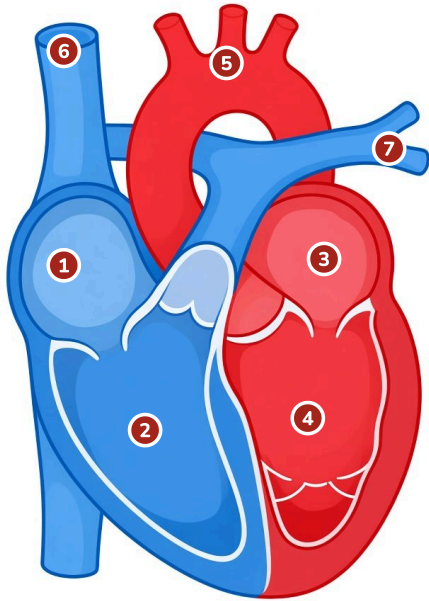




Instructions: No word bank: name the numbered parts from memory or from the module. Number the discoveries in order and write each date. Analyse the source, explain significance, then write full-sentence answers and plan the essay.

1. Name the parts (no word bank)



1 _____ 2 _____ 3 _____ 4 _____
5 _____ 6 _____ 7 _____

Did you know?

- Blood takes about one minute to travel all the way round the body.
- The left ventricle wall is about three times thicker than the right.
- Before Harvey, many believed the liver made new blood all the time.
- Blood transfusion became safe only after blood groups were discovered.

Background

Your heart is a muscle about the size of your fist, in the middle of your chest, tilted slightly to the left. It beats about 70 to 100 times a minute in children, more than 100,000 times a day. Each beat pushes blood around your body. The heart has four chambers. The two top chambers are the atria (left and right atrium): they collect blood. The two bottom chambers are the ventricles: they pump blood out.

2. Timeline: order and date

Number the events 1 to 7 (1 = earliest) and write the date of each.

#	Event	Date
1	Ibn al-Nafis describes blood flowing through the lungs	
2	First human-to-human blood transfusion	
3	Harvey shows blood circulates	
4	Landsteiner discovers blood groups	
5	Galen says blood is made in the liver and used up	
6	Malpighi sees capillaries	
7	First human heart transplant	

3. Source analysis

I began to think whether there might be a motion, as it were, in a circle. I found it to be true: the blood is driven by the heart through the arteries to the body and returns through the veins.

William Harvey, On the Motion of the Heart and Blood (1628), (paraphrased)

1. What does Harvey claim about the blood?

2. Why was this idea controversial in 1628?

3. What kind of evidence would help Harvey convince others?

4. Significance

Scientist or term	Who or what? Why does it matter?
William Harvey	
Ibn al-Nafis	
Karl Landsteiner	
Christiaan Barnard	
Atrium	

5. Cause and consequence

1. Explain why a blockage in a coronary artery is dangerous.

2. Explain how discovering blood groups changed medicine.

6. Longer answers (full sentences)

1. Explain how the structure of arteries and veins suits their jobs.

2. Name the four parts of blood and give the job of each.

3. Why are capillaries only one cell thick?

4. Why did it take until 1628 for people to accept circulation?

5. Explain in your own words: Explain the difference between arteries, veins and capillaries.

7. Essay question

Essay: 'Harvey's discovery was more important than the first heart transplant.' How far do you agree? Plan an essay.

Plan: introduction · point for (evidence) · point against (evidence) · conclusion with your judgement.
