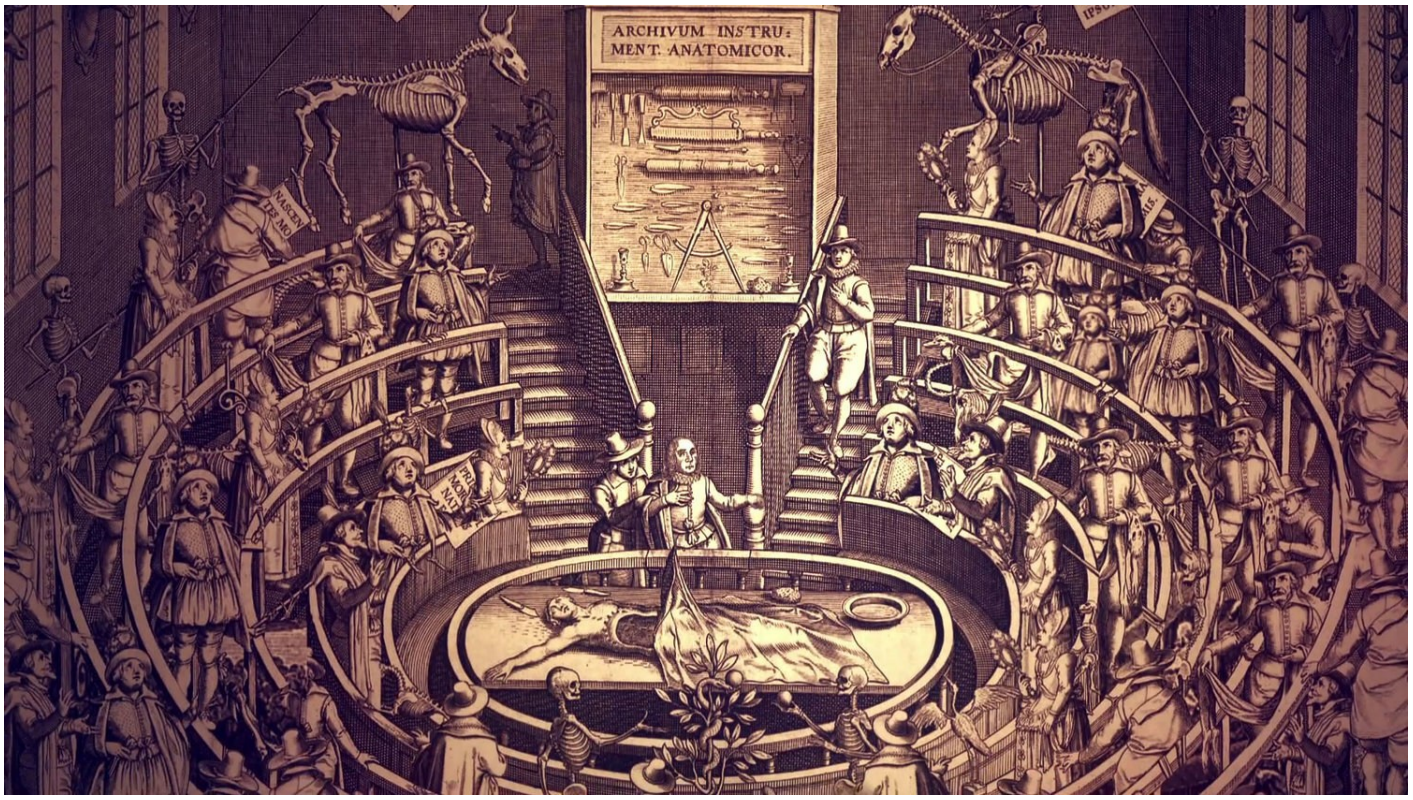
History



GCSE Revision Booklet

Medicine in Britain, c1250–present and The British sector of the Western Front 1914-1918

NAME:

Exam Board Specification—What can they test you on?

Medicine in Britain c1250 to present

Topics you need to know

1250-1500: Medicine in Medieval England

Ideas about the causes of disease:

◊ Supernatural and religious explanations of disease: The Theory of the 4 Humours; miasma theory; influence of Hippocrates and Galen.

Prevention and treatment:

◊ Religious actions, bloodletting, purging, purifying the air and the use of traditional remedies.

◊ Hospital care in the 13th century. The role of the physician, apothecary and barber surgeon, alongside care provided within the community and in hospitals.

Case study:

◊ Dealing with the Black Death 1348-49 treatments and attempts to prevent its spread.

1500-1700: Medical Renaissance in England

Ideas about the causes of disease:

◊ Continuity and change in explanations.

◊ A scientific approach - Thomas Sydenham and improvements in diagnosis.

◊ The printing press and Royal Society help the spread of ideas.

Prevention and treatment:

◊ Continuity in prevention and treatment and care in the community and in hospitals.

◊ Change in care and treatment: improvements in training and the influence of Vesalius.

Case studies:

◊ Key individual: William Harvey and the circulation of the blood.

◊ Dealing with the Great Plague of 1665 – treatments and attempts to prevent its spread.

1700-1900: Medicine in 18th and 19th century Britain

Ideas about the causes of disease:

◊ Continuity and change in explanations.

◊ Pasteur's Germ Theory and Koch's work on microbes.

Prevention and treatment:

◊ Extent of change in care and treatment: Improvements in hospital care and the influence of Florence Nightingale.

◊ The impact of anaesthetics and antiseptics on surgery.

◊ New approaches to prevention: the development and use of vaccinations and the Public Health Act of 1875

Case studies:

◊ Key individual: Edward Jenner and the development of vaccination

◊ Fighting cholera in London, 1854; attempts to prevent its spread; John Snow and the Broad Street Pump

1900-present: Medicine in modern Britain

Ideas about the causes of disease:

◊ Advances in understanding the causes of disease: the influence of genetic and lifestyle factors on health.

◊ Improvements in diagnosis: the impact of blood tests, scans and monitors

Prevention and treatment:

◊ Impact of the NHS, science and technology and improved access to care

◊ Advances in medicines, including magic bullets and antibiotics

◊ High-tech medical and surgical treatment in hospitals

◊ New methods of prevention: mass vaccination and government lifestyle campaigns

Case studies:

◊ Key individuals: Fleming, Florey and Chain's development of penicillin

◊ The fight against lung cancer in the 21st century – science & technology vs. government action

Exam Board Specification—What can they test you on?

The British Sector of the Western Front 1914-1918

The context of the British sector of the Front and the theatre of war in Flanders and northern France

- The Ypres salient, the Somme, Arras and Cambrai
- The trench system – construction, organisation, including frontline and support trenches
- The use of mines at Hill 60 near Ypres and the expansion of tunnels, caves and quarries at Arras
- Significance for medical treatment of the nature of the terrain and problems of the transport and communications infrastructure

Conditions requiring medical treatment on the Western Front

- Problems of ill health arising from the trench environment
- Nature of wounds from rifles and explosives
- Problem of shrapnel, wound infection and increased numbers of head injuries
- The effects of gas attacks

The work of the RAMC and FANY

- The system of transport; stretcher bearers, horse and motor ambulances
- The stages of treatment areas: aid post and field ambulance, dressing station, casualty clearing station and base hospital.
- The underground hospital at Arras.

The significance of the Western Front for experiments in surgery and medicine

- New techniques in the treatment of wounds and infection
- The Thomas splint
- The use of mobile x-rays
- Creation of a blood bank for the Battle of Cambrai

The historical context of medicine in the early 20th century

- The understanding of infection and moves towards aseptic surgery
- The development of x-rays
- Blood transfusions and developments in the storage of blood

Knowledge selection and the use of sources for historical enquiries

- Knowledge of national sources relevant to the period and issue, e.g. army records, national newspapers, government reports, medical articles
- Knowledge of local sources relevant to the period and issue, e.g. personal accounts, photographs, hospital records, army statistics
- Recognition of the strengths and weaknesses of different types of source for specific enquiries
- Framing of questions for a specific enquiry
- Selection of appropriate sources for specific investigations

Timeline 1250– present

Ancient Greece & Rome - Hippocrates & Galen influencing natural medicine

1300s

1348 - Arrival of Black Death in Britain

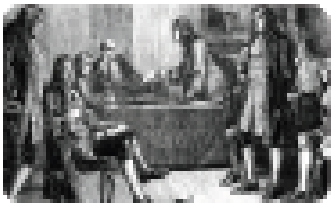
1400s

c1439 - Invention of printing press

1500s

1536-40 - Dissolution of monasteries

1543 - Vesalius' The Fabric of the Human Body published

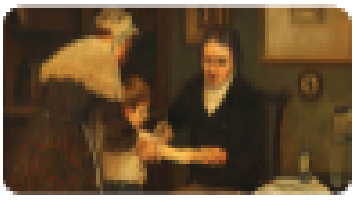


1600s

1628 - Publication of Harvey's An Anatomical Account of the Motion of the Heart and Blood

1660 - Royal Society established

1665 - The Great Plague



1676 - Thomas Sydenham's Observations Medicae published

1700s

1796-98 - Jenner's development of smallpox vaccine

1800s

1847 - Simpson discovered chloroform as anesthetic

1854 - John Snow discovered cholera was being spread through water pump

1857 - Mary Seacole published 'The Wonderful Adventures of Mrs Seacole in Many Lands'

1859 - Florence Nightingale's Notes on Nursing Published

1860 - Opening of Florence Nightingale's School of Nursing

1861 - Pasteur's discovery of Germ Theory

1866 - Lister began use of carbolic acid

1875 Second Public Health Act

1876 - Koch discovered bacteria that causes anthrax

1895 - Röntgen's discovery of x-rays

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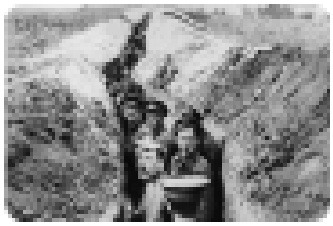
Timeline 1250– present

1900s

1909-10 - Ehrlich & Hata's discovery of first magic bullet

1901 - Landsteiner's discovery of blood groups



1910s

1914 - Marie Curie's development of mobile x-ray

1914 - Start of WWI

1915 - Use of chlorine-phosgene gas on troops at Ypres

1915 - Use of chlorine gas on troops at Loos

1915 - Lewisohn found adding sodium nitrate to blood stopped it clotting

1915 - Weil discovered blood could be stored for 2 days by refrigerating it

1916 - Battle of the Somme

1916 - Underground Hospital at Arras opened

1917 - Use of mustard gas on troops at Ypres

1917 - First blood depot at the Battle of Cambrai

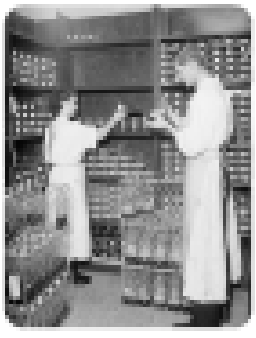
1917 - Underground Hospital at Arras abandoned

1920s

1928 - Fleming discovered penicillin

1940s

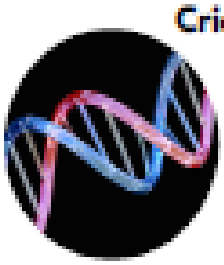
1941 - Florey & Chain mass production of penicillin



1948 - NHS launched

1950s

1953 - Franklin, Watson & Crick's discovery of the structure of DNA



1990s

1990 - Mapping of the Human Genome

2000s

2005 - Cigarette advertising completely banned

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Key Individuals

Below is a list of all the key individuals you need to be aware of. Fill in the blank column as you discover them through the booklet.

Key individual	Time Period	What did they do and when did they do it (Specific years)?
Hippocrates	Medieval	
Galen	Medieval	
Andreas Vesalius	Renaissance	
William Harvey	Renaissance	
Thomas Sydenham	Renaissance	
Edward Jenner	Industrial	
Louis Pasteur	Industrial	
Robert Koch	Industrial	

Key Individuals

Key individual	Time Period	What did they do and when did they do it (Specific years)?
James Simpson	Industrial	
John Snow	Industrial	***(There's two things here)***
Joseph Lister	Industrial	
Florence Nightingale	Industrial	
Ehrlich & Hata	Modern	
Alexander Fleming	Modern	
Florey and Chain	Modern	
Crick & Watson	Modern	

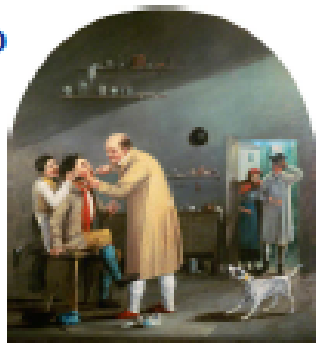
Medieval Medicine (1250-1500) - General Revision

Read through this mind map. You will be tested on the next page.

MEDICINE IN BRITAIN c1250-c1500

Physicians → Trained at universities in Hippocrates, Galen and Arab medical writers (e.g., Rhazes), fewer than 100 in England in 1300 and charged high fees

Barber Surgeons → Not trained, learned through practice and carried out bloodletting and amputations and also cut hair



Apothecaries → Sold herbal remedies - cheaper than doctors

Hospitals → Ran by monasteries, the most ill were not admitted due to fear of disease spreading

Hippocrates

Born in 460BC in Ancient Greece

Focused on natural causes

Theory of the Four Humours
- Black Bile
- Yellow Bile
- Blood
- Phlegm

Put forward the idea of clinical observation

Patient was ill if humours out of balance - to be cured must restore balance

- Purging - Swallowing herbs and fat to make patient sick or taking a laxative to empty bowels
- Blood-Letting - Done by a surgeon who drew blood out often with leeches
- Zodiac Charts - It was believed the body was linked to the planets and zodiac charts showed doctors when to avoid treating each part of body

Galen

Doctor in Ancient Rome

Built upon Hippocrates' Theory of the Four Humours

Theory of Opposites - Patient must be treated with something opposite to restore balance

Not allowed to dissect humans so difficult to disprove him

Very influential ideas as supported by Church

The Black Death

- Reached England in 1348
- Spread via rats' fleas, however no one knew this
- Believed to be a punishment from God, so people would practice self-flagellation
- Some thought it had an astronomical cause
- Others thought it was caused by miasma - bad air

Sufferers of the Black Death had:
- Fever
- Headache
- Vomiting
- Buboes

Disease developed very quickly

Herbal Remedies

Many remedies did actually help the sick, such as honey and plantain used in cuts which help fight infection

Black Death killed over 20 million people in Europe, which was 1/3 of population

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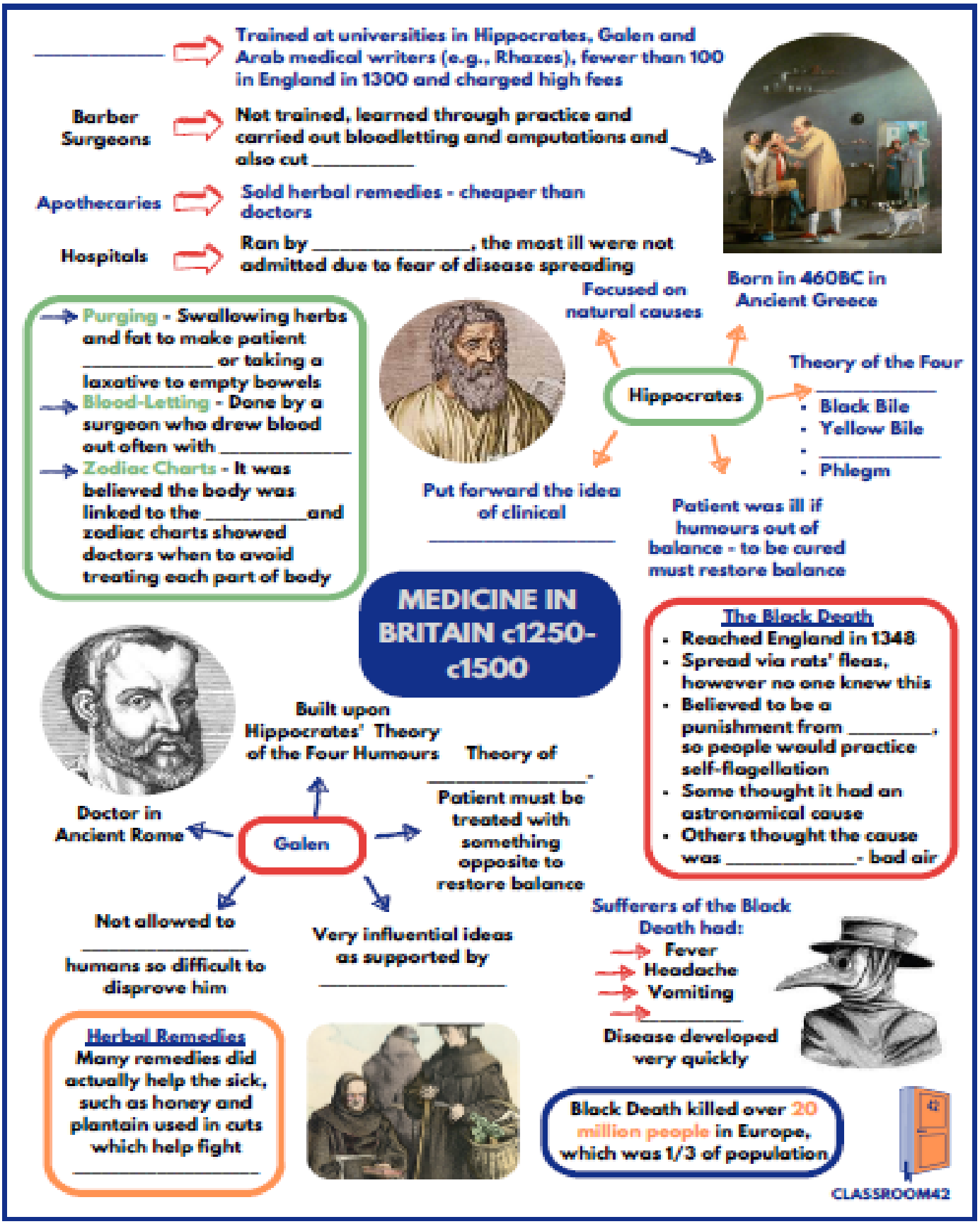
Medieval Medicine (1250-1500) - General Revision

Fill in the mind map as best you can **from memory.** Afterwards, check the answers from the completed mind map on the previous page. NO CHEATING!



Medieval Medicine (1250-1500) - General Revision

Answer the quiz questions as best you can **from memory.** Give yourself a mark out of 10 using the answers on the next page! NO CHEATING!

1. Hippocrates' Four Humours were....

_____

2. What fraction of Europe's population were killed by the black death?

_____

3. What theory did Galen propose, building on Hippocrates ideas?

_____

4. When did the black Death reach England?

_____

5. What was the belief that disease spread through bad air?

_____

6. What kind of surgeons were untrained and carried out amputations, as well as cutting hair?

_____

7. What did apothecaries sell?

_____

8. What was the practice of getting patients to swallow herbs and fat to make them sick?

_____

9. Who ran hospitals in c1250-c1500?

_____

10. Give one symptom of the black death:

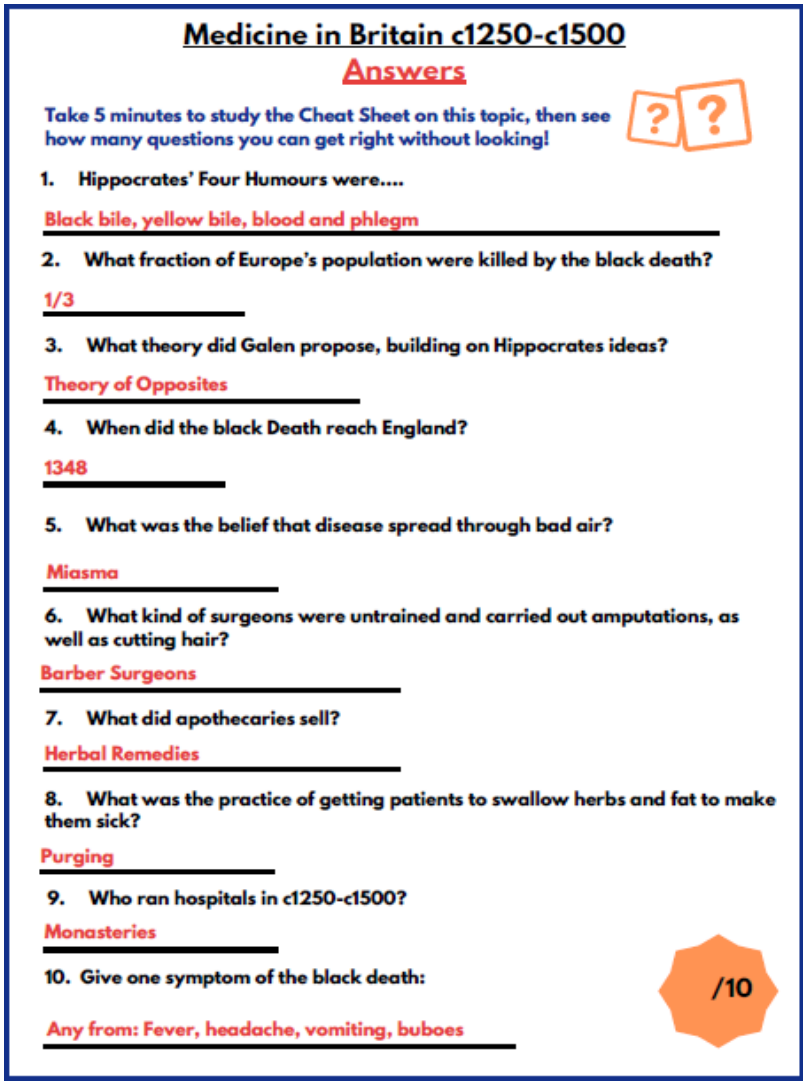
_____

/10

Medieval Medicine (1250-1500) - Revision Review

Based on how you did with the previous activities, RAG the sub-topics based on your confidence within medieval medicine. Green = You understand it really well. Amber = I know a bit but could know more. Red = Not confident in my knowledge on this at all.

Sub-topic	Confidence Level
The Four Humours, Hippocrates & Galen	
Medieval Causes	
Medieval Treatments	
Medieval Healers	
Medieval Preventions	
The Black Death	



Medicine in Britain c1250-c1500

Answers

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!

1. Hippocrates' Four Humours were....

Black bile, yellow bile, blood and phlegm

2. What fraction of Europe's population were killed by the black death?

1/3

3. What theory did Galen propose, building on Hippocrates ideas?

Theory of Opposites

4. When did the black Death reach England?

1348

5. What was the belief that disease spread through bad air?

Miasma

6. What kind of surgeons were untrained and carried out amputations, as well as cutting hair?

Barber Surgeons

7. What did apothecaries sell?

Herbal Remedies

8. What was the practice of getting patients to swallow herbs and fat to make them sick?

Purging

9. Who ran hospitals in c1250-c1500?

Monasteries

10. Give one symptom of the black death:

Any from: Fever, headache, vomiting, buboes

/10

Now you have completed some general revision and have an overview of Medieval Medicine. The purpose of completing the RAG activity afterwards is you have now clear priorities of what you should revise first. The Red sub-topics should be your first priority, then the amber sub-topics and finally the green. Continue on for some specific tasks on how to revise each of these.

Renaissance Medicine (1500-1700) - General Revision

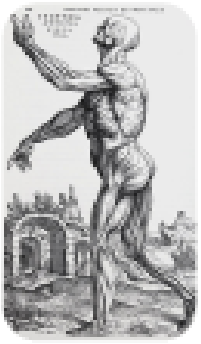
Read through this mind map. You will be tested on the next page.

MEDICINE IN BRITAIN c1500-c1700

- Herbal remedies were still popular, many were written in a book called The Complete Herbal
- Healers had more access to travel to access ingredients such as rhubarb and tobacco from Asia and America
- Hospitals were run by monasteries so closed when Henry VIII dissolved them in the 1530s
- Hospitals were then run by physicians rather than monks and focused on treatment

Royal Society
Founded in 1660 and sponsored scientists to study physics, astronomy, botany and medicine

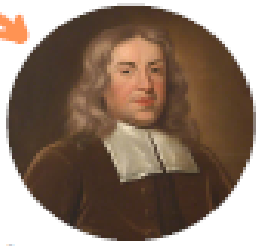
Printing Press invented in c1439 - scientists could publish their discoveries



Vesalius
- Catholic Church forbade human dissection
- A judge allowed Vesalius to dissect executed criminals
- Vesalius used evidence to disprove Galen's theories e.g. that the jawbone was made of two bones as this was true for the animals he dissected
- In 1543 Vesalius published 'The Fabric of the Human Body'
- Demonstrated importance of anatomical knowledge

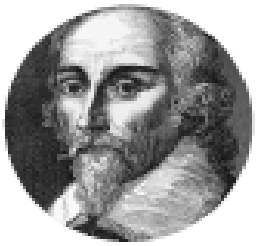
- Paracelsus - Swiss doctor in early 1500s who criticised
- Theory of Four Humours and argued illness was caused and should be treated by chemicals
- Ideas were rejected

Thomas Syndenham - English doctor in late 1600s
Believed observation was essential and wrote book Observationes Medicae (1676) which described how to diagnose disease



Great Plague of 1665
- Cause of spread was still not understood
- Approx. 75,000 people died from the Great Plague in London
- Miasma still popular belief
- Stray animals were killed but this made plague spread faster as cats killed rats

Harvey
- Book 'An Anatomical Account of the Motion of the Heart and Blood' 1628 allowed ideas to spread
- English doctor born in 1578
- Carried out dissections on animals and humans
- Challenged Galen's idea that blood was produced in liver and absorbed by body
- Ideas not immediately accepted
- Proved heart acted like a pump and blood moved in a one way system around body



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Renaissance Medicine (1500-1700) - General Revision

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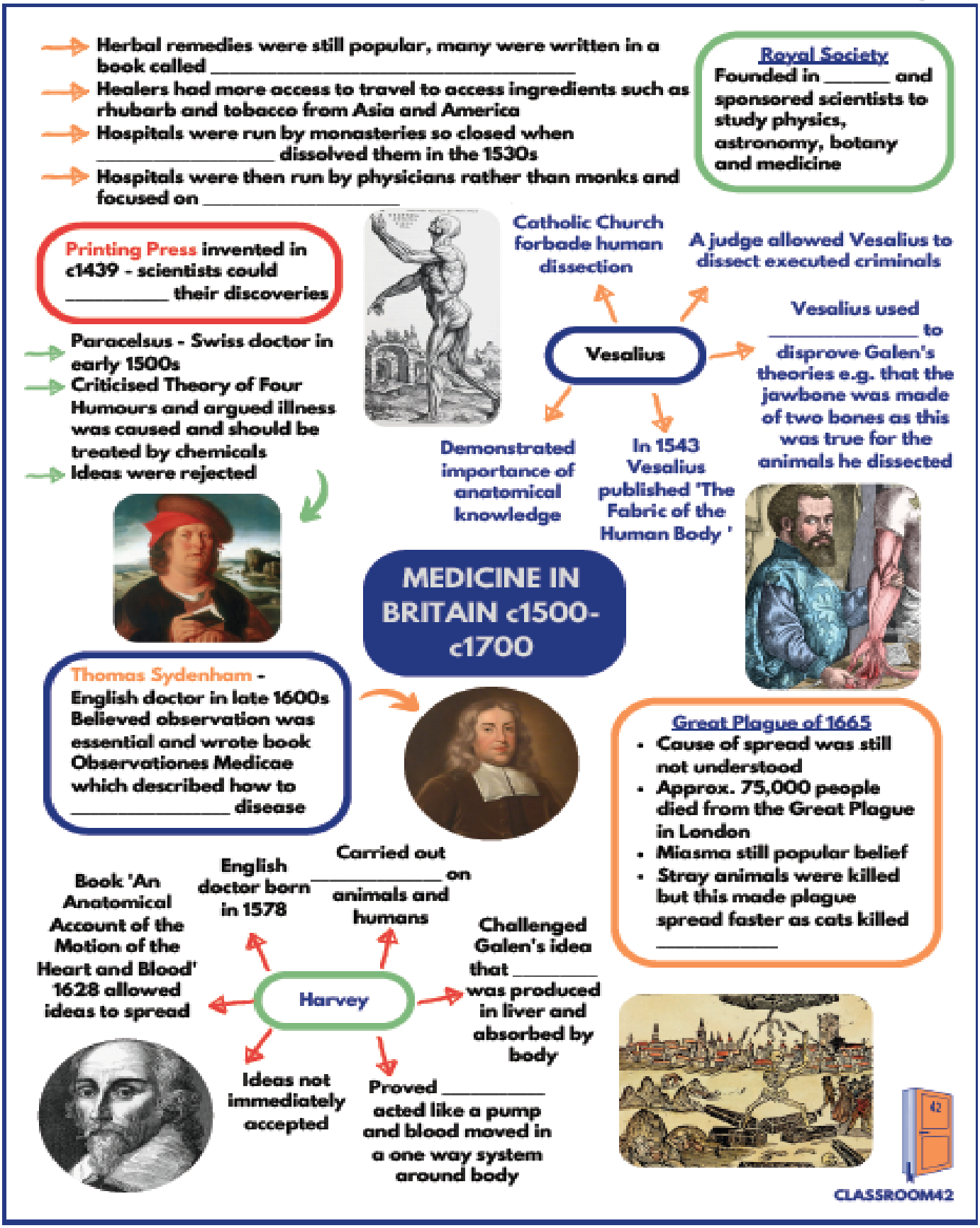

Renaissance Medicine (1500-1700) - General Revision

Answer the quiz questions as best you can **from memory.** Give yourself a mark out of 10 using the answers on the next page! NO CHEATING!

Medicine in Britain c1500-c1700
Quiz Questions

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!

1. When was the Royal Society founded?

2. Who ran hospitals after 1530s?

3. Name one aspect of the heart that William Harvey proved.

4. Approximately how many people died from the Great Plague in London?

5. What was invented in c1439 that helped medicine develop?

6. What book did Vesalius publish in 1543?

7. True or False? Vesalius used animal dissection to disprove some of Galen's theories.

8. Which doctor wrote the book 'Observationes Medicae'?

9. When did Harvey publish his book 'An Anatomical Account of the Motion of the Heart and Blood'?

10. Which Swiss doctor argued that illness was caused by chemicals and should be treated with chemicals in 1500s?

/10

Renaissance Medicine (1500-1700) - Revision Review

Based on how you did with the previous activities, RAG the sub-topics based on your confidence within Renaissance medicine. Green = You understand it really well. Amber = I know a bit but could know more. Red = Not confident in my knowledge on this at all

Sub-topic	Confidence Level
Key individuals (Vesalius, Harvey and Sydenham)	
Factors affecting progress	
Causes and Treatments	
Great Plague of 1665	

Medicine in Britain c1500-c1700

Answers

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!

1. When was the Royal Society founded?

1660

2. Who ran hospitals after 1530s?

Physicians

3. Name one aspect of the heart that William Harvey proved.

It worked like a pump/blood moved in a one way system

4. Approximately how many people died from the Great Plague in London?

75,000

5. What was invented in c1439 that helped medicine develop?

Printing Press

6. What book did Vesalius publish in 1543?

The Fabric of the Human Body

7. True or False? Vesalius used animal dissection to disprove some of Galen's theories.

False – Vesalius used human dissection

8. Which doctor wrote the book 'Observationes Medicae'?

Thomas Sydenham

9. When did Harvey publish his book 'An Anatomical Account of the Motion of the Heart and Blood'?

1628

10. Which Swiss doctor argued that illness was caused by chemicals and should be treated with chemicals in 1500s?

Paracelsus

/10

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Industrial Medicine (1700-1900) - General Revision

Read through this mind map. You will be tested on the next page.

- In 1842 Chadwick compiled a report on living conditions of poor citizens
- Argued there should be organised drainage and refuge collection and clean water
- 1848 outbreak of cholera pressured government to pass Public Health Act - but was not compulsory
- Second Public Health Act 1875 - forced authorities to provide clean water and sewerage systems

French chemist and micro-biologist in mid-late 1800s

Published Germ Theory in 1861 but spontaneous generation belief still popular

Louis Pasteur

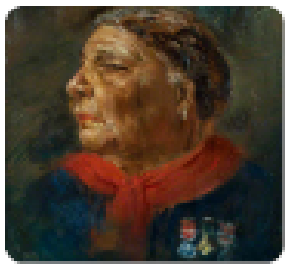
In 1879 discovered exposing the germ that caused chicken cholera to air weakened it and injecting this weakened version prevented chickens catching the disease - vaccine

Discovered that bacteria could be killed with heat - pasteurisation

In 1847 Simpson first used chloroform successfully and was used for childbirth and operations

Robert Koch

- German doctor and microbiologist in late 1800s
- Applied Germ Theory to prove how bacteria caused disease and identified bacteria that caused anthrax, TB and cholera
- Found a way of isolating bacteria making it easier for future scientists
- Discovered using dyes to stain microbes



MEDICINE IN BRITAIN c1700-c1900

John Snow

Published 'On the Mode of Communication of Cholera' 1849
Cholera outbreak in 1854 in Soho
Discovered a water pump was cause of spread, when pump was removed spread reduced
However, could not explain why cholera was waterborne

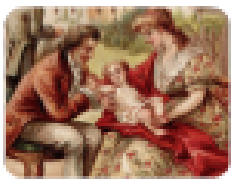
Mary Seacole

- In 1854 she travelled to England and asked to be sent to Crimea to care for soldiers but was refused
- Funded her own trip and established the British Hotel to provide care for soldiers
- In 1857 published 'The Wonderful Adventures of Mrs Seacole in Many Lands'

Jenner heard milkmaids would not catch smallpox, but a milder form of cowpox

Very influential - Napoleon had French army vaccinated by 1805

Edward Jenner



Florence Nightingale

- In 1854 during the Crimean War she went to Turkey and cared for wounded soldiers
- She significantly improved hygiene in the hospital e.g., washing bedding
- She also suggested opening the windows to circulate air and better quality food
- In 1859 wrote 'Notes on Nursing' which was a bestseller

In 1796, Jenner injected James Phipps with pus from a milkmaid's sores, then smallpox - Phipps developed cowpox but not smallpox

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Industrial Medicine (1700-1900) - General Revision

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Published _____ _____ in 1861 but spontaneous generation belief still popular

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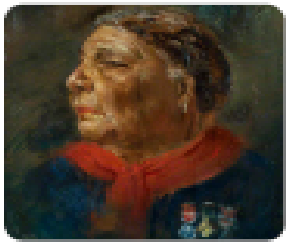

MEDICINE IN BRITAIN c1700-c1900

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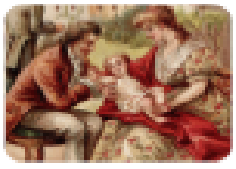

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CLASSROOM42

Industrial Medicine (1700-1900) - General Revision

Answer the quiz questions as best you can **from memory.** Give yourself a mark out of 10 using the answers on the next page! NO CHEATING!

Medicine in Britain c1700-c1900
Quiz Questions

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!

1. Who published Germ Theory in 1861?

_____

2. Who applied Germ Theory and identified the bacteria that causes TB, anthrax and cholera?

_____

3. What was successfully used as an anesthetic in 1847 for childbirth and operations?

_____

4. Who first used the anesthetic mentioned above?

_____

5. What did John Snow discover was the cause of a major cholera outbreak in 1854?

_____

6. Which disease did Jenner create a vaccine for in 1796?

_____

7. What was the name of the child Jenner successfully tested his vaccine on?

_____

8. Name one improvement Florence Nightingale suggested in hospitals during the Crimean War:

_____

9. What was the name of the establishment Mary Seacole opened to help soldiers during the Crimean War?

_____

10. When was the Second Public Health Act that forced authorities to provide clean water and sewerage systems?

_____

/10

Industrial Medicine (1700-1900) - Revision Review

Based on how you did with the previous activities, RAG the sub-topics based on your confidence within Industrial medicine. Green = You understand it really well. Amber = I know a bit but could know more. Red = Not confident in my knowledge on this at all.

Sub-topic	Confidence Level
Edward Jenner	
Spontaneous generation and germ theory	
Improvements in surgery	
John Snow	
Florence Nightingale	
Public Health	
Vaccination campaigns	

Medicine in Britain c1700-c1900
Answers

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!

1. Who published Germ Theory in 1861?

Louis Pasteur

2. Who applied Germ Theory and identified the bacteria that causes TB, anthrax and cholera?

Robert Koch

3. What was successfully used as an anesthetic in 1847 for childbirth and operations?

Chloroform

4. Who first used the anesthetic mentioned above?

James Simpson

5. What did John Snow discover was the cause of a major cholera outbreak in 1854?

Water Pump

6. Which disease did Jenner create a vaccine for in 1796?

Smallpox

7. What was the name of the child Jenner successfully tested his vaccine on?

James Phipps

8. Name one improvement Florence Nightingale suggested in hospitals during the Crimean War:

Any from: washing bedding, opening windows, better food

9. What was the name of the establishment Mary Seacole opened to help soldiers during the Crimean War?

British Hotel

10. When was the Second Public Health Act that forced authorities to provide clean water and sewerage systems?

1875

/10

Now you have completed some general revision and have an overview of Industrial medicine. The purpose of completing the RAG activity afterwards is you have now clear priorities of what you should revise first. The Red sub-topics should be your first priority, then the amber sub-topics and finally the green. Continue on for some specific tasks on how to revise each of these.

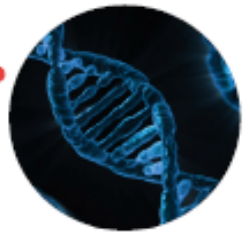
Modern Medicine (1900 - present) - General Revision

Read through this mind map. You will be tested on the next page.

MEDICINE IN BRITAIN c1900-PRESENT

People better understood how lifestyle can cause disease:
- Smoking
- Poor diet
- Alcohol
- Pollution
- Stress

Franklin, Watson & Crick mapped out structure of **DNA** in 1953 - led to better understanding of genetic diseases



Magic Bullets - idea of killing germs inside body without harming healthy tissue
Ehrlich and Hata tested various substances that could be used to cure a rabbit from **syphilis**
They found Salvarsan worked - this was the first magic bullet which went onto the market in 1910

NHS

- Booth and Rowntree published reports to demonstrate need for a welfare state
- Bevan (Minister of Health) launched creation of NHS in 1948
- Made healthcare free at the point of delivery
- Introduced healthy living campaigns - Smokefree and Change4Life

- **Blood Groups** discovered in 1901 by Landsteiner
- Röntgen discovered **X-rays** in 1895
- Hounsfield created **CAT scanners** in 1972
- **Self monitoring** - patients can measure own blood pressure and blood sugar levels with tech such as Apple Watches

Alexander Fleming
In 1928 Fleming left a window open in his lab and bacteria had been killed by a mould - penicillin

Margaret Hutchinson Rousseau
Developed technology to mass produce penicillin

Florey & Chain
They were given funding by government to produce penicillin for war
In 1941 USA entered war and gave $80 million to fund research
By 1943 penicillin was mass produced

Lung Cancer
- In 1950 the British Medical Research Council published research connecting lung cancer to smoking
- Each lung cancer patient costs the NHS more than £9000
- In 2005 cigarette advertising was completely banned
- In 2012 cigarettes were removed from display in shops

Current treatments for lung cancer:
- Radiotherapy
- Chemotherapy
- Transplant
- Immunotherapy

CLASSROOM42

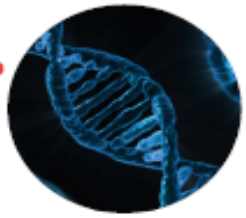
Modern Medicine (1900 - present) - General Revision

Fill in the mind map as best you can **from memory.** Afterwards, check the answers from the completed mind map on the previous page. NO CHEATING!

People better understood how _____ can cause disease:can cause disease:

- Smoking
- Poor diet
- Alcohol
- Pollution
- Stress

Franklin, Watson & Crick mapped out structure of _____ in 1953 - led to better understanding of genetic diseases



Magic Bullets - idea of killing germs inside body without harming _____ tissue
Ehrlich and Hata tested various substances that could be used to cure a _____ from **syphilis**
They found Salvarsan worked - this was the first magic bullet which went onto the market in 1910

Booth and Rowntree published reports to demonstrate need for a _____

NHS

Bevan (Minister of Health) launched creation of ____ in 1948

Made healthcare _____ at the point of delivery

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MEDICINE IN BRITAIN c1900-PRESENT

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In 1941 USA entered war and gave $80 million to fund research
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Current treatments for lung cancer:

- Radiotherapy
- Chemotherapy
- Transplant
- Immunotherapy

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Modern Medicine (1900 - present) - General Revision

Answer the quiz questions as best you can **from memory.** Give yourself a mark out of 10 using the answers on the next page! NO CHEATING!

Medicine in Britain c1900-Present
Quiz Questions

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!

1. When was the NHS launched?

_____

2. Who discovered blood groups in 1901?

_____

3. Give one current treatment for lung cancer.

_____

4. How much does each lung cancer patient cost the NHS?

_____

5. What did Fleming accidentally discover after leaving a window open in his lab?

_____

6. Name one individual who published a report demonstrating the need for a welfare state.

_____

7. The first magic bullet helped to cure which disease?

_____

8. Which individuals mapped out the structure of DNA in 1953?

_____

9. Name one lifestyle aspect that is now understood to cause disease.

_____

10. When did Röntgen discover X-rays?

_____

/10

Modern Medicine (1900 - present) - General Revision

Based on how you did with the previous activities, RAG the sub-topics based on your confidence within Modern medicine. Green = You understand it really well. Amber = I know a bit but could know more. Red = Not confident in my knowledge on this at all.

Sub-topic	Confidence Level
Magic bullets	
Penicillin	
Introduction of NHS	
Discovery of DNA	
Causes of disease & diagnosis	
Prevention of disease	
Fight against Lung Cancer (Case study)	

Medicine in Britain c1900-Present
Answers

Take 5 minutes to study the Cheat Sheet on this topic, then see how many questions you can get right without looking!

1. When was the NHS launched?

1948

2. Who discovered blood groups in 1901?

Landsteiner

3. Give one current treatment for lung cancer.

Radiotherapy, chemotherapy, transplant, immunotherapy

4. How much does each lung cancer patient cost the NHS?

Around £9,000

5. What did Fleming accidentally discover after leaving a window open in his lab?

Penicillin

6. Name one individual who published a report demonstrating the need for a welfare state.

Rowntree, Booth

7. The first magic bullet helped to cure which disease?

Syphilis

8. Which individuals mapped out the structure of DNA in 1953?

Franklin, Watson & Crick

9. Name one lifestyle aspect that is now understood to cause disease.

Smoking, poor diet, alcohol, pollution, stress

10. When did Röntgen discover X-rays?

1895

/10

Now you have completed some general revision and have an overview of Modern medicine. The purpose of completing the RAG activity afterwards is you have now clear priorities of what you should revise first. The Red sub-topics should be your first priority, then the amber sub-topics and finally the green. Continue on for some specific tasks on how to revise each of these.

British Sector of the Western Front - General Revision

Read through this mind map. CONTINUES ON NEXT PAGE.

Aseptic Surgery
Lister used carbolic acid to kill infection from 1865
Required to wash self and surgical instruments sterilised

Medical Developments Before WWI

X-Rays
Discovered by Röntgen in 1895
Used in hospitals from 1896
Not fully understood

Blood Transfusions
First performed by Blundell in 1818
In 1894 Wright found chemicals which prevented it from clotting
In 1901 Landsteiner discovered blood groups

Shelling ⇨ Destroyed roads

Battlefield ⇨ Used to be farmland so bacteria from fertiliser remained

Ambulance Wagons ⇨ Drawn by horses but shaky so worsened injury

Base Hospitals ⇨ On the coast, had operating theatres

The Underground Hospital at Arras
- Opened in 1916
- Fully operational
- 700 spaced for stretchers and beds
- Operating theatre, electricity and water
- Abandoned when water supply was destroyed in Battle of Arras 1917

BRITISH SECTOR OF THE WESTERN FRONT 1914-18 P1

Chain of Evacuation

Stretcher Bearers - collected wounded from frontline

↓

Regimental Aid Posts - gave immediate first aid, aimed to get soldiers back to combat

↓

Main Dressing Stations - dealt with more serious injuries in bunkers and tents

↓

Casualty Clearing Stations - dealt with more critical injuries in old factories or schools

↓

Base Hospitals - near the coast so wounded could travel back to Britain, doctors specialised in specific injuries

Royal Army Medical Corps (RAMC) - included doctors, ambulance drivers and stretcher bearers
First Aid Nursing Yeomanry (FANY) - sent women volunteers to work as nurses on Western Front

Medical Conditions

- **Trench Foot** - caused by standing in cold water and mud for long periods
- **Trench Fever** - caused by lice
- **Shrapnel and Bullet Injuries** - caused by explosions and combat
- **Shellshock** - caused by stress of warfare
- **Gas Injuries** - caused burning skin, blisters & suffocation
- **Gas Gangrene** - wounds infected by bacteria from soil

CLASSROOM42

British Sector of the Western Front - General Revision

Read through this mind map. Continued from last page

BRITISH SECTOR OF THE WESTERN FRONT 1914-18 P2

3 Ways of Dealing with Infection:

1. Debridement - removing dead or infected tissue
2. Carrel-Dakin Method - killed infection using sterilised salt solution
3. Amputation - removing infected limbs

Thomas Splint kept limbs and joints still during surgery - wounded soldiers often died from wounds in legs if not kept still as lost so much blood and infections

Improved survival rates from leg injuries from 20% to 82%

Blood Banks - in 1915 Lewisohn found adding sodium nitrate to blood prevented it from clotting, and Weil discovered it would be stored for 2 days by refrigerating it

Blood Transfusions - used from 1915 on Western Front

A British doctor in RAMC - Keynes - designed a portable kit so could be carried out near front-line

Marie Curie - spent WWI building mobile x-rays units to be used to detect shrapnel on the frontline

1st Battle of Ypres

- Oct-Nov 1914
- Salient = 3 sides of the area surrounded by enemy
- British lost >50,000 troops

The 2nd Battle of Ypres

- April - May 1915
- British unprepared for use of gas as a weapon
- Used urine-soaked cloths as gas masks
- British lost 59,000 troops

The Battle of the Somme

- July - November 1916
- 20,000 British troops died on the 1st day of the battle
- >400,000 British soldiers died altogether
- British used the creeping barrage = launching artillery from the trenches just in front of advancing British troops

The Battle of the Arras

- April - May 1917
- With help from New Zealand, Britain dug a network of underground caves at Arras
- 24,000 British troops attacked from the tunnels
- Nearly 16,000 British and Canadian casualties

The Battle of Passchendaele (3rd Battle of Ypres)

- July - November 1917
- British aimed to break out of the Ypres Salient
- The ground was waterlogged due to bad weather; many men drowned in the mud
- 245,000 British casualties

The Battle of Cambrai

- November - December 1917
- 1st successful, large-scale use of tanks (nearly 500)
- Advanced on German position
- Success limited by lack of infantry

CLASSROOM42

British Sector of the Western Front - General Revision

Fill in the mind map as best you can **from memory.** Afterwards, check the answers from the completed mind map on the previous page. NO CHEATING!

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BRITISH SECTOR OF THE WESTERN FRONT 1914-18 P1

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_____ - caused by stress of warfare

Gas Injuries - caused burning _____, blisters & suffocation

Gas _____ - wounds infected by bacteria from soil

CLASSROOM42

British Sector of the Western Front - General Revision

Fill in the mind map as best you can **from memory.** Afterwards, check the answers from the completed mind map on the previous page. NO CHEATING!

BRITISH SECTOR OF THE WESTERN FRONT 1914-18 P2

3 Ways of Dealing with Infection:

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- 24,000 British troops attacked from the tunnels
- Nearly 16,000 British and Canadian casualties

CLASSROOM42

British Sector of the Western Front - General Revision

Answer the quiz questions as best you can **from memory.** Give yourself a mark out of 10 using the answers on the next page! NO CHEATING!

British Sector of the Western Front Quiz Questions

Take 5 minutes to study the Cheat Sheets on this topic, then see how many questions you can get right without looking!

1. When did the Underground Hospital of Arras open?

2. What is the first step in the chain of evacuation?

3. What does RAMC stand for?

4. What was gas gangrene caused by?

5. Why were ambulance wagons problematic?

6. What was the Carrel-Dakin Method?

7. Who kept limbs and joints still in surgery which greatly increased survival rates of leg injuries?

8. What did soldiers used as masks when they did not have gas masks during 2nd Battle of Ypres?

9. What could be added to blood to prevent it from clotting for blood banks?

10. Which scientist built mobile x-ray units to be used on the frontline?

/10

Overview of the First World War 1914-18

August 1914: War begins

Initially Austria-Hungary declared war on Serbia but alliances pulled other countries into war. Germany's invasion of France and Belgium led to Britain declaring war on 4 August 1914 on Germany in support of Belgium and France.

Germany, Austria-Hungary, Turkey **versus** Britain and her empire, Russia, France, Belgium, Serbia

August–September 1914: The first trenches

The German army planned to knock France out of the war quickly, but French and British troops halted the German advance at the battle of the Marne near Paris. Neither side retreated. Instead they dug in to defend the territory they had. Both sides built trenches defended with barbed wire and machine guns.

April–May 1915: Second Battle of Ypres

A German attack using chlorine gas for the first time in the war failed to capture Ypres. Allied casualties are estimated at 60,000, German at 35,000.

February–December 1916: Battle of Verdun

German forces attacked the French army at Verdun. The French held out but 160,000 French soldiers were killed.

July–November 1916: Battle of the Somme

On 1 July the British and French launched a major attack, aiming to force Germany to move its troops away from Verdun to the Somme and so relieve the pressure on the French army. There were 60,000 British casualties on the first day alone and 400,000 by the time this battle ended. Germany did reduce the pressure on Verdun and the French army was not defeated. British forces gained just 5 miles of land during these months.

April–May 1917: Battle of Arras

In spring 1917 there was another large-scale Allied attack on German positions. Some ground was captured initially but casualties were very high.

November–December 1917: Battle of Cambrai

For the first time the British army used a large number of tanks, massed together, to attack German trenches. After initial success the British were forced back. There were 40,000 British casualties.

Spring 1918: The German Spring Offensive

The German army launched a major attack along a 50-mile front, aiming to bring the war to an end before American forces arrived and before Germany ran out of food supplies. At first this attack was very successful, making significant gains of territory, forcing British and Allied troops to retreat, and causing 200,000 British casualties. However, the German army could not make a complete breakthrough.

1914

1918

August 1915: Gallipoli Landings

British, Australian and New Zealand forces landed at Gallipoli in Turkey aiming to defeat Germany's ally, Turkey. The plan failed, leading to extremely high casualties.

October–November 1914: First Battle of Ypres

In this battle, British troops stopped the German army from capturing ports such as Calais. This meant reinforcements and equipment could keep arriving by ship for the British army. By the end of 1914 trenches stretched from Switzerland to the English Channel. The trenches were so strongly defended that both sides found it very difficult to advance.

April 1917: United States enters the war

On 6 April 1917 the United States joined its allies – Britain, France and Russia – to fight in the war.

October 1917: Revolution in Russia

By 1917 one and a half million Russian soldiers, badly led and poorly supplied, had been killed on the Eastern Front. This led to the overthrow of the Tsar of Russia. In November 1917 a Communist government took over and pulled Russia out of the war. This allowed Germany to move troops to the Western Front.

July–November 1917: Third Battle of Ypres

In 1917 British and Allied troops launched a major attack to stop the German army breaking through weakened French defences. The aim was to capture Passchendaele ridge near the town of Ypres but the German defences were very strong and the ground turned to mud because of constant rain. The ridge was captured but at the cost of 245,000 casualties.

Summer and autumn 1918: The final months

The Allied army, reinforced by fresh US troops, broke through the German lines and pushed back the German army. Germany had no resources left to fight back. The war ended on 11 November 1918.

British Sector of the Western Front - Revision Review

Based on how you did with the previous activities, RAG the sub-topics based on your confidence within Western Front medicine. Green = You understand it really well. Amber = I know a bit but could know more. Red = Not confident in my knowledge on this at all.

Sub-topic	Confidence Level
Chain of Evacuation	
Injuries	
Going Underground	
Medical developments	

British Sector of the Western Front
Answers

Take 5 minutes to study the Cheat Sheets on this topic, then see how many questions you can get right without looking!

1. When did the Underground Hospital of Arras open?

1916

2. What is the first step in the chain of evacuation?

Stretcher Bearers

3. What does RAMC stand for?

Royal Army Medical Corps

4. What was gas gangrene caused by?

Wounds infected by bacteria from soil

5. Why were ambulance wagons problematic?

They were drawn by horses so were shaky which could worsen injuries

6. What was the Carrel-Dakin Method?

Killing infection using sterilised salt solution

7. Who kept limbs and joints still in surgery which greatly increased survival rates of leg injuries?

Thomas Splint

8. What did soldiers used as masks when they did not have gas masks during 2nd Battle of Ypres?

Urine soaked cloths

9. What could be added to blood to prevent it from clotting for blood banks?

Sodium nitrate

10. Which scientist built mobile x-ray units to be used on the frontline?

Marie Curie

/10

Now you have completed some general revision and have an overview of Western Front medicine. The purpose of completing the RAG activity afterwards is you have now clear priorities of what you should revise first. The Red sub-topics should be your first priority, then the amber sub-topics and finally the green. Continue on for some specific tasks on how to revise each of these.

British Sector of the Western Front - General Revision

Go to the Youtube channel "MrClokeHistory" . Open the playlist "Rapid Revision: Medicine on the Western Front of WW1". Watch the video on The Evacuation Chain starting from **3:18.**

As you are watching it, note down 5 facts about each stage. This could be anything from how far from the front line it was, what treatments they gave there or what injuries they could deal with. **All of the information can be discovered using the video.**

Front Line

Stage 1—Regimental Aid Post (RAP)

Stage 2—Dressing Station

Stage 3—Casualty clearing Stations (CCS)

Stage 4—Base Hospitals