

Ancient Pyramids and Sky Watching

Whether spread throughout the Egyptian deserts or tucked into the Mesoamerican rain forests, pyramids have one thing in common; they all reach for the sky. Some pyramids function as tombs and temples, providing a resting place for the afterlife of the deceased and connection to the gods in heaven. Some function as ancient observatories, reaching for the stars and measuring the passage of time.



[Giza pyramids](#)

The Maya pyramids in Mesoamerica are tall enough for sky watchers to see the horizon above the trees of the rain forest. At Chichen Itza, in the Yucatan peninsula, El Castillo pyramid is positioned in a way that sunlight and shadows hit parts of the pyramid at different times of the year.



[Tikal Temple II](#)

You can be a sky watcher like the ancient Maya and make unaided eye observations of the night sky. Follow the instructions below to make your own star finder or star wheel and use the worksheet on the next page to find some Maya constellations. Here's hoping for clear skies!

Learn more about the Maya people and their ancient observatories.

Information on the [Maya](#) from the National Museum of the American Indian (NMAI)

[NMAI video](#) on the Maya

[National Geographic video](#) on the ancient and modern day Maya

[Ancient Observatories](#) – Chichen Itza from Exploratorium

Build your own El Castillo pyramid using these instructions.

[Solar alignments at El Castillo](#) from Calendar in the Sky –UC Berkeley

[Make your own El Castillo](#) from Calendar in the Sky –UC Berkeley

[Time-lapse video](#) at sunset on equinox from Calendar in the Sky –UC Berkeley



[El Castillo at Chichen Itza](#)

Identify constellations in the night sky and make your own star finder using these resources.

[Stellarium](#) online planetarium

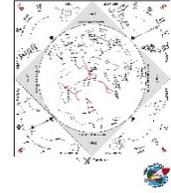
Make a “fortune teller” [star finder](#) from NASA

[Video instructions](#) for making and using a “fortune teller” star finder

How to make a [star wheel](#) from Sky and Telescope

Name _____ Date _____ Time _____

Make a star finder and use it on a clear night to find these Maya constellations in the night sky.



Maya constellation name*	Greek constellation name	Describe its location in the sky (Ex. Zenith [straight up] N, S, E, W, SE, WNW, etc.)
Seven Macaw	Big Dipper (Ursa Major)	
Shield	Little Dipper (Ursa Minor)	
Moon Goddess	Virgo	
Peccary	Leo	
Frog	Cancer	
Bird 2	Gemini	
Scorpion	Scorpius	

*from [Maya Skies Starlab curricula](#)

Maya Archaeoastronomy Resources

<http://maya.nmai.si.edu/>

Information on the Maya from the National Museum of the American Indian (NMAI), in English and Spanish, includes lessons for teachers and additional resources

<https://www.youtube.com/watch?v=86F10IrvVus>

NMAI video on the Maya

<https://www.youtube.com/watch?v=Q6eBJdca14>

National Geographic video on the ancient and modern day Maya

<https://www.exploratorium.edu/ancientobs/chichen/HTML/chichen.html>

Ancient Observatories – Chichen Itza from Exploratorium, includes activities, resources and a teacher’s guide

<https://multiverse.ssl.berkeley.edu/Portals/0/CalendarInTheSky/Resources/Lesson%20Plans/SolarAlignmentsAtElCastillo-FINALv2.pdf>

Solar alignments at El Castillo from Calendar in the Sky –UC Berkeley Space Science Laboratory

<http://multiverse.ssl.berkeley.edu/Portals/0/CalendarInTheSky/Resources/Lesson%20Plans/MakeYourOwnElCastillo-FINALv3.pdf>

Make your own El Castillo from Calendar in the Sky –UC Berkeley Space Sciences Laboratory

<http://multiverse.ssl.berkeley.edu/Calendar-in-the-Sky/Video/emodule/2226/eitem/975>

Time-lapse video at Chichen Itza at sunset on equinox from Calendar in the Sky –UC Berkeley Space Sciences Laboratory

<https://stellarium-web.org/>

Stellarium online planetarium

<https://spaceplace.nasa.gov/starfinder/en/>

Make a “fortune teller” star finder from NASA

<https://www.youtube.com/watch?v=m84A4mG7se4>

Instructions for making and using a “fortune teller” star finder

<https://skyandtelescope.org/astronomy-resources/make-a-star-wheel/>

How to make a star wheel from Sky and Telescope

<https://www.starlab.com/wp-content/uploads/2017/04/D.-15.-Maya-Skies-v616.pdf>

Maya Skies Starlab curricula



Lulu looking at her favorite constellation, Canis Minor.