Knowledge Organiser: Paper 1 Medicine in Britain.
Part 1 – Medieval Medicine 1250 – 1500.

Summary:
Medieval Britain was the period 1250 – 1500 also known as the Middle Ages. It covered the 13 the 16th centuries.

Key events:
1123 – Britain's first hospital St.Bartholemews was set up in London.
1348 – 9 – The Black Death killed 40% of the British population.
1350 - The average life expectancy was 35 years.
1388 – Parliament passed the first law requiring the people to keep the streets and rivers clean.
1400 – There were 500 hospitals in Britain.

Key Concepts:
Medieval Church –
The official religion of Britain was Roman Catholic. The Church was led in Britain by the Archbishop of Canterbury who as only answerable to the Pope in Rome. Ideas and power were dominated by the Church because they advised the monarchy and controlled education. They were central to daily life.
Theory of the Four Humours –
Created by the Greek doctor Hippocrates. This was the belief that the body was made up of four humours (Blood, Phlegm, Yellow Bile and Black Bile) and that they had to be in balance for a healthy person.
Galen developed the Four Humours by looking at treatment through eh Theory of Opposites. You use d the opposite to treat people.
Medieval Power –
The King had absolute power with the Church holding considerable control. People followed the King and the Church without question. Their authority was unchallenged.

Key words:

Amulet	A charm that was said to bring protection from disease.
Apothecary	A medieval pharmacy or chemist
Astrology	Study of the planets and its effect on humans
Barber Surgeon	Untrained surgeon who carried out basic surgery.
Black Death	Term to describe the bubonic plague of 1348 - 49
Cupping	Using glass cups to draw blood to the surface.
Epidemic	Widespread outbreak of a disease
Flagellant	People who whipped themselves to show God they repented their sins and wanted forgiveness.
Leeching	Using leaches to bleed a patient.
Miasma	'Bad air' – blamed for the spread of disease
Monastery	A building where monks live, eat and pray.
Pestilence	A fatal epidemic disease – Black Death.
Physician	Male medically trained doctor.
Pilgrimage	Journey to a religious shrine.
Purging	To rid the body of excess blood or vomit.
Superstition	A belief not based on knowledge but on religion, witchcraft or astrology
Trepanning	Cutting a hole in the skull.
Urine chart	Helped to diagnose an illness based on colour.
Vademecum	Medieval 'medical' book carried by doctors.
Wise woman	Female healer who used herbal remedies and chants to heal.

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Part 2 – Renaissance 1500 - 1700

Summary:
The renaissance is the period from 1500 to 1700, also known as the 16th – 18th century. Renaissance means re-birth and it was a time when Greek and Roman ideas were rediscovered and questioned with new ideas and discovered being made.

Key events:
1536 – 40 – the Dissolution of the Monasteries. Henry VIII shut the monasteries and this included closing church hospitals.
1543 – Vesalius published his book '*Fabric of the Human Body'*.
1628 – William Harvey scientifically proved the circulation of blood through the body. His book saw the end of Galen's influence on anatomy.
1660 – The Royal Society set up by Charles II.
1665 – 66 – The Great Plague in London.
1666 – The Great Fire of London.
1676 – Thomas Sydenham published '*Oberservations Medicae'*
1683 – Van Leeuwenhoek discovered bacteria but does not link it to disease.

Key Individuals:
Vesalius – Physician who proved Galen wrong by discovering the mistakes made by dissecting human bodies. He said that medical students should perform dissections themselves and his book was fully illustrated to encourage others.
William Harvey – English doctor who proved Galen wrong. His theory on the circulatory system explained that blood circulates around the body by being pumped by the heart.
Thomas Sydenham –
English physician who believed doctors should visit patients and observe them and the treatment given. He believed in the scientific method but still supported the Four Humours.

Key words:

Anatomy	The structure of the human body.
Circulation	The movement of blood around the body.
Direct Observation	Observation of the human body through dissection to improve knowledge and understanding.
Dissection	Cutting open of the human body to study it for medical training and research. Allowed during the Renaissance, not before due to the Church.
Great Plague	Return of the bubonic plague killing over 25% of London's population.
Physiology	The working of the human body.
Plague Pits	Mass graves where victims of the plague were buried.
Printing Press	Used to print books from 1500 helping to spread ideas and limit the influence of the church.
Quack Doctors	A doctor who pretends to have medical knowledge or skills but doesn't have any. They sold medicine which was supposed to cure people.
Quarantine	To separate people from others
Reformation	Change from Roman Catholic to Church of England, 1534.
Scientific methods	A new process of conducting experiments, collecting observations and then coming to a conclusion.
Syphilis	Sexually transmitted disease common at the time.
Venereal disease	A sexually transmitted disease.

Key changes:
Science and technology –
New technology helped spread ideas more quickly. Microscopes and pumps helped medical knowledge advance with experiments.
The Church and the Renaissance –
The Reformation led to changes in religion, especially with the decline in the Church's authority after Henry VIII created the Church of England. As a result, the church had less control with freedom in education and challenges to God's teaching. This was especially in terms of ideas about the cause of disease. Most people remained strongly religious though.

Knowledge Organiser: Paper 1 Medicine in Britain.
Part 3 – Industrial Britain 1700 – 1900.

Summary:
The Industrial Revolution period was the period between 1750 – 1900 also known as the 18th and 19th centuries. It was an age of breakthroughs.

Key events:
1796 – 98 – Jenner develops the Smallpox vaccination.
1847 – Simpson discovered chloroform as an anaesthetic.
1854 – John Snow's discovers the link between the 1854 cholera outbreak and the Broad Street pump.
1854 - Florence Nightingale treats wounded soldiers in the Crimean War.
1859 – Nightingale publishes her 'Notes on Nursing'.
1860 – The 'Florence Nightingale School for Nursing' opens.
1861 – Pasteur discovers the Germ Theory.
1866 – Lister begins using carbolic acid as antiseptic in surgery.
1875 – The Second Public Health Act.
1881 – Pasteur develops a vaccination for anthrax.
1882 – Koch discovered bacteria causes tuberculosis.
1895 – Wilhelm Rontgen discovered x-rays.

Key individuals:
Louis Pasteur – French chemist who discovered the cause of germs published in his 'Germ Theory'.
Robert Koch – German chemist who used Pasteur's work to discover vaccinations. Identified microbes through using chemical dyes.
Florence Nightingale – English nurse who changed the face of nursing after serving in the Crimean War.
James Simpson – Used chloroform as a new anaesthetic.
Joseph Lister – Introduced antiseptics to fight infection and germs.
John Snow – Fight against cholera with the Broad street pump.
Edwin Chadwick – Government Minister involved in public health

Key words:

Anaesthetics	Drugs to remove the pain, usually cause unconsciousness.
Anthrax	An infectious disease
Antibodies	Parties inside the body that fight and remove germs.
Antiseptics	Chemicals used to destroy bacteria and prevent infections.
Aseptic Surgery	Surgery where microbes are kept out of the wound in the first place – a sterile environment.
Bacteria	A tiny living organism only seen by a microscope which causes disease.
Black period in surgery.	Period when anaesthetics were used and the death rate in surgery went up as doctors attempted more complex and internal operations before the development of antiseptics.
Cesspit	Pit for storing sewage and waste
Chloroform	A liquid used as an anaesthetic.
Enlightenment	Idea that people should think for themselves and not be controlled by the church or authorities.
Germ Theory	The theory that germs cause disease by infection through the air.
Infection	The formation of disease causing germs or bacteria.
Inoculation	Infecting the body with a disease in order to help it fight a more serious attack of the disease later.
Patent medicines	Medicine sold for profit. Not all had any medical benefit.
Poor Law Union	Local organisations set up to take care of the poor and unemployed.
Privies	Public toilets outside houses.
Public Health	The wellbeing of the whole population.
Vaccination	Injection into the body of a weak organism to give the body resistance against disease.
Workhouses	Accommodation for the poorest people, they had the work for food and shelter. Families were split up.

Knowledge Organiser: Paper 1 Medicine in Britain.
Part 4 – Modern Britain 1900 – Present day.

Summary:
This period covers the 20th and 21st century and is a time of great technological development and discoveries.

Key events:

1901 – Rowntree writes a report on poverty in York showing 25% of people there lived in poverty.
1901 – Landsteiner discovered blood groups = more successful blood transfusions.
1909 – 1st magic bullet, Salvarsan 606 (a chemical compound) by Ehrlich to target syphilis.
1906 – 14 – Liberal Government Reforms. First major intervention by the government to provided welfare support for individuals.
1928 – Alexander Fleming discovered the penicillin bacteria showing a microbe could kill germs. Writes about it in the Lancet.
1932 – Domagk develops the 2nd Magic Bullet, Prontosil to target blood poisoning (septicaemia)
1938 – Florey and Chain developed penicillin into a workable drug.
1941 – US companies took up the mass production of penicillin as Britain was unable to as they were fighting the war.
1942 – Beveridge Report he welfare provision needed post war with the phrase 'from the cradle to the grave'.
1948 – NHS created.
1953 – DNA discovered by Watson and Crick.
1954 – Salk vaccine to combat Polio
1967 – First heart transplant – kidney already in 1954 and liver in 1963.
1986 – Human Genome Project set up to map human DNA. Completed in 2001 and has led to extensive gene therapy as a treatment.

Key words:

DNA	What makes up your genes and makes each individual unique. It contains all of the information about us and any hereditary conditions.
Genetic Medicine	Refers to medicine such as stem cells used to repair faulty genes.
Liberal Reforms	Reforms focusing on the poorest in society at the time and providing basic support through Pensions and national Insurance.
Magic Bullets	Chemical compound designed to target specific germs.
Nuclear medicine	Treatments such as radiotherapy and chemotherapy used to treat cancers.
Penicillin	First antibiotic based on a bacteria that was used to fight infections chemical compounds could not.
Preventative medicine	Medicine focused on changing people's lifestyle choices to avoid medical conditions. Smoking and heart disease.
Superbugs	Name given to germs that are resistant to established antibiotics such as MRSA and therefore need stronger antibiotics developed.
Welfare State	Concept of the Government supporting each individual to provide a basic level of care.

Key individuals:

Behring – Discovered the body manufactures antitoxins that only attack the microbes causing disease.
Bevan – Labour Minister responsible for setting up the NHS.
Beveridge – Wrote a report that became the outline for the NHS.
Domagk – Created the 2nd Magic Bullet Prontosil used to fight blood poisoning. Its compounds were later used for other cures.
Ehrlich – Searched for a chemical compound (magic bullet) that would attack and kill the microbe causing a specific disease. Salvarsan 606.
Fleming – Discovered Penicillium and wrote about it in the Lancet.
Florey and Chain – Worked at Oxford University turning Penicillium into a workable drug**.**
Franklin – Photographed DNA structure using crystallography.
Watson and Crick – Identified structure of DNA with a model, their work helped develop understanding of genetic conditions.

Knowledge Organiser: Paper 1 Medicine in Britain.
Part 5 – The Western Front.

Key events:

August 1914 – First World War begins. Britain declared war on 4/9/1914 following the German invasion of Belgium.
September 1914 – First Trenches following the Battle of the Marne near Paris. As neither side back down they 'dig-in' creating trench warfare.
Oct – Nov 1914 – First Battle of Ypres. British stop the Germans taking Calais. Allows for reinforcements to arrive.
April – May 1915 - Second Battle of Ypres. Germans used chlorine gas but failed to take Ypres. 60,000 allied casualties and 35,000 German.
Feb – Dec 1916 – Battle of Verdun. Germans carry out a long campaign at Verdun against the French. French hold out but with 160,000 killed.
Jul – Nov 1916 – Battle of the Somme. British and French attack the Germans to relieve attack at Verdun. 58,000 casualties on day one for Britain. 400,000 by the end of the battle. Britain gained 5 miles.
April 1917 – USA agree to join the war
April – May 1917 – Battle of Arras. Allied assault on German positions. Some ground captured but at a cost of 158,000 lives.
July – Nov 1917 – Third Battle of Ypres. Plan was for the British to capture Passchendaele ridge. Completed with 245,000 casualties.
Oct 1917 – Russia revolution resulted in their withdrawal from the war.
Nov – Dec 1917 – Battle of Cambrai. British attack on German line using tanks. Eventually forced back with 40,000 casualties.
Spring 1918 - Spring Offensive. Germans launched an attack over 50 miles before the US could arrive. Made huge gains but could not **sustain the attack.**
Summer – Autumn 1918 – Final months. Allies, now with US troops, launched attacks along the lines and broke through. Germany had few resources left to fight with.
11th November 1918 – War ended.

Key words:

Base Hospital	Converted civilian hospitals normally near railway lines providing specialised facilities. From here patients sent back to Britain.
Casualty Clearing Station	7 – 12 miles behind trench line a well-equipped medical hospital with operating rooms, x-rays and wards for 50 men. Planned to deal with 1,000 men at a time but demand exceeded this.
Dressing Station	Large mobile medical unit about a quarter mile behind the trench line.. Sorted men using TRIAGE system – who to treat first, could wait and was not likely to survive.
Dysentery	Bacterial infection of the intestines causing severe diarrhoea. Caused by contaminated water – found in shell holes. Chloride of lime was added to purify the water but soldiers did not like the taste.
Gangrene	Infection of dead tissue in the body resulting in amputation to stop the spread. Gas Gangrene creates a foul smell.
Gassed	Excessive exposure could lead to death by drowning from the fluid built up in the lungs. In most cases the symptoms of blindness and coughing would go after 2 weeks of treatment.
Infection	Fragments of muddy soil on clothing could enter the body from bullet wounds and shrapnel causing infection from bacteria. This led to large numbers of death due to gas gangrene.
Regimental Aid Post	200 metres behind the front line trench where the medical officer would sort out the wounded. One officer and 30 men per battalion.
Shell Shock	Known as PTSD (Post Traumatic Stress Disorder). Understanding developed as the war progressed, initially commanders thought it was contagious and it created great fear. Treatments changed from being sent home to specialised centres.
Trench Fever	Symptoms included fever, shivering, pains in bones and joints lasting 5 days and returning. It originated form lice in the clothing leading to a focus on hygiene and disinfecting as soldiers had to be sent home.
Trench Foot	Caused by standing in waterlogged trenches. The feet went numb, swollen and blisters formed. The boots would become tight restricting blood flow, resulting in amputations.
Wounds	More high powered weaponry and explosives causing shrapnel created new types of wounds. Tiny fragments from the blast impact could not be seen and could kill a patient. X-rays become essential in identifying such fragments for their removal.