

## The forgotten brilliance of Muslim civilisation

The Islamic **Golden Age** is traditionally dated from the mid-7th century to the mid-13th century at which **Muslim** rulers established one of the largest empires in history .the Abbasid caliph of Baghdad, Abu Ja'far Abdullah al-Ma'mun, created the greatest centre of learning the world had ever seen, known as « Bayt al-Hikma », the **House of Wisdom**. The scientists and philosophers he brought together sparked a period of extraordinary discovery, in every field imaginable, launching a golden age of **science**. So far, the international language of science was **Arabic**. Soon they developed a thirst for knowledge . The new empire had within its borders a treasure house of texts, mainly Greek and Persian. Books on medicine, natural history, astronomy and philosophy were all translated into Arabic.the accomplishments made by Islamic scholars, pioneers and scientists in all areas of the arts and humanities, the physical and social sciences, medicine, astronomy, mathematics, finance...etc

In Astronomy, Observatories were centers of learning and research that also housed libraries containing thousands of books. The Caliph al-Ma'mun (reigned 813–33) built the first observatory in Baghdad. Which enabled astronomers to prepare tables describing the motion of the sun and the moon, star catalogues, and descriptions of the instruments used. Among those figures Al-Biruni who measured the height of a mountain and Abu Nasr Mansur made important contributions to geometry and astronomy. The Syrian astronomer Ibn al-Shatir, Besides, Mariam “Al-Astrolabiya” who followed her father's profession and became a famous scientist who designed and constructed **astrolabes**.

Not just astronomy was revolutionised. Al-Khwarizmi in the field of Mathematics, known as the father of Algebra” due to the major contributions in the field to recognize Algebra as an independent discipline of Mathematics as well as the one to explain the equation of the **first** and the **second degree**. Not to mention , the polymath Ibn al-Haytham effectively pioneered the scientific method, stressing the importance of **observation** and **experimentation**. By far, he made important contributions to the field of modern optics before Newton. He was the first to bring into light the experimental method to prove the fact that **vision** occurred because of the

**light** entering the eyes. Besides, he invented the camera obscura to demonstrate the **physical** nature of light rays.

Around this time, **Jabir ibn Hayyan** the alchemist( Henceforth, the father of chemistry) was the first to implement techniques in **chemistry**. He discovered many **acids** including: **hydrochloric acid, sulphuric acid, and nitric acid**. He discovered **chemical procedures** as significant as **crystallization, melting, distillation, calcination, reduction, liquidation, and sublimation** . From Jabir we gain the word alkali, the distillation apparatus known as **A' alembic** .

Considering everything , this hidden story of Arab achievements during the middle ages or as it has been referred to the 'Dark Ages', is clearly of great historical importance to the modern world where countless remarkable accomplishments made by the forgotten pioneers who helped shape our understanding of science.

### **Comprehension Questions:**

- 1- Read the text slowly and silently.
- 2- Extract the difficult words from each paragraph.
- 3- Using your dictionary, find the words you have extracted in addition to the words that are underlined in each paragraph.

### **After reading**

- 1- What are the main thinkers arise at that era and what did they bring into light?
- 2- In short, what can you say about the Islamic Golden Age?
- 3- What is meant by the scientific method?
- 4-Give the different names of scientists that are mentioned in the text?
- 5-Give the main verbs that are used , and in which tense they are conjugated?