Knowledge organiser: Enlightenment - Medical Marvels

Between 1750 and 1900 the Industrial Revolution had a positive impact on medicine. There were new machines, new technology and new ideas to help doctors and scientists.

Summarise your learning

Topic 1: Smallpox: How important was Jenner's work?	Smallpox was the biggest killer disease of the C18th and C19th. Jenner experimented by injecting people with cowpox to try and prevent smallpox and it worked. He called the technique vaccinations. However, his ideas were ridiculed at the time and there was much opposition to vaccines.
Topic 2: How did scientists discover the causes of diseases?	In 1861 Louis Pasteur proved that germs caused disease. Robert Koch then identified the bacteria which caused specific diseases. From this they were able to create vaccines for some diseases. In 1854 John Snow proved there was a link between water and cholera by studying one area of central London.
Topic 3: How did Surgery improve in the C19th?	Surgery in the early 1800s was very dangerous. There were 3 problems: Pain, infection, and bleeding. Simpson experimented until he found an effective anaesthetic. Lister worked hard to develop antiseptic methods. However, there never was an answer to the problem of bleeding until WWI.
Topic 4: How did magic bullets fight infection?	Paul Ehrlich was fascinated with the way that the body created antibodies which killed harmful bacteria but not anything else. He was convinced that a chemical could do the same. In 1905 he found Salvarsan 606 could kill syphilis. Other magic bullets were discovered. The scientists' work here led to the discovery and development of penicillin; the first antibiotic.
Topic 5: How did Nightingale and Mary Seacole improve hospitals?	Nightingale and Seacole were both nurses in the Crimean War. They both worked hard to improve the conditions in hospitals. The death rate dropped enormously. When Nightingale returned to England, she set up Britain's first training school for nurses. She also improved the layout of hospitals so nurses could do their job better.

Chronology: what happened on these dates?

1798	Edward Jenner developed a vaccine for smallpox
1847	James Simpson discovered anaesthetics
1850	Florence Nightingale and Mary Seacole developed new attitudes towards health and cleanliness
1854	Edwin Chadwick and John Snow realised that there was a link between dirt and disease
1861	Louis Pasteur discovered germs
1865	Elizabeth Garrett qualifies as doctor in Britain
1867	Joseph Lister discovered antiseptics
1876	Robert Koch and his team found the bacterium that was causing anthrax.
1909	Paul Ehrlich developed the first chemical drug that killed bacteria inside the body.

Who or what were these people/events/places?

Crimean War	Fought between 1863-1856. France, Britain, Turkey Vs Russia. It was caused by how Russia was expanding its control over lands owned by Turkey at the time.
The Great stink, 1858	The source of the **Great Stink** was the River Thames, into which the city's sewers emptied. In the summer of 1858, a heat wave hit the city and caused the extraordinary amount of waste within the river to ferment, which made the river **smell** worse than it ever had before.
Broad Street Pump	A water pump in London. John Snow removed the handle in 1854 to prove that it was the source of Cholera in the area.

Vocabulary: define these words.

Anaesthetic	A drug given to patients to put them in a deep sleep, so they feel no pain in an operation
Antiseptic	Chemicals used to kill bacteria and prevent infection
Aseptic surgery	Surgery where germs are prevented from getting into the wound in the first place.
Bacteria	Germs that cause infection and disease
Carbolic Spray	Carbolic acid, used as a disinfectant and antiseptic
Cholera	A disease that caused diarrhoea and sickness that was usually fatal.
Chloroform	An early type of anaesthetic
Immunity	The ability of an organism to resist disease
Germ Theory	A scientific theory that proved germs cause disease.
Magic bullets	Chemicals that kill bacteria in the body but do not harm anything else.
Microbes	Another word for bacteria/germs
Smallpox	Serious disease which was a common killer until a vaccine was discovered.
Tuberculosis	Infectious disease which attacks the lungs. Killed 1 in 2 sufferers in the 1800s.
Vaccine	Something that is injected to make the body produce antibodies and so protect it against disease.