



# Significant Islamic Scholars

## Answers

1. How did the early Islamic scholars influence the Renaissance in Europe in the 14th century?

**The early Islamic scholars are responsible for the discovery and development of a wide range of inventions we take for granted in our everyday lives.**

2. What did Muhammad ibn Zakariya Razi find out about smallpox and measles?

**Muhammad ibn Zakariya Razi worked out the difference between small pox and measles and how best to treat them as two separate diseases.**

3. Why is Razi regarded as the father of paediatrics?

**Muhammad ibn Zakariya Razi is regarded as the father of paediatrics as he understood that children needed to be treated differently to adults.**

4. Why did Razi write the book 'A Medical Adviser for the General Public'?

**Muhammad ibn Zakariya Razi wrote the book 'A Medical Adviser for the General Public' to help people treat their own medical problems.**

5. Why is Al-Zahrawi regarded as the father of surgery?

**Al-Zahrawi is regarded as the father of surgery as he developed many surgical techniques and invented many surgical tools. He gave up his whole life to help develop new medicines and surgical procedures.**

6. What medical techniques or procedures did Al-Zahrawi develop that are still in use today?

**Al-Zahrawi developed the method of cauterisation and the use of catgut in stitches. These medical techniques are still in use today.**

7. Why is Al-Zahrawi's book Al-Tasrif so important?

**Al-Zahrawi's book 'Al-Tasrif' is so important because it describes how to treat a huge range of medical conditions – many techniques are still used today. It was used by European doctors for 500 years after it was finished in 1000AD.**

8. How did medicine in the early Islamic civilisation compare to medicine in Europe at the same time?

**Medicine in the early Islamic civilisation was much more advanced than medicine in Europe. The work of Islamic scholars helped to lead the Renaissance in Europe.**

9. How have early Islamic doctors influenced medicine today?

**Early Islamic scholars are responsible for the discovery and development of a wide range of inventions that are still used in medicine today. For example, Razi invented a range of phials, flasks and spatulas which were used in pharmacies for centuries afterwards. Al-Zahrawi developed the method of cauterisation and the use of catgut in stitches: medical techniques which are still in use today.**

**Challenge: Students' answers will vary depending on their chosen Islamic doctor. These might include Ibn Al-Nafis, who studied the circulatory system and the structure of the heart. Islamic doctor Avicenna studied how contagious diseases such as tuberculosis and smallpox spread and the necessary methods of quarantine.**



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8. Al-Kwarizmi is known as the father of algebra. How else did he contribute to the development of mathematics?

**Al-Kwarizmi introduced the Hindu-Arabic numbers 1-9 and 0 in his book about arithmetic. This made the use of these numbers more popular in the Islamic world.**

9. What did Ibn al-Haytham invent?

**Ibn al-Haytham invented the first camera obscura or pinhole camera.**



# Significant Islamic Scholars

## Answers

10. What did Ibn al-Haytham's studies prove?

**Ibn al-Haytham's studies proved that light travels in straight lines and we can see because light reflects off objects into our eyes.**

11. Which of the early Islamic scholars you have read about interests you the most? Why?

**Students' own response with a reason.**

12. What do you think was the most significant discovery/invention of the early Islamic scholars? Why?

**Students' own response with a reason.**

**Challenge:**

**Students' answers will vary depending on their chosen Islamic doctor. These might include Ibn Al-Nafis, who studied the circulatory system and the structure of the heart. Islamic doctor Avicenna studied how contagious diseases such as tuberculosis and smallpox spread and the methods of quarantine.**



# Significant Islamic Scholars

## Answers

1. Describe how early Islamic scholars influenced the Renaissance in Europe in the 14th century.

**The work of the early Islamic scholars led the Renaissance in Europe in the 14th century. Their work preceded work of European scholars.**

2. List three ways in which Muhammad ibn Zakariya Razi made a significant contribution to the history of medicine.

**Students may offer any three from the following:**

- **Razi worked out the difference between smallpox and measles and how best to treat them as two separate diseases.**
- **He was among the first doctors to study fluids in the body in order to distinguish between different contagious diseases.**
- **In his work as a chemist, Razi invented a range of phials, flasks and spatulas – items which were used in pharmacies for centuries afterwards.**
- **Razi was influential in the field of ophthalmology (the study and treatment of eyes) and he developed a range of ointments to treat various eye conditions.**
- **Razi understood and promoted the need for good doctor patient relationships. He recognised that all people needed to be treated differently and that some medicines worked better for some people than others.**
- **Razi wrote a book called “A medical advisor for the general public” which helped people to treat their own medical problems if they could not visit a doctor.**
- **Razi challenged people who claimed to be doctors and sold fake cures on the streets. He warned people to be wary of them.**

3. Why is Razi regarded as the father of paediatrics?

**Razi is regarded as the father of paediatrics as he understood that children needed to be treated differently to adults.**

4. What did Razi’s journal ‘A Medical Adviser for the General Public’ aim to do?

**Razi’s journal offered guidance on how people could provide self-help for medical complaints in cases where they were unable to visit a doctor.**

5. Describe Razi’s progressive ideas about patient care

**He believed in helping the less fortunate and vulnerable members of society.**

6. Why is Al-Zahrawi regarded as the father of surgery?

**Al-Zahrawi is regarded as the father of surgery as he developed many surgical techniques and invented many surgical tools. He gave up his whole life to help develop new medicines and surgical procedures.**



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## Answers

7. What is cauterisation? Why do you think this was such a ground-breaking idea at the time?

**Cauterisation involves burning an area of flesh, inside or outside the body. It was a ground-breaking idea as it stopped bleeding or infection.**

8. What medical techniques did Al-Zahrawi develop that are still in use today?

**He was the first doctor to use catgut for stitching wounds. This technique is still used in stitches today.**

9. Why is Al-Zahrawi's book Al-Tasrif so important?

**Al-Zahrawi's book 'Al-Tasrif' is so important because it describes how to treat a huge range of medical conditions – many techniques are still used today. Many other modern techniques are directly descended from Al-Zahrawi's ideas.**

10. Al-Kwarizmi is known as the father of algebra. How else did he contribute to the development of mathematics?

**Al-Kwarizmi introduced the Hindu-Arabic numbers 1-9 and 0 in his book about arithmetic. This made the use of these numbers more popular in the Islamic world.**

11. Like many other early Islamic scholars, Al-Kwarizmi did not specialise in one field of study. Why do you think this is the case?

**Pupils own response.**

12. How did Ibn al-Haytham first propose the idea that an image could be copied?

**He developed the first camera obscura or pinhole camera.**

13. What did Ibn al-Haytham's studies prove?

**Ibn al-Haytham's studies proved that light travels in straight lines and we can see because light reflects off objects into our eyes.**

14. Which of the early Islamic scholars you have read about interests you the most? Why?

**Students' own response with a reason.**

15. What do you think was the most significant discovery / invention of the early Islamic scholars? Why?

**Students' own response with a reason.**

**Challenge:** Can you find the names and achievements of other notable early Islamic scholars?

**Students answers will vary depending on their chosen Islamic doctor. These might include Ibn Al-Nafis, who studied the circulatory system and the structure of the heart. Islamic doctor Avicenna studied how contagious diseases such as tuberculosis and smallpox spread and the methods of quarantine.**