

STARDOME OBSERVATORY & PLANETARIUM FACTS, RESOURCES AND ACTIVITIES ON THE...

DAYTIME MOON

This Teacher's Resource explains why we see the Moon during the day and introduces the terms waxing and waning in relation to Moon phases.

Students and parents (and sometimes teachers) can become confused about seeing the Moon in the daytime sky. Part of the reason is that diagrams usually show the Earth/Moon/Sun from a northern perspective, with north at the top, and the Moon waxing and waning from right to left.

We are in the Southern Hemisphere ('down under') looking from an 'upside-down' point of view. So we actually see the Moon with its South Pole at the top, and it waxes and wanes from left to right.

The diagram shows the Earth from below, looking up at the South Pole and the Southern Hemisphere. Viewed this way, the Earth spins clockwise and the Moon also orbits in a clockwise direction around the Earth.

The Moon is bright and easy to find at night when the sky is dark. We see the Moon in the day for the same reason we see it at night. But it doesn't disappear completely in bright daytime skies. Between sunrise and sunset the Moon appears pale grey, about as bright as distant clouds.

The following guidelines are for observing at noon, in the middle of normal school days.

Waxing means getting brighter, Waning means getting dimmer.

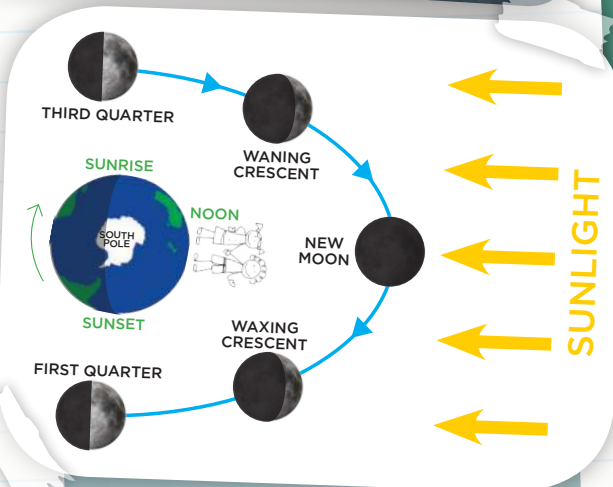
NOON MOON PHASES
Looking for the Moon at midday we can see it after New Moon, waxing in the east. It starts as a thin crescent ('fingernail' Moon) and gradually gets bigger and brighter until it reaches First Quarter phase.

We then see it in the day sky two weeks later in the west before New Moon, as it diminishes from Third Quarter phase to a thin crescent before disappearing.

We can't see the Moon at noon when it is close to the Sun a few days before and after New Moon because the glare of the Sun is too bright. We also can't see the Moon at midday from First Quarter past Full Moon till Third Quarter, because it is obscured by the Earth.

Science content / Curriculum Link

MOON PHASES. SHARING IDEAS AND OBSERVATIONS ABOUT THE SUN AND MOON AND THEIR PHYSICAL EFFECTS ON THE HEAT AND LIGHT AVAILABLE TO EARTH.



check out these other resources:

- ⇒ Time and Date – timeanddate.com/calendar/moonphases.html
- ⇒ Moon rise times – stardome.org.nz/astromy/resources/moon-rise-times
- ⇒ Lunar phase simulator (northern hemisphere view) – astro.unl.edu/naqp/lps/animations/lps.swf
- ⇒ Wikipedia – en.wikipedia.org/wiki/Lunar_phase

Why can we see the Moon during the day?

When is the best time to see the Moon? Does it always look the same?

Why can't we see a full Moon during the day?

DISCUSSION POINTS



ACTIVITY

STARDOME OBSERVATORY & PLANETARIUM

MOON HUNTING

Objective...

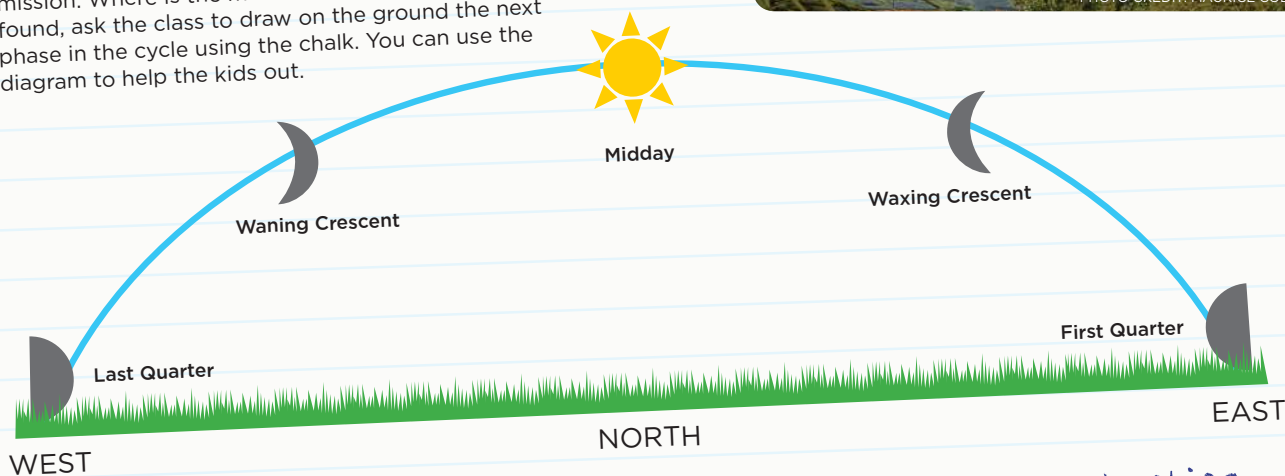
This activity takes the class outside to hunt for the Moon and asks the students to think about the next phase in the Moon cycle.

You'll need...

- ⇒ Diagram below
- ⇒ Chalk
- ⇒ A concrete space
- ⇒ A keen set of eyes!

Using the <http://www.timeanddate.com/calendar/moonphases.html> link on the Teacher's Resource sheet look up the Moon cycle and select a date that doesn't have a full Moon or no Moon. It will be best to do this exercise before or after lunch, so that the class can see the different shape and location of the Moon before it disappears below the horizon.

Take the class outside and set them on a Moon Hunting mission. Where is the moon? Once the Moon has been found, ask the class to draw on the ground the next phase in the cycle using the chalk. You can use the diagram to help the kids out.



SAFETY ALERT!

WHEN LOOKING FOR THE MOON IN THE DAY SKY, ENSURE THE SUN CANNOT BE SEEN ACCIDENTALLY. PLACE STUDENTS IN THE SHADOW OF A BUILDING SO THEY CAN'T LOOK DIRECTLY AT THE SUN.

Take a photo of your Moon hunting efforts and send it to education@stardome.org.nz - we'd love to hear from you!

For an indoor activity go to www.stardome.org.nz/education/resources and download our Moon phase calendar. Each day, ask a new student to colour in the next Moon phase shape.



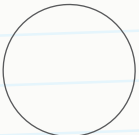

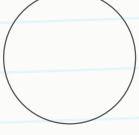




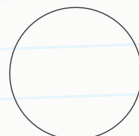
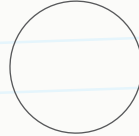
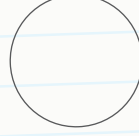





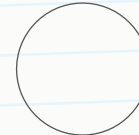
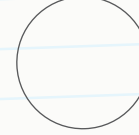
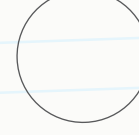


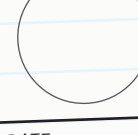

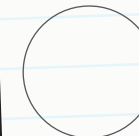


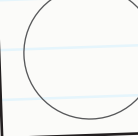


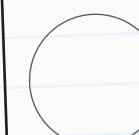

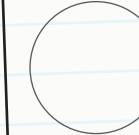


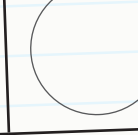

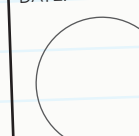

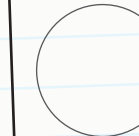




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ACTIVITY

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MOON PHASE CALENDAR

MONTH: _____

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
DATE: 	DATE: 	DATE: 	DATE: 	DATE: 	DATE: 	DATE: 
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colour in the empty Moons
to track the Moon phases.



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