

NAME:

TEACHER:

CHANGES IN HEALTH AND MEDICINE, c.1340 to the present day

Booklet 2

**Attempts to treat and cure illness and
diseases**

Advances in medical knowledge



Date marked	Comment

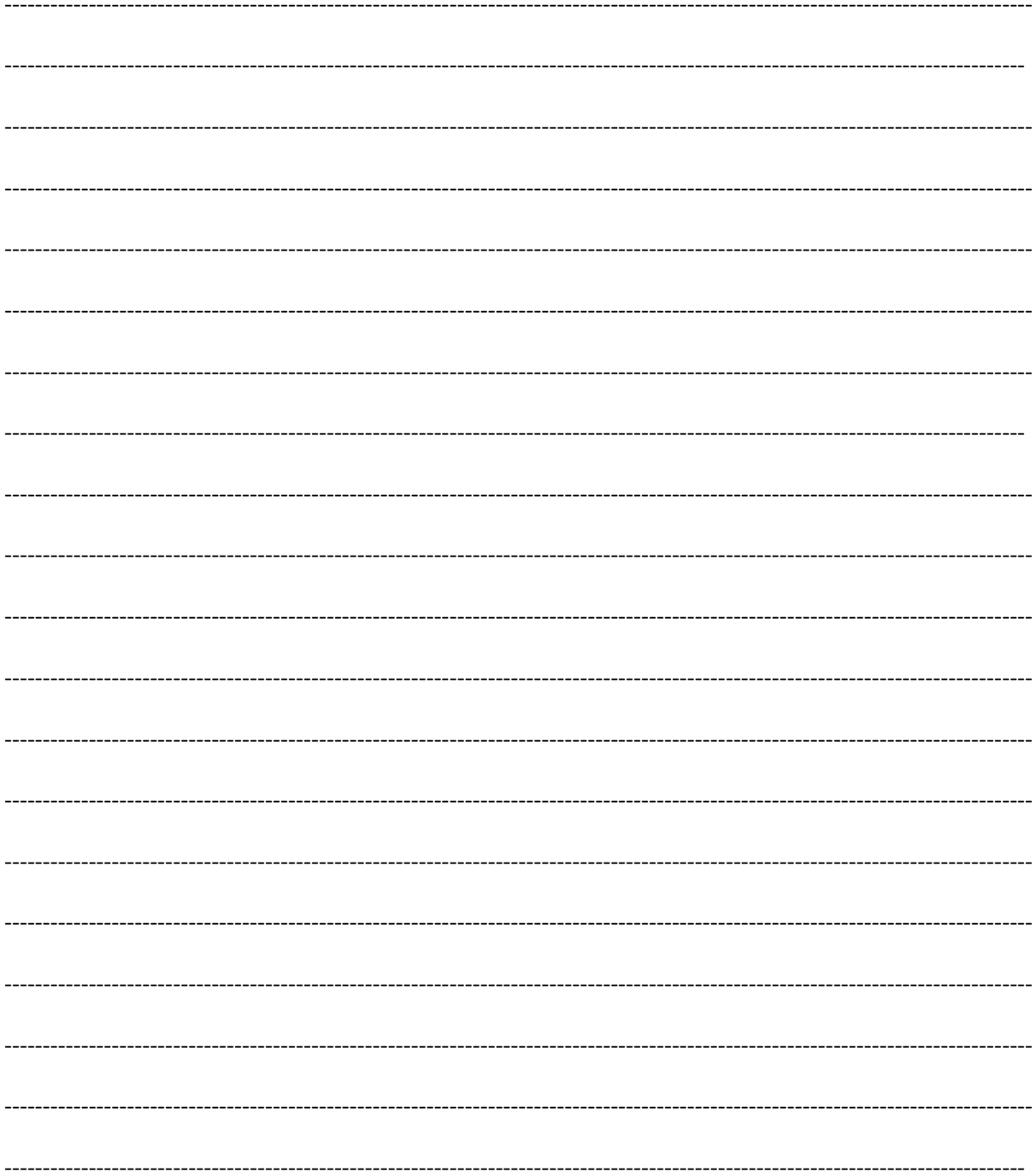
Create a fact file for the following people illustrating their contribution to herbal remedies

Lady Grace Mildmay

A large rectangular box containing 25 horizontal dotted lines for writing.

William Turner

A large rectangular box with a solid black border, containing 25 horizontal dotted lines for writing. The lines are evenly spaced and extend across the width of the box. The box is empty, with no text or markings inside.



Barber surgeons and the use of leeches

Example of Exam Question 4

This question is about attempts to treat and cure illness and disease.

Describe the role played by barber surgeons in the treatment of illness [6]

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Band descriptors and mark allocations

	AO1 6 marks	
BAND 3	Demonstrates detailed knowledge to fully describe the issue set within the appropriate historical context.	5-6
BAND 2	Demonstrates knowledge to partially describe the issue.	3-4
BAND 1	Demonstrates limited knowledge to describe the issue.	1-2

Use 0 for incorrect or irrelevant answers.

James Lister and the use of antiseptics in the later nineteenth century

Read p 55 – 57 (changes in health and medicine)

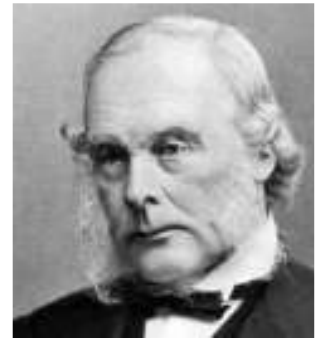
Antiseptics were chemicals that were used to destroy bacteria and prevent infection in a wound or cut.

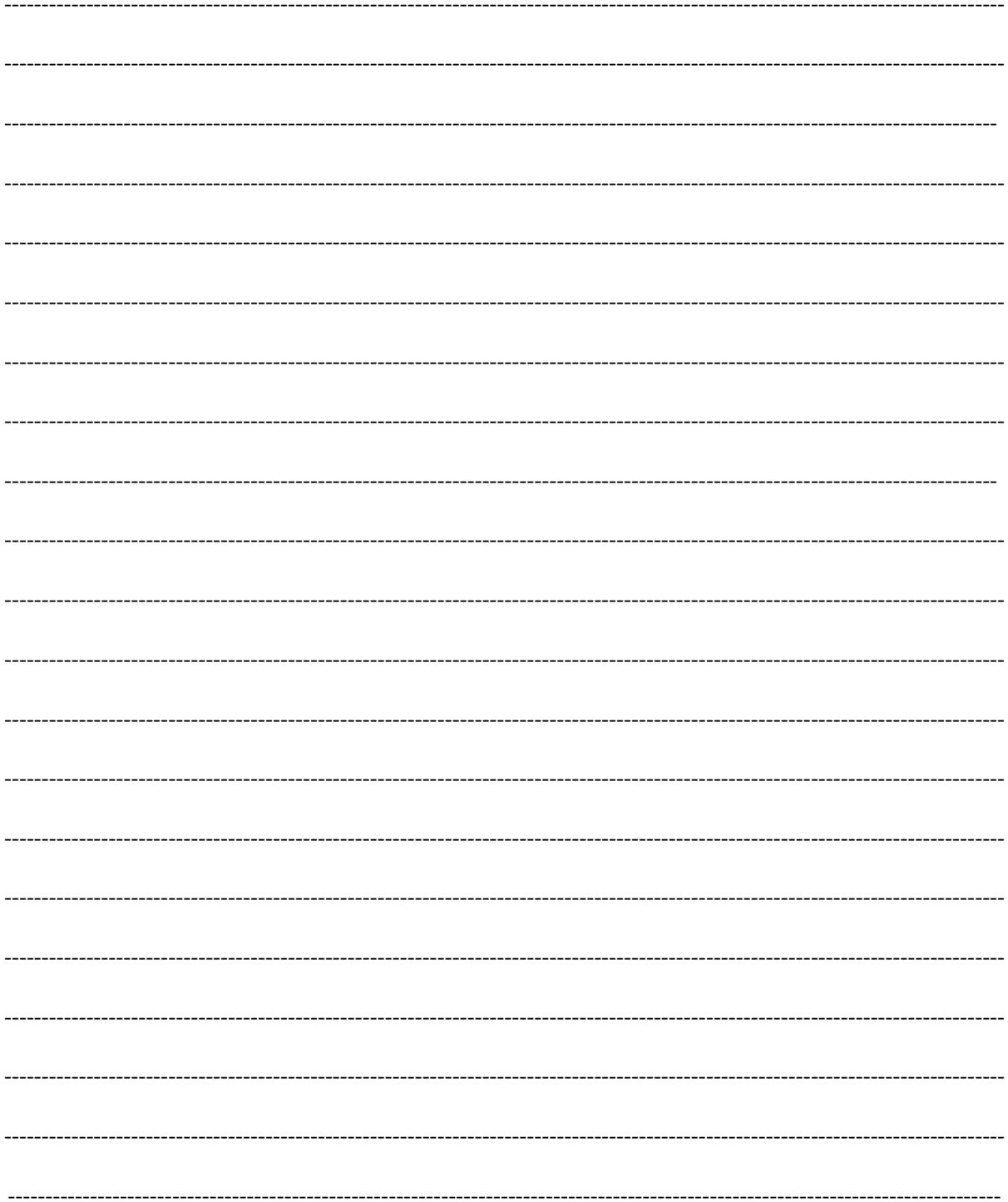
Create a fact file about Joseph Lister. Make sure that it includes the following points:

Why were antiseptics needed?

The work he completed.

Importance & impact of his work.





James Simpson and the development of anaesthetics in the nineteenth century

Read p 51-54 (Changes in health and medicine)

Anaesthetic was a substance, often a gas such as ether or chloroform, that produced unconsciousness before and during surgery. It helped to deal with pain.

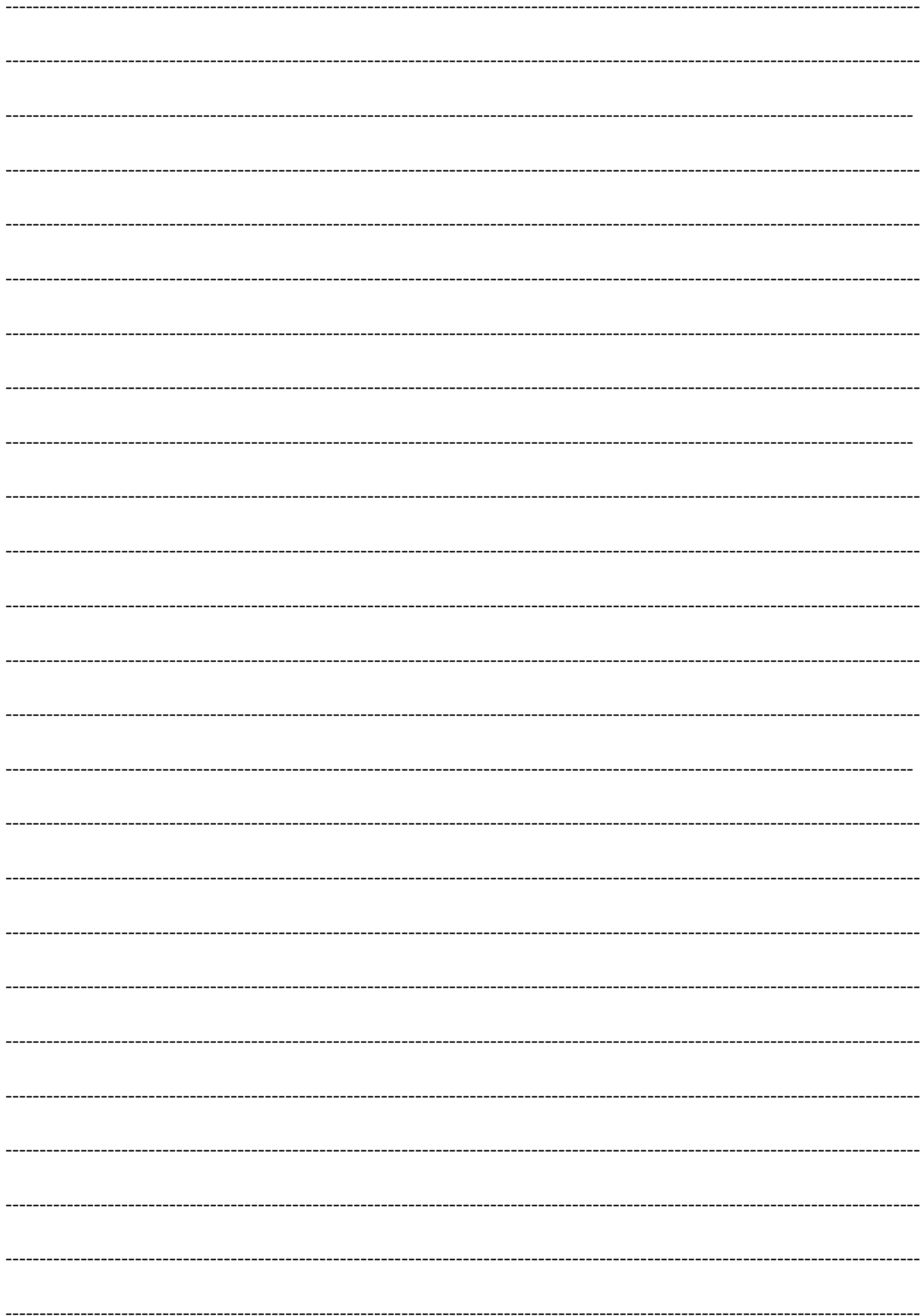
Why were anaesthetics needed in surgery?

Source A

On the 21st December 1846, Frederick Churchill, a thirty-six-year-old butler, was carried into the operating theatre at University College Hospital, London, to have his left leg amputated. He was to become the most famous patient in surgical history. Churchill's operation was painless, for he was the first human being to have major surgery under anaesthetic.

[Historian William Armstrong, writing in an article entitled 'Under the surgeon's knife', 1970

Why was the operation on Frederick Churchill a turning point in surgery?



Marie Curie and the development of radiation in the twentieth century

Marie Curie Fact File



Marie Curie is remembered for her discovery of radium and polonium, and her huge contribution to the fight against cancer.

Marie Curie was a Polish-born physicist and chemist and one of the most famous scientists of her time. Together with her husband Pierre, she was awarded the Nobel Prize in 1903, and she went on to win another in 1911.

Marie Sklodowska was born in Warsaw on 7 November 1867, the daughter of a teacher. In 1891, she went to Paris to study physics and mathematics at the Sorbonne where she met Pierre Curie, professor of the School of Physics. They were married in 1895.

The Curies worked together investigating radioactivity, building on the work of the German physicist Roentgen and the French physicist Becquerel. In July 1898, the Curies announced the discovery of a new chemical element, polonium. At the end of the year, they announced the discovery of another, radium. Pierre's pioneering work on the effects of radium on living organisms showed it could damage tissue and this discovery was put to use against cancer and other ills. Curies, along with Becquerel, were awarded the Nobel Prize for Physics in 1903.

Pierre's life was cut short in 1906 when he was knocked down and killed by a carriage. Marie took over his teaching post, becoming the first woman to teach at the Sorbonne, and devoted herself to continuing the work that they had begun together. She received a second Nobel Prize, for Chemistry, in 1911.

The Curie's research was crucial in the development of x-rays in surgery. During World War One Curie helped to equip ambulances with x-ray equipment, which she herself drove to the front lines. The International Red Cross made her head of its radiological service and she held training courses for medical orderlies and doctors in the new techniques.

Despite her success, Marie continued to face great opposition from male scientists in France, and she never received significant financial benefits from her work. By the late 1920s her health was beginning to deteriorate. She died on 4 July 1934 from leukaemia, caused by exposure to high-energy radiation from her research. The Curies' eldest daughter Irene was herself a scientist and winner of the Nobel Prize for Chemistry.

The roles of Fleming, Florey and Chain regarding antibiotics

Read p 63-66 (Changes in health and medicine)

Explain the part played in the penicillin story by:

- Joseph Lister
- Alexander Fleming
- Florey and Chain
- Albert Alexander
- The US government

Joseph Lister



Alexander Fleming

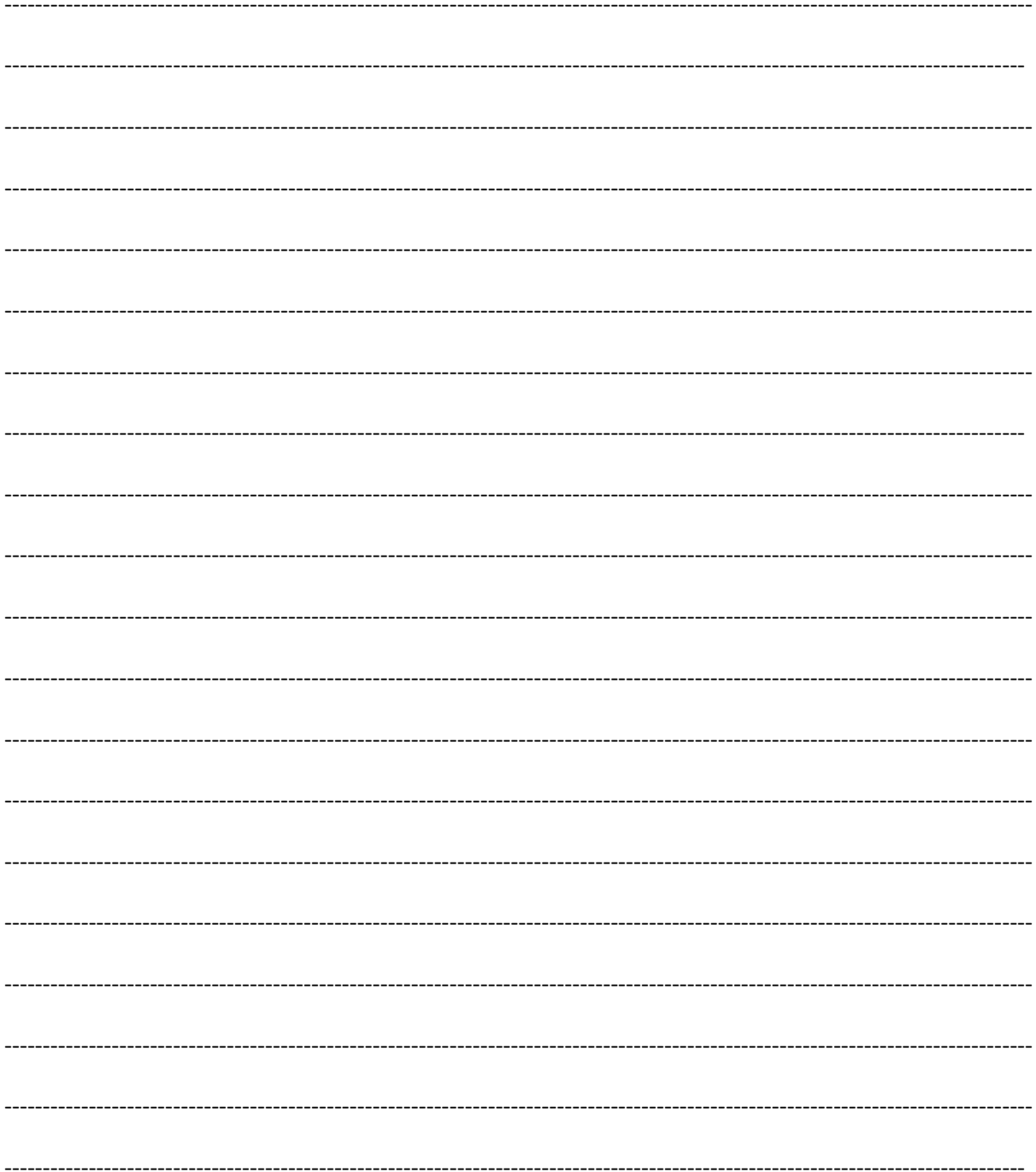
Florey and Chain



Albert Alexander



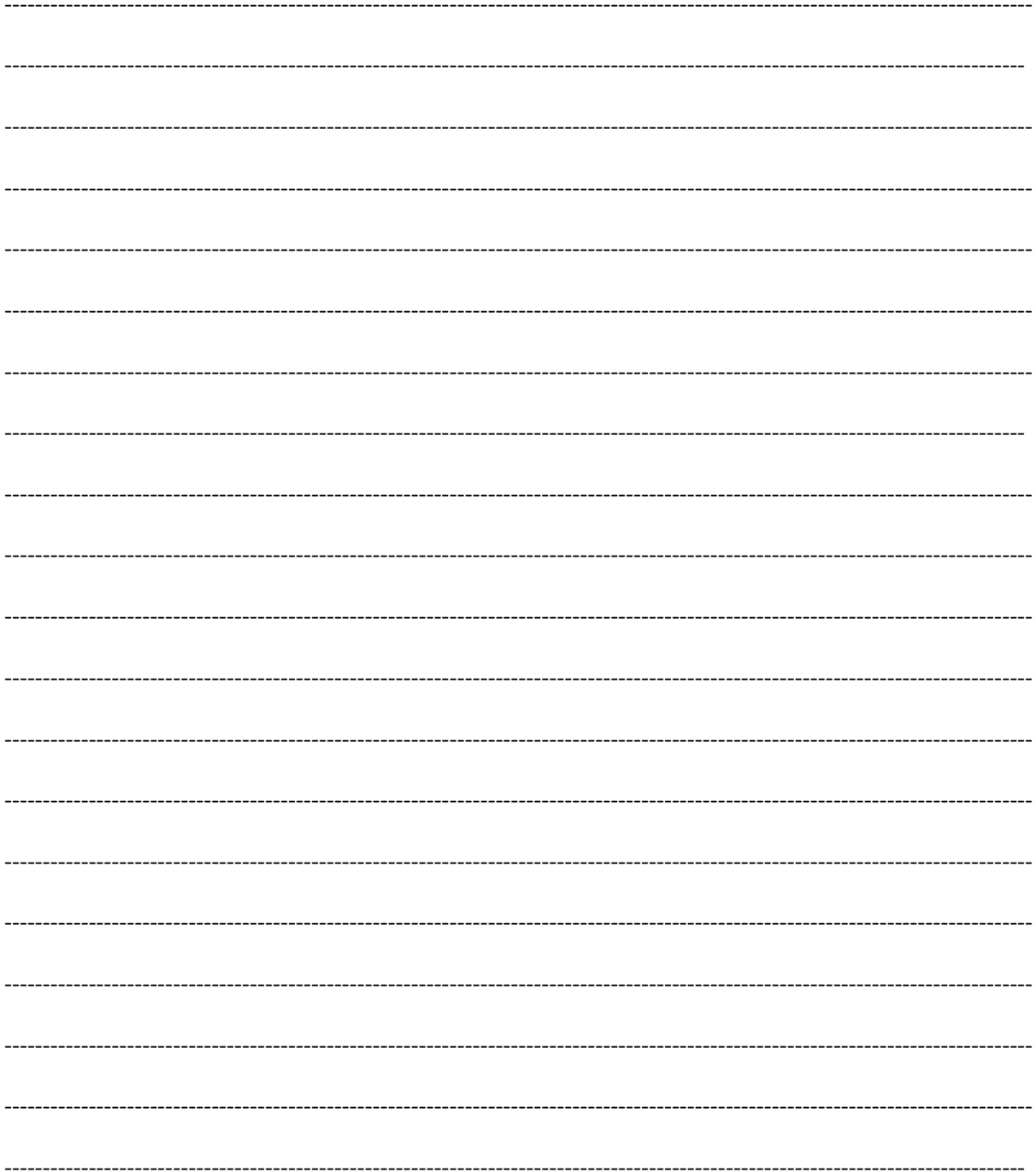
The US Government

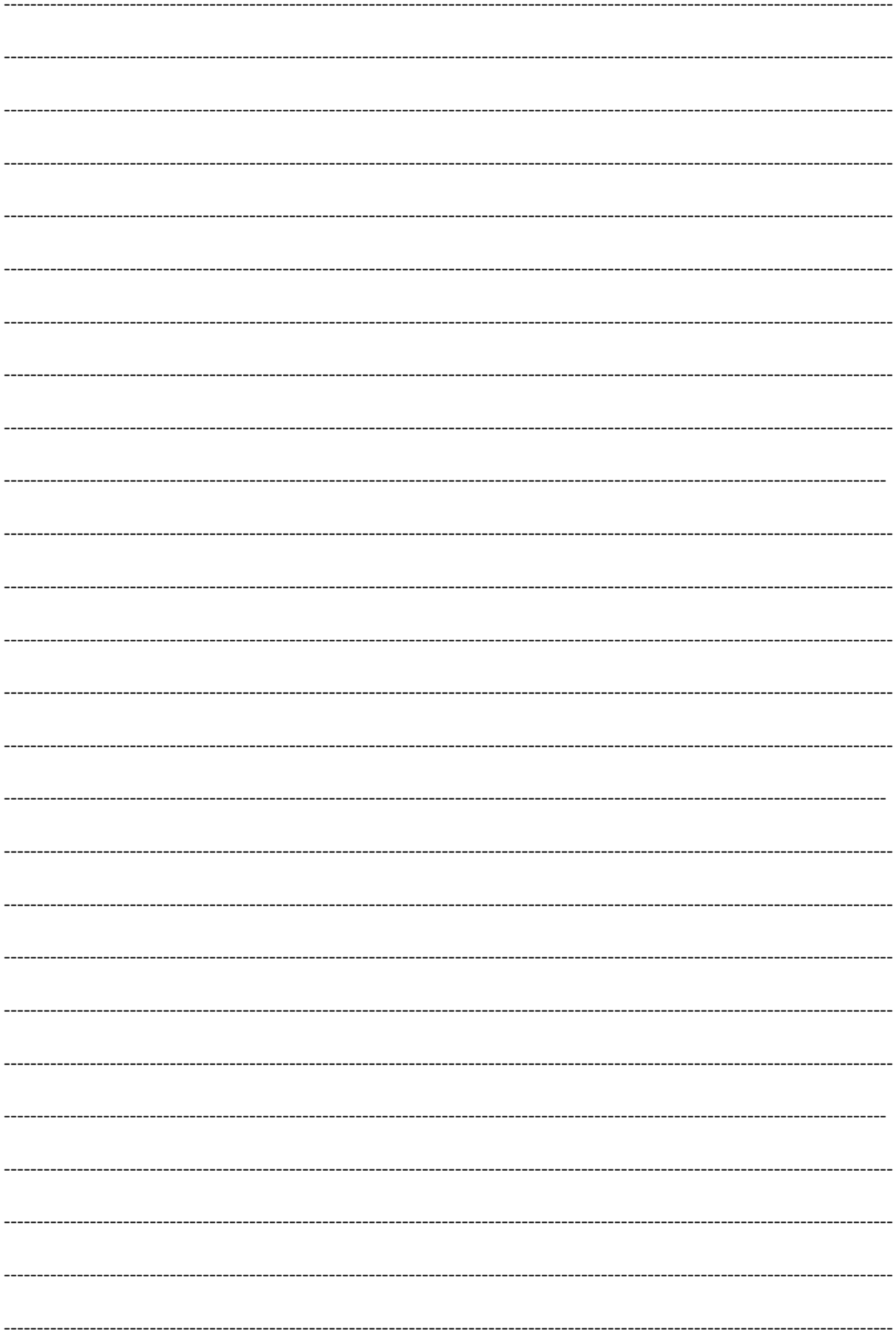


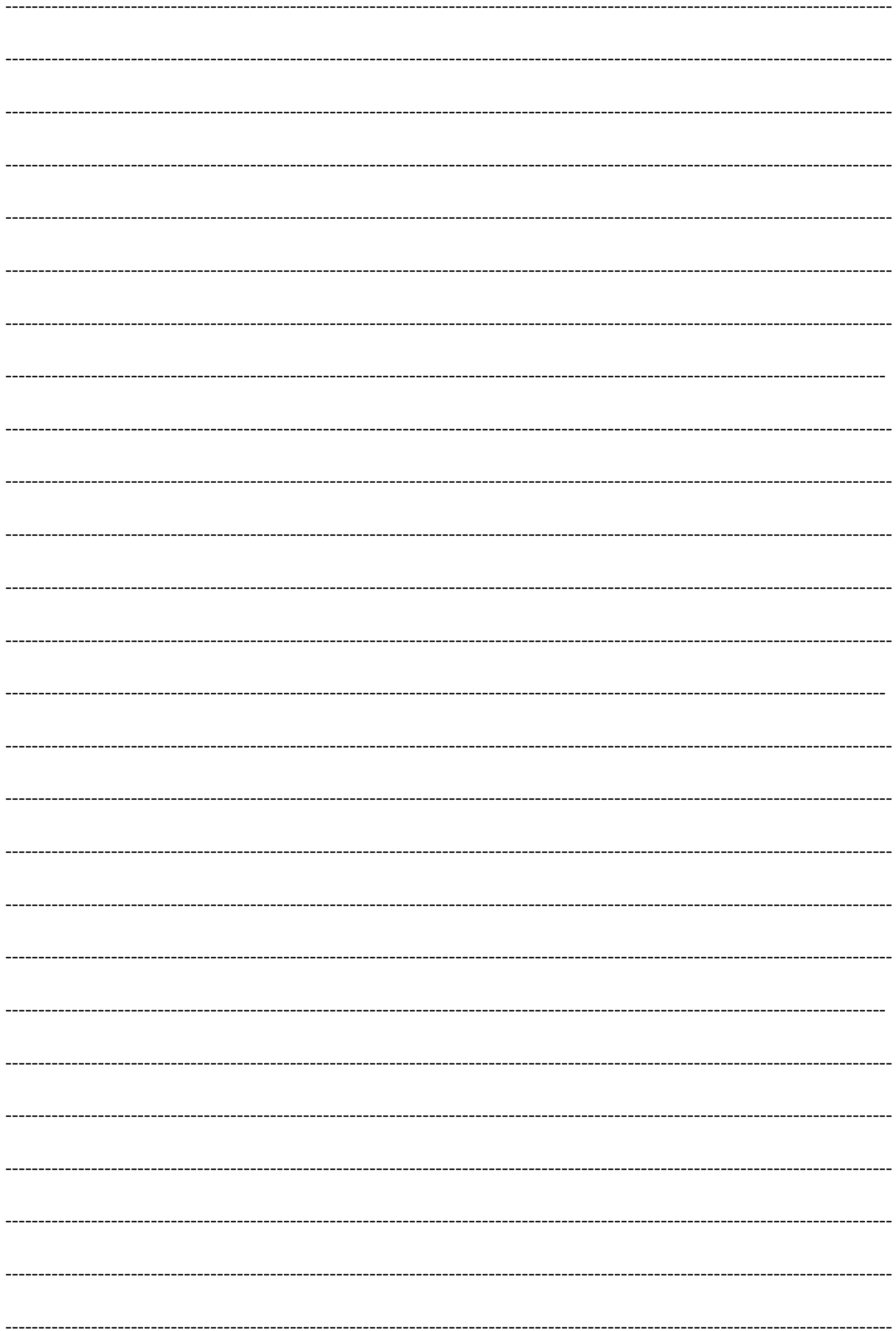
Barnard and transplant surgery

Read p 68 (Changes in health and medicine)

Construct a timeline to record the important development in transplant surgery between 1950 and present day.







Advances in medical knowledge

Key Question

How much progress has been made in medical knowledge over time?

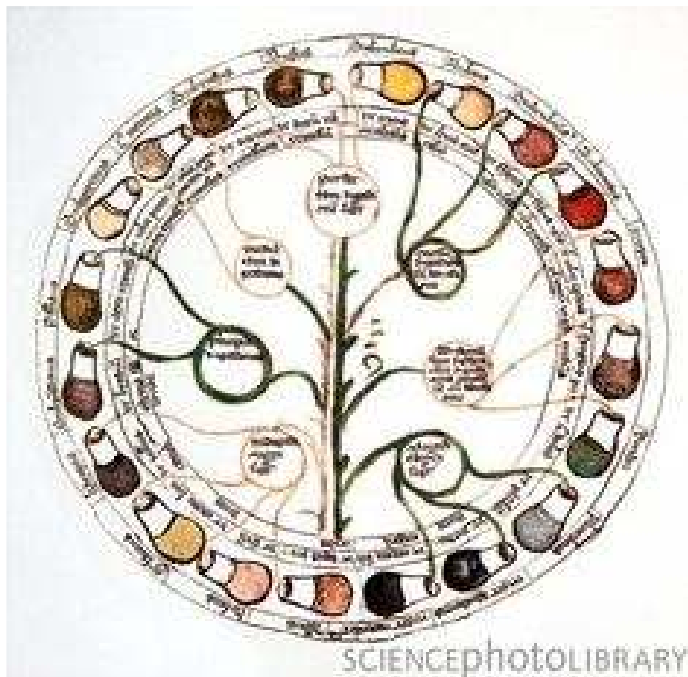
Medical ideas in the medieval era: astrology and the theory of the four humours

Read p3 - 6 (Changes in health and medicine)

Complete the table below to illustrate medical knowledge during the medieval period:

Method	How physicians used this method to treat patients
Urine chart	
Zodiac chart	
Theory of the Four humours	

Look at the source below.



What does it show you about medical ideas in the medieval period?

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The medical work of Vesalius, Pare and Harvey in the sixteenth and seventeenth centuries

Read p14 - 18 (Changes in health and medicine)

Complete a fact file for Vesalius, Pare and Harvey.

I have done the one for Vesalius, below, for you as a guide.

<p>Andreas Vesalius 1514-1564</p>	
<p>Actions</p>	<p>Vesalius became professor of Anatomy at Padua University in Italy.</p> <p>He worked alongside Renaissance artists dissecting corpses in order to better understand the human anatomy.</p> <p>In 1543 he published his famous book <i>The fabric of the Human Body</i>, which contained fine anatomical drawings.</p> <p>He questioned the views of Galen and through dissection proved Galen had been wrong in some of his observations.</p>
<p>Before Vesalius</p>	<p>Doctors believed that the books of Galen and other ancient doctors were completely accurate and contained all the knowledge they needed. Therefore there was no need to learn more about anatomy by dissecting human bodies</p>
<p>After Vesalius</p>	<p>Vesalius showed that Galen was wrong in some important detail of anatomy. He believed that his was because Galen had to rely on dissecting animals. He said that doctors needed to test Galen's ideas instead of accepting them and that human dissection was vital.</p>

Ambroise Pare C1510-1590	
Actions	
Before Pare	
After Pare	

William Harvey
1578-1657



Actions

Before Harvey

After Harvey

Nineteenth century advances in medical knowledge; improved knowledge of germ theory; Pasteur and Koch.

Read p 21 -25 (Changes in health and medicine)

Louis Pasteur

Fill in the table below detailing the life and importance of Louis Pasteur

Early life	
What problem was the brewing industry having and how did Pasteur solve it?	
What was the theory of spontaneous generation?	
How did Pasteur disprove the theory of spontaneous generation?	
What new theory did Pasteur believe?	
How did he prevent the disease chicken cholera?	
What other diseases was Pasteur able to prevent?	

Robert Koch

Read the following sources and use them to fill in the table below detailing the work of Koch:

Source A

"As soon as the right method was found, discoveries came as easily as ripe apples from a tree."

[Robert Koch]

Source B

He invented new methods of cultivating pure cultures of bacteria on solid media such as potato, and on agar kept in the special kind of flat dish invented by his colleague Petri, which is still in common use. He also developed new methods of staining bacteria which made them more easily visible and helped to identify them.

[From Nobel Prize Lecture]

Source C

Pasteur was convinced that microbes caused diseases in humans but his work on cholera had failed. He was never able to directly link one microbe with a disease. Koch succeeded in doing this. Koch was a doctor and he had a detailed knowledge of the human body – something that Pasteur, as a research scientist – lacked. He was also skilled in experiments, the result of his work in natural sciences. Qualities that also proved to be important were his ability to work for long periods of time and his patience. However, Koch was also difficult to work with and could not tolerate anyone telling him that his theories were wrong.....

[A History website, History Learning Site]

Source D

What was Koch's legacy? He had finally laid to rest the belief that 'bad air' caused disease. He had inspired many other younger researchers to build on his work. He had found the germs of two feared diseases – anthrax and TB. He had developed research techniques that others could use throughout the world.

[A History website, History Learning Site]

Source E

As well as experimenting with various dyes that stain bacteria and make them more visible under the microscope, he also devised an ingenious method of separating a mixture of bacteria. This involved inoculating an animal with the bacteria and passing the resulting infection from one animal to another until, at the end of the experimental chain, only one type of bacterium remained. Using this method he identified the bacteria responsible for several disorders, including septicaemia.

[A History website, History Learning Site]

Source F

Koch had gathered around him a team of skilled research scientists. Pasteur frequently worked by himself. He realised that this was not the way to proceed and he also gathered around him a team of research scientists. Pasteur had always lacked detailed medical knowledge. Because of this he introduced into his team two brilliant young doctors, Emile Roux and Charles Chamberland. The first disease this team worked on was chicken cholera – a disease that affected many poultry farmers.

[A History website, History Learning Site]

Source	What does it tell you?
A	
B	
C	
D	
E	
F	

Complete the following table:

Scanning technique	How it works	What it is used for
Ultrasound		
MRI		
PET		
CT		



The discovery of DNA and genetic research in the later twentieth century

Read p 29 -30 (Changes in health and medicine)

1. What is genetics?

2. Describe the role of Rosalind Franklin in the discovery of DNA

