they are to be let out without delay.”*

- Rules of the hospital of St John, Bridgwater, 1219.



Study the source and, using your knowledge of the historical context, describe what hospitals were like in the Middle Ages. What does this suggest about the understanding of disease?

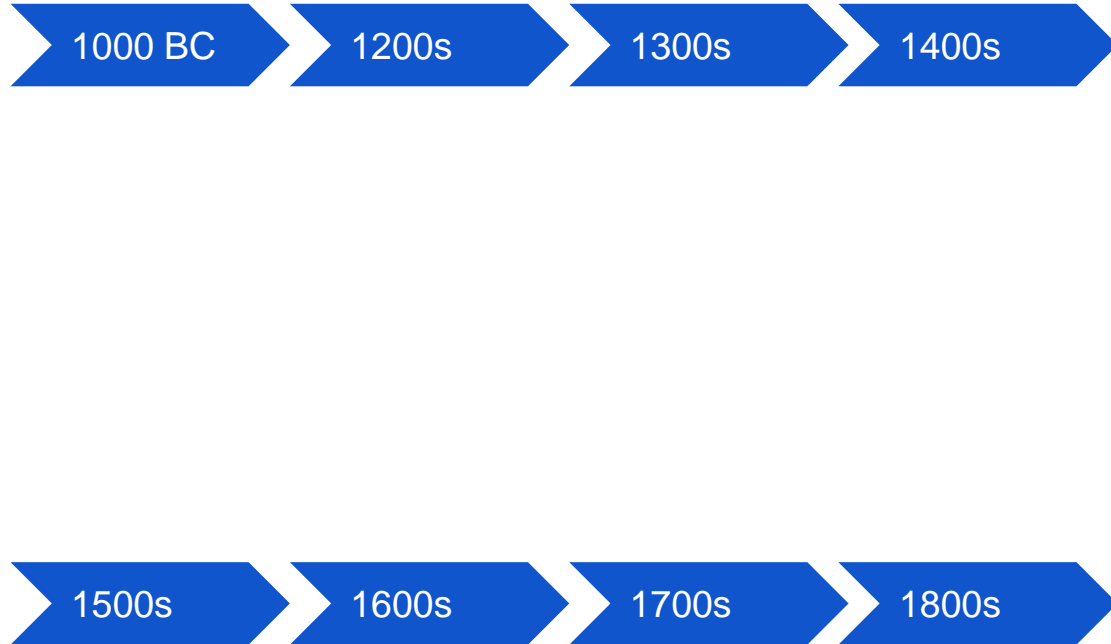








## Task #3



Create a timeline in which you identify important periods and/or dates, as well as notable individuals. Be sure to summarise the individuals' contributions to medical progress. Also include support and opposition to the ideas.





## Homework Time!

Be prepared for part three of this module by familiarising yourself with the below...

The development of Germ Theory.

Who were Louis Pasteur, Robert Koch and Paul Ehrlich? What were they famous for?

What were some 19th century medical treatments and remedies? Define the term 'magic bullet'.

How was surgery revolutionised in the 19th century? Research anaesthetics and antiseptics.

Research challenges and improvements in public health in Britain including cholera epidemics, public health reformers and the 1848 and 1875 Public Health Acts.

