Scott
Scott Medical and Healthcare College

Summer Term
Term 3

History

Year 11

Name: _____

Tutor: _____

Care to Learn

Learn to Care

GREENSHAW LEARNING TRUST

Year 11 Homework Timetable

Monday	English Task 1	Option A Task 1	Option C Task 1
Tuesday	Sparx Science	Option B Task 1	Sparx Maths
Wednesday	Sparx Maths	Science Task 1	Option C Task 2
Thursday	Option A Task 2	Sparx Catch Up	Option B Task 2
Friday	Science Task 2	English Task 2	

Sparx Science

• Complete 100% of their assigned homework each week

Sparx Maths

• Complete 100% of their assigned homework each week

Option A
Geography
History
Spanish

Option B
Geography
Psychology
Health and Social Care

Option C
Childcare
Drama
Psychology
Sport

Half Term 5 (5 weeks) - Year 11		
Week / Date	**Homework task 1 Cornell Notes**	**Homework task 2 Exam Question**
Week 1 21st April 2025	**Cornell Notes on: Causes of disease**	**Question**: Explain one reason why views on the causes of disease changed (4)
Week 2 28th April 2025	**Revision Cards on: Modern Treatments**	**Question**: How far do you agree the discovery of the 'magic bullet' was the most important discovery for medicine? (8)
Week 3 5th May 2025	**Cornell Notes on: NHS**	**Question**: Explain one reason for the introduction of the NHS (6)
Week 4 12th May 2025	**Revision Cards on: Trench warfare**	Question: Describe one key feature of trench warfare (2) Describe one key feature of the RAMC (2) Describe one key feature of Field ambulances (2)
Week 5 19th May 2025	**Cornell Notes on: Changes made by WW1**	Question: Describe one key feature of injuries soldiers got in trench warfare (2) Describe one key feature of the changes in blood transfusions (2) Describe one key feature of surgery on the Western Front (2)

Knowledge Organiser

Week One- Causes of disease

Important information

Germ Theory had been a major breakthrough in identifying the causes of disease but bacteria could not explain every disease.
Pastor and Knoch had been unable to find the causes of some diseases as they were caused by microbes called viruses which were too small to be seen under a microscope.
1892- Dimitry Ivanovsky found the cause of mosaic , a disease which was killing tobacco plants was an extremely small microbe that lived in water.**1898 -** Martinus Beijernik found microbes have different properties to bacteria and he called these viruses. Once these had been discovered treatments could be found. Antiviral drugs can only prevent the virus from growing only the body can kill it

DNA

Genes are the chemical instructions that plan out human characteristics like sex and hair colour. They are stored in cells as DNA. Your DNA is a mix of both your parent's DNA. **1953-** Francis Crick and James Watson discovered the structure of DNA - a double helix that can be reproduced by splitting. They also found that genes can cause genetic conditions that are passed from one generation to the next. This allowed diseases to pass from parent to child. These diseases include cystic fibrosis, haemophilia and sickle cell anaemia. Knowledge of this allowed improved diagnosis and potential treatment. Scientists can now produce synthetic protein to replicate the work of a faulty gene to stop some hereditary disease

Key Dates

1892- Dimitry Ivanovsky found the cause of mosaic

1898 -- Martinus Beijernik found microbes have different properties to bacteria

1953- Francis Crick and James Watson discovered the structure of DNA. They also found that genes can cause genetic conditions that are passed from one generation to the next.

Lifestyle factors

From 1900 onwards factors that increase a person's chance of becoming ill have been identified. A healthy diet , exercise and other lifestyle choices can impact on your health. Only in the 20th century was lifestyle linked to particular health conditions
Smoking as a cause of Lung cancer. Obesity increases chances of heart disease and diabetes. Drinking too much alcohol causes liver disease. Overexposure to ultraviolet radiation causes skin cancer

Blood Tests

Blood tests were first introduced to test blood groups before a blood transfusion took place
Now they can test for a variety of things - cholesterol level to help prevent heart attacks and strokes. The blood tests can also check a person's DNA to diagnose genetic conditions. Some blood tests can also detect certain types of cancers like prostate and breast cancer.
blood tests make diagnosis more accurate meaning specific treatment can be given

Medical Scans

1895 - Medical scans began when Wilhelm Rontgen discovered x-rays. They pass easily through soft flesh but less well through bone. This allowed X-ray images to produce a photographic plate. Early X-rays used a dye so the blood vessels and organs would show up. This was swallowed by or injected into the patient.

Advances in computers have allowed doctors to use Ultrasounds which scan using high frequency sound waves which bounce off a patient's organs and other tissues to create an image on the computer screen. **1972 -** Computed Tomography (CAT) scan invented by Godfrey Hounsfield . This scan makes a detailed image of parts of the patient's body. Magnetic Resonance imaging was first used in the 1970s but has been widely used since the 1980s. They use powerful radio waves and magnetic fields to create images.
These scans have allowed early detection of diseases so that treatment can start quickly.

Key Dates

1895 - Medical scans began

1972 - Computed Tomography (CAT) scan invented

1980 - MRI scans used

Patients can monitor themselves - an important change in the 20th century is that people can monitor certain conditions at home. Blood pressure monitors were developed in the 1880s. Blood sugar monitors were introduced in the mid-20th century diabetics can keep track of their blood sugar levels and prevent a hypo.

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Case Study Penicillin

Key Dates

1800s - Pasteur discovered bacteria caused disease

1922 - Lysozyme was discovered

1928 - Penicillin discovered

1938 - Chain discovers freeze drying as a purifying process

1941 - USA began mass producing penicillin

Alexander Fleming

He saw many soldiers dying of septic wounds caused by staphylococcal bacteria in World War One. While searching for a cure he identified the antiseptic substance in tears called lysozyme in 1922 but it only worked on some germs. He began growing staphylococcal and while cleaning some old culture dishes he found that fungus was growing in the dish. What was surprising was that around the mould from the fungus the staphylococcal had stopped growing. He identified the fungus as Penicillium notatum. This fungus produced a substance that killed the bacteria. This substance he called penicillin. He continued to develop his ideas but no-one would fund his work and so he could not take his findings any further

Florey and Chain

Penicillin needed to be purified. A breakthrough in this came from Florey's team in Oxford.Chain, a member of the team devised the freeze-drying technique as a purifying process. Florey and Chain also didn't have the resources to mass produce penicillin, although they had some success the patient died when the penicillin ran out

Florey realised that penicillin could be vital to treat wounds in World War 2 but British chemical scientists were too busy producing weapons for WW2 so he went to America. He had little success until the USA became involved in the war in 1941. The US government gave out grants to mass produce penicillin. In 1943 the British government also began mass producing penicillin.

Consequences

In 1945 Fleming, Florey and Chain all received the Nobel Prize

Today penicillin is used to treat a variety of bacterial diseases including chest and skin infections. Other antibiotics were also developed as a result of the work of these three men.

Week 2 - Modern Treatments

Paul Ehrlich - Magic Bullet - Salvarsan 606

Antibodies were identified as a natural defence mechanism of the body against germs. It was known they attacked very specific microbes- so they were nicknamed magic bullets.

In 1889 Ehrlich decided to find chemicals that could be synthetic antibodies.

he first discovered dyes that could kill malaria and sleeping sickness

In 1905 he identified the bacteria that caused syphilis and he worked on an arsenic compound that would be a magic bullet to kill this bacterium. Over 600 compounds were tried but none seemed to work.

Then in 1909 Sahachiro Hata joined Ehrlich's team and while rechecking the results he found that compound 606 did actually work. It was tested on humans in 1911 and worked.

Gerhard Domagk - Magic Bullet - Prontosil

In 1932 Domagh found that a red dye, prontosil stopped streptococcus (which caused blood poisoning) which had caused the deaths of many people who had initially only had minor wounds. Many surgeons also caught it after surgery.

He initially experimented on mice with good results. Then his daughter caught the disease after pricing herself with a needle. Domagk gave his daughter a large dose of prontosil which turned her bright red but she lived.

The effective ingredient in the red dye was identified as sulphonamide and lots of drugs were developed using it. Unfortunately, this drug also damages the liver and kidneys.

Treatments

The magic bullets showed that synthetic, targeted treatments for specific diseases were possible. Since Ehrlich this idea has been behind much of the medical research

Cancer

The first successful treatment against cancer was radiotherapy after it was discovered by Antoine Henri Becquerel, Marie and Pierre Curie in 1896. Radiotherapy involves killing cancer cells using X-rays and gamma rays

Chemotherapy is the treatment of cancer using drugs. It was discovered in World War 2 when doctors found that nitrogen mustard could be used to reduce cancer tumours.

since 18990s targeted therapy has been used to fight cancer. This uses drugs to prevent cancer from spreading.

Blood Transfusions

The idea of blood transfusions had been around since the 17th century but they were rarely successful because the blood of the recipient often clotted. Blood also clotted if it was stored outside the body

In 1900 Karl Landsteiner discovered blood groups. He also found that certain blood groups can not be mixed together or the blood will clot, clogging the veins and arteries. He found that transfusions worked if the blood groups matched

Successful Blood transfusions meant that patients were less likely to die in surgery from blood loss.

In 1914 during World War 1, doctors found that sodium citrate stopped blood clotting so it could be stored outside the body. In 1917 this discovery was vital when the first blood bank was set up at the Battle of Cambrai.

in 1946 the British National Blood Transfusion Service was established

Transplants

1905 the first successful transplant of the cornea of the eye was performed. During WW1 surgeons also developed techniques for skin transplants

The first complete organ to be transplanted was a kidney .Lungs,pancreas and bone marrow can now be transplanted. The first heart transplant was carried out in 1967 by South African heart surgeon Christian Barnard. The patient survived for 18 days before dying of pneumonia.

The main problem with transplants is rejection. The immune system attacks the implant as if it were a virus. In the early days doctors did not have ways to stop this now they have immunosuppressants. Since 1970s researchers have developed effective immunosuppressants main transplants more successful and safer

Other surgery

Keyhole

Is a technique developed in the 1980s which makes surgery less invasive -it leaves smaller scars and allows quicker recovery time

a type of surgery called endoscope is put through a small cut,letting the surgeon see inside the body.other surgical instruments are then introduced through even smaller cuts in the skin

Keyhole Surgery is useful for investigating the causes of pain or infertility,removing appendix or mending hernias

Robot surgery

First used in 1985 but only became widely used after 2000 with the launch of da Vinci system. Again this method means greater precision,smaller scars and quicker healing

Week 3 - The National Health Service

Before 1948

Advances in Science and technology improved the quality of healthcare during the 20th century. However not everyone could take advantage of these developments.

At the start of the 20th century access to healthcare was extremely limited. This was especially true for poor people, who could not afford to go to the doctor or buy medicine. This meant that poor people's health was poor.for example in 1901 there were 104 infant deaths for every 1000 babies born today it is less than 5. When the Boer War broke out in 1899 the army officers found that 40% of the volunteers were physically unfit to fight

In 1911 the Liberal Government had introduced the National Insurance Act which gave some workers health insurance to pay for medical attention. But WorldWar 1 drained Britain's resources and several severe economic slumps meant the government couldn't expand healthcare

1948

World War 2 changed people's attitude to health care. Air raids, especially the Blitz of 1940 forced the government to take action, they set up the Emergency Medical Service. This provided a centralised control of medical services and offered free treatment to air raid casualties. It was successful under great pressure.

In 1942 the social reformer William Beveridge published a report into the problems in Britain. He identified the 5 Giant Evils - one of which was disease. The report called for the government to look after people from 'the cradle to the grave'.

In 1945 the Labour Party was elected with a mandate to implement Beveridges proposals. The NHS was founded in 1948. Aneurin Bevan was the Minister for Health who introduced the NHS-he wanted it to be free at the point of use -he set up a system of compulsory

	NationalIndurance to pay for it Doctors and Dentists were given a fixed payment for each registered patient. They were allowed to continue treating private patients. By 1948 92% of doctors and all hospitals had joined the NHS

Since 1948

The NHS increased the number of people with access to healthcare - the number of doctors doubled between 1948 and 1973 to keep up with demand

Today, the NHS provides a range of health services, most of which are free. This includes accident and emergency care, maternity care and major surgery. There are also pharmacies, dentists, mental health services, sexual health services and GPs.

The NHS has encountered some problems providing access to care.

In 1980 the Black Report suggested the NHS had not improved the health of the poorest. Patients have to suffer long waiting lists.in 2000 the government drew up a NHS plan to deal with waiting times

Vaccination Campaigns

These have eradicated some diseases.

Diphtheria - a contagious disease that is caused by bacteria in the nose and throat. It can go on to attack the heart muscles causing paralysis or heart failure. Before 1940 it was a major killer - in 1940 there were 60,000 cases with 3,000 deaths. People were worried the conditions during the war would cause the disease to grow so in 1940 the government organised a vaccination campaign - they published this through radio and newspapers. They began the programme by vaccinating all children at school. After the NHS was founded children received the vaccination before their first birthday. By 1957 the number of cases had dropped to 38 with just 6 deaths.

Polio -is an infection that attacks the digestive system,bloodstream and nervous system.it can cause paralysis and it particularly affected children

In the late 1940s and early 1950s Britain suffered a series of polio epidemics - the disease left 30,000 children disabled between 1947 and 1958. The first vaccination was introduced in Britain in 1956 alongside a national campaign aiming to vaccinate every person under the age of 40.

The campaign was successful with the disease all but eradicated by the late 1970s. From 1985 to 2000 only 40 cases of polio were reported in Britain

Lifestyle Campaigns

The 20th century has shown a clear link between lifestyle and health. This has resulted in several government healthy lifestyle campaigns

In 1952 the Great Smog caused by coal fires resulted in 4000 deaths in London. It showed the danger of air pollution, which caused breathing problems like asthma and bronchitis. The government passed laws to reduce air pollution

An increase in less active lifestyle has led to a rise in obesity. In 2009, the government launched Change4life campaign with the aim of improving diets and promoting daily exercise

Excessive alcohol intake has been linked to several diseases, most notable liver cirrhosis. Alcholointae rose between 1950 and 2004 but has dropped since. This is due to the Government's awareness campaign launched in 2004

Consequences

The above has marked a shift in government involvement in people's lives. The 19th century saw the government have a laissez faire attitude to public health. Now the government tries to vaccinate the public against all major diseases and actively encourages people to lead a healthy lifestyle

Week 4 - Revision of Western Front

Trench warfare reached its highest development on the **Western Front** during World War I (1914–18), when armies of millions of men faced each other in a line of trenches extending from the **Belgian coast through northeastern France to Switzerland**. These trenches arose within the **first few months of the war's outbreak**, after the great offensives launched by Germany It was the constant fire of the machine guns and the rapid-firing artillery pieces and the sheer quantity of bullets and shells flying through the air that war compelled soldiers to burrow into the soil to obtain shelter and survive.

Key Events
Battle of Somme 1916 - vast casualties when British tried to break through the German lines (60,000).There were only 174 medical officers to deal with the number of injuries, many died just waiting to be seen .
Similar problems could be seen at 3rd Battle of Ypres -200,000 casualties and only 379 medics

The Trenches
The intricate network of trenches contained command posts, forward supply dumps, first-aid stations, kitchens, and latrines. Most importantly, it had machine-gun emplacements to defend against an assault, and it had **dugouts deep enough to shelter large numbers of defending troops during an enemy bombardment.**

The first, or **frontline of trenches** was known as the **outpost line** and was thinly held by scattered machine gunners distributed behind dense entanglements of barbed wire. The main line of resistance was a **parallel series of two, three, or four lines of trenches containing the bulk of the defending troops**.
As World War I progressed, **both sides, but particularly the Germans, developed trench systems of progressively greater length** and strength in order to ensure that the enemy could not achieve a breakthrough at any particular point.
The Germans evolved an extremely elaborate defense system using **pillboxes, i.e., concrete shelters for machine guns.** Behind the pillboxes were **more lines of barbed wire and more trenches and dugouts reinforced with concrete to withstand artillery bombardment.**

Key Developments
1914-1918- World war I.

1895- Wilhelm Roentgen discovers X-rays.

1896- Radiology departments set up in a number of British hospitals.

1818- James Blundell does first experiments in human blood transfusions..

1901- Karl Landsteiner discovers three different blood groups.

1900- Most surgery carried out using Aseptic methods.

RAMC and The FANY

Royal Army Medical Corp (RAMC)
Moving casualties from the front tobe treated was a problem - the ground was uneven and muddy
RAMC Field Ambulances were units not vehicles -they set up mobile medical services stations . Stretcher bearers carried casualties through a series of relay points until they reached a medical post. Or they carried the casualty to a road, rail or river so they could be evacuated
Field ambulances were:-

- Team of stretcher bearers
- Horses wagons and carts
- Motor ambulances only from 1915

RAMC Field Ambulances
Men were more likely to survive if their wounds were treated quickly .so 'the chain of Evacuation' was introduced to move casualties quickly:-
Regimental Aid Post - few metres from Front line - gave first aid
Advanced Dressing Station - tents or dugouts / Main Dressing Station 1 mile from the front - they triaged men. Stretcher bearers moved injured on
Casualty clearing station - collected seriously injured from the Dressing station given care needed - surgery or dressing.Could be here for 4 weeks
Base Hospitals - could take 400 patients , some were specialist gas hospitals.Patients stayed here until they could go home

FANY The women of the First Aid Nursing Yeomanry Corps (FANY) were trained in First Aid, veterinary skills, signalling and driving. They mainly worked as a Field ambulance moving wounded men between base hospitals, medical camps, trains and barges. They could also drive to move supplies and rations from coastal ports to the frontline.
FANY also staffed two ambulance convots a) The Calais Convoy b) St Omer Convoy. They had many roles - they ran soup kitchens, the mobile bathing unit, staffed hospitals and convalescent homes. Ran hospital canteens and organised concerts

WEEK 5 - Changes caused by the War - Development of Surgery

Antoine Depage
Developed a better way to treat wounds - he treated everyone as though they were infected. He removed any dirt or shrapnel from the wound then washed the wound with antiseptic. He left the wound open to the air for 24 to 48 hours. Swabbed the wound and looked for bacteria. If it was not infected, he closed the wound and dressed it
Alexis Carrel and Henry Dakin
Created an antiseptic solution that could flush a wound using a rubber tube. This was called irrigation

Thomas Splint
At the start of the war so many men had suffered a fractured femur and died. Robert Jones treated this injury using the Thomas Splint. It stopped the leg moving and prevented more damage. After this only 20 % of men with these injuries died.

The development of *X-rays was completely accidental:* In 1895 Wilhelm Roentgen, a German Physicist, was studying the effect of passing an electrical current through a glass tube covered in black paper. He noticed that although everything in the room was darkened, a screen about a metre from the equipment had begun to glow. He called these ***rays that could pass through glass' X'*****y still. During the war both sides used X-ray machines to find broken bones and shrapnel. The British had 14 mobile units located at the Clearing stations. These machines were good because it meant the surgeon did not have to touch the wound and ris further infection.**

Blood Transfusions: Blood loss caused many deaths. At the start of the war the only way to give a transfusion was from one person to another, a slow process. Then syringe - cannula technique was developed but the blood often clotted in the syringe. 1917 an American army doctor Captain Oswald Robertson set up a blood bank so that the blood was ready for use (Battle of Cambrai)

Wounds and injuries

Gunfire and shell explosions
Helmets
Machine guns and rifles caused gunshot wounds, bruises, fractured bones and organ damage
The trenches protected the body but not the head so there were a vast number of head wounds in the early years of the war.
Doctors saw lots of shrapnel embedded into the brain, skull fractures, scalp cuts and brain damage. In 1915 metal 'Bodie ' helmets were issued. Despite this injuries were often fatal,
Doctor Harvey Cushing used new techniques for brain surgery that were still used in the 1970s. He used X Rays to locate the shrapnel and drew it out using magnets

Infection
Many trenches were dug in farmland which was covered with bacteria from fertilisers. In Flanders drainage ditches had been destroyed by shelling sothe trenches were water logged and filled with bacteria. There were also unhygienic latrines and thousands of bodies were decomposing. Wounded men often had toilets for hours in contaminated trenches or no man's land until they were rescued. There was a risk of serious infection. This also caused sepsis. This made even minor injuries fatal.

Shells
Shrapnel from explosions caused horrific facial injuries and could kill instantly. Shrapnel shells were blown open in the air using a small fuse -they were filled with bullets and metal balls which flew out and hit soldiers. Other shells were designed to explode violently, sending jagged pieces of shrapnel into men's flesh. Doctor Harold Gillies a British surgeon developed a plastic surgery technique called tube pedicle which made skin grafting and facial reconstruction
Soldiers also got concussion from shell explosions and were poisoned by carbon monoxide from blasts .

Fighting Infection -There were few ways to fight infection at the start of the war

- Anti-tetanus serum was given to injured soldiers to prevent tetanus
- Wounds were washed with antiseptic solution called Carbolic Lotion and wrapped in bandages also soaked in carbolic acid
- A paraffin paste called Bipp was used to cover wounds to prevent infection
- Amputation was also used to prevent infection spreading

STEP 2: CREATE CUES

What: Reduce your notes to just the essentials.

What: Immediately after class, discussion, or reading session.

How:

- **Jot down key ideas, important words and phrases**
- **Create questions that might appear on an exam**
- **Reducing your notes to the most important ideas and concepts improves recall. Creating questions that may appear on an exam gets you thinking about how the information might be applied and improves your performance on the exam.**

Why: Spend at least ten minutes every week reviewing all of your previous notes. Reflect on the material and ask yourself questions based on what you've recorded in the Cue area. Cover the note-taking area with a piece of paper. Can you answer them?

STEP 1: RECORD YOUR NOTES

What: Record all keywords, ideas, important dates, people, places, diagrams and formulas from the lesson. Create a new page for each topic discussed.

When: During class lecture, discussion, or reading session.

How:

- **Use bullet points, abbreviated phrases, and pictures**
- **Avoid full sentences and paragraphs**
- **Leave space between points to add more information later**

Why: Important ideas must be recorded in a way that is meaningful to you.

STEP 3: SUMMARISE & REVIEW

What: Summarise the main ideas from the lesson.
What: At the end of the class lecture, discussion, or reading session.
How: In complete sentences, write down the conclusions that can be made from the information in your notes.
Why: Summarising the information after it's learned improves long-term retention.

WEEK 1: Cornell Notes (Homework task 1)

Topic: Causes of disease	Revision guide page:

Links **Questions**	**Notes**

Summary

WEEK 1: Exam Question (Homework task 2)

Question: Explain one reason why views on the causes of disease changed (4)

Answer:

WEEK 1: Exam Question review and improvement (Classwork)

Question:

Answer:

WEEK 2: Exam Question (Homework task 2)

Question: How far do you agree the discovery of the ‘magic bullet’ was the most important discovery for medicine? (8)

Answer:

WEEK 2: Exam Question review and improvement (Classwork)

Question:

Answer:

WEEK 3: Cornell Notes (Homework task 1)

Topic: NHS	Revision guide page

Links **Questions**	**Notes**

Summary

WEEK 3: Exam Question (Homework task 2)

Question: Explain one reason for the introduction of the NHS. (6)

Answer:

WEEK 3: Exam Question review and improvement (Classwork)

Question:

Answer:

WEEK 4: Exam Question (Homework task 2)

Question: Describe one key feature of trench warfare. (2)
Describe one key feature of the RAMC. (2)
Describe one key feature of Field ambulances. (2)

Answer:

WEEK 4: Exam Question review and improvement (Classwork)

Question:

Answer:

WEEK 5: Cornell Notes (Homework task 1)

Topic: Changes made by World War 1	Revision guide page

Links **Questions**	**Notes**

Summary

WEEK 5: Exam Question (Homework task 2)

Question: Describe one key feature of injuries soldiers got in trench warfare. (2)
Describe one key feature of the changes in blood transfusions. (2)
Describe one key feature of surgery on the Western Front. (2)

Answer:

WEEK 5: Exam Question review and improvement (Classwork)

Question:

Answer:

Week 2

Revision Card on Modern Treatments	Answers
1. What did Ehrich discover? 2. What did Sahachiro discover? 3. Who discovered the magic bullet? 4. What was the magic bullet? 5. Who discovered blood groups? 6. When and where was the first heart transplant? 7. What is the main problem with transplants ? How was it solved? 8. Name two new methods of surgery in the 20th century	

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Week 4

Revision Card on Trench warfare	Answers
1.Where was most trench warfare in WW1? 2. How many casualties were there at the battle of the Somme? 3. How were the German trenches different? 4. What was RAMC? 5. What did RAMC do? 6. Who were the FANY? 7. What job did the FANY do? 8.What was a Field ambulance?	