Science in the Islamic World

History of Science Museum, University of Oxford

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Astrolabes and Quadrants

We are guardians of the world's most comprehensive collection of astrolabes from the Islamic World, including the:

- only surviving complete spherical astrolabe
- earliest Persian astrolabe
- earliest complete geared astrolabe.

An astrolabe is a map of the sky, showing the position of the stars on a flat disk. There are two main parts — the 'star map' (called a rete) and a projection of the earth's surface. You can move the rete to imitate the regular movement of the stars above our heads; make one full turn, and a day has passed under your hand.

You can use astrolabes to tell the exact time, calculate the hours of prayer, measure height and angles, and even predict the future.

They were popular for more than 1,500 years; in some parts of the world, they were still in use until the early 1900s.

Beautiful works of art in their own right, each astrolabe and quadrant in our collection has a different set of stars, decorative features and intricate details.

Astrolabes

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	**Astrolabe** by Shams ad-din Muhammad Saffar Persian, 1505/6	51182
	**Astrolabe** by Allah-dad Lahore, *c.* 1570	47376
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	**Astrolabe** by Muhammad Muqim al-Yazdi Persian, 1647/8	45747
	**Astrolabe** by 'Ibn Muhibb Haqiqa Indo-Persian, 1647/8	52066
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	**Astrolabe** by Muhammad Mahdi al-khadim Persian, *c.* 1650	41110
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	**Astrolabe** by Muhammad Mahdi al-Khadim al-Yazdi Persian, *c.* 1650	50122
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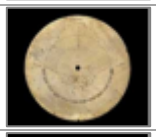	**Astrolabe Plate** Indo-Persian?, 18th Century?	88453
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	**Astrolabe** by Muhammad ibn Ahmad al-Battuti North African, 1733/4	51459
	**Astrolabe** by Sayyid 'Abd al-Baqi Indo-Persian, 1789/90	50059
	**Astrolabe** North African Late 18th Century?	40407
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Quadrants

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	**Astrolabe-Quadrant** by Muhammad (Mehmet) ?Turkish, 1749-50 CE	32534
	**Horary Disc and Quadrant** North African 1782/3	19453

	**Astrolabe Quadrant, Profatius-Type** by 'Abdallah Ahmad b. 'Ali al-Andalusi Morocco?, 1804 CE	54673
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Celestial Globes

The Museum looks after a fine collection of celestial globes from the Islamic World.

Celestial globes are spherical maps of the sky. With the Earth at their imaginary centre, they show the stars and constellations seen from outside the celestial sphere looking back at the Earth i.e. a “God’s eye” view. They often have the star names engraved and the constellations drawn in to make them easy to identify.

On celestial globes made in the Islamic World, the head of every human figure is turned towards the observer while the rest of the body “looks” inside. This makes right-handed figures appear to be left-handed, and vice versa (look out for Perseus wielding a sword in the left hand rather than the right).

To explain this difference between a constellation as seen from the Earth and as seen on a globe, the Persian astronomer al-Sufi (903-986 CE) drew two pictures for each constellation in his *Book on constellations*: one for the terrestrial view with front-facing, right-handed figures, and the other for the mirror-image celestial version — still facing front, but now left-handed.

When in use, globes are usually mounted in a frame, so users can rotate and tilt them to different latitudes.

But these instruments are more than astronomical tools and teaching instruments. The technical skill and artistry used to engrave the stars and zodiac signs mean they stand as artworks in their own right.

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	**Celestial Globe** by Ja'far ibn 'Umar ibn Dawlatshah al-Kirmani Persian, 1362/3	44790
	**Celestial Globe** Indo-Persian Lahore, 17th Century	36638
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	**Celestial Globe** Indo-Persian? 17th Century?	36129
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	**Celestial Globe** by Diya al-Din Muhammad, Lahore, 1663/4	45247
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	**Celestial Globe** Indo-Persian? 1709/10	98115
	**Celestial Globe** Indo-Persian? Modern?	38934
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Qibla Indicators and Sundials

Our collection of qibla indicators ranges from the 1600s to the present day.

Named after the Arabic word for ‘direction’, a qibla indicator is a type of modified compass which Muslims use to determine the direction they need to face to perform their prayers (towards the Kaaba — the sacred mosque at Mecca).

Practising Muslims still use them today, although increasingly in the form of a mobile app.

Many of our qibla indicators are lavishly decorated with beautiful engravings.

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	Qibla Indicator Persian 18th Century?	53791
	Qibla Indicator and Horizontal Pin-Gnomon Dial Persian 18th Century?	34566
	Horizontal Pin-Gnomon Sundial and Qibla Indicator Persian 18th Century?	48472
	Inclining Dial Persian? Late 18th Century	33518
	Qibla Indicator 18th or 19th Century	43695
	Qibla Indicator *c*. 1800	33746
	Qibla Indicator Persian 1883	50596
	Qibla Indicator by Faraj Allâh, Isfahân 1907	50254
	Qibla Indicator by Faraj Allâh, Isfahân 1907	50254
	Electronic Prayer Time Clock and Qibla Indicator by Lockheed-Getex, Atlanta *c*. 1985	19129

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Plumb-Level

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	**Plumb-Level** Islamic?	47279

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MSS Stapleton (1-49): Alchemical works in Arabic script

The History of Science Museum holds a collection of 49 alchemical manuscripts brought together by Henry Ernest Stapleton (1878-1962), chemist, educational administrator, and historian.

Most of the manuscripts are alchemical treatises in Arabic script — both antique manuscripts and modern copies of originals — dating from 1500 to 1956 CE.

The collection also includes papers and correspondence of Stapleton himself discussing and analysing manuscripts similar to these (1894-1961 CE).

Search the MSS Stapleton Collection

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