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Medieval Night Sky—Handout

UNESCO World Heritage astronomy sites https://www3.astronomicalheritage.net/

http://www.as.utexas.edu/~wheel/africa/index.htm

Springer Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures (https://link.springer.com/referenceworkentry/10.1007%2F978-1-4020-4425-0_8461)

Thebe Medupe, South African astronomer Look for 2003 film, Cosmic Africa (interview https://physicstoday.scitation.org/doi/full/10.1063/1.2207030)

El Caracol observatory **https://www.exploratorium.edu/ancientobs**/chichen/HTML/caracol3.html

See this site also for other ancient observatories

Beijing Observatory details of instruments with photos http://hua.umf.maine.edu/China/astronomy/tianpage/0018Guo_Shoujing6603w.html

Rohr, Rene R. J.: *Sundials: History, Theory, and Practice*

Su Song, and other Chinese innovations

Needham, Joseph, et. al. *The Science and Civilzation of China* (see volume 4: Engineering and Mechanics)

Needham, Joseph, Wang Ling, & deSolla Price, Derek J.: *Heavenly Clockwork*

Korean astronomical innovations: Needham, Lu, Combridge & Major: *The Hall of Heavenly Records*

Make your own: https://www.etsy.com/shop/LASERDEKO

lasercut models of astrolabe, armillary sphere and tellurium that you can make at home

Johanna Wittenberg blog on Navigation in the Viking Age, https://johannawittenberg.com/blog/

Medieval Islamic astronomy: https://www.astronomy.com/science/how-islamic-scholarship-birthed-modern-astronomy/

Chaucer's Works, volume 3, includes his treatise on the Astrolabe, project Gutenberg: https://www.gutenberg.org/ebooks/45027

Name or Place of object discussed	Date as known
world's largest Armillary sphere	1593
Celestial globes	
Astrolabe China/ Greece	by 300 bce
El Caracal observatory (Yucatan, Mexico)	500 CE
Cheomseongdae (Korea)	632 CE
Quandrants and Sextants	
Frame sextants	

Astronomical clocks, su song in Song Dynasty China	1096 CE
Al-Jazari's clocks	1206
English 14th c. astronomical clocks found in many churches	
Prague Astronomical Clock	1410
Dengfeng Observatory	729, 1276
Beijing Observatory (renovated by the Jesuits)	1442, 1644
Galileo's telescope	1608
Greenwich Royal observatory	1675
Jantar Mantar (large-scale instruments in India)	1720
Planetarium at Franeker (ceiling of a home)	1774