# MEHT

SKY



# Night sky – Moon and stars

Introduction: Night sky is a fascination for many kids. From the imaginary man in the moon to the dreams of becoming an astronaut to the man on the moon, different shapes stars make, the stars and the moon inspire kids every day.

### Part 1: Moon

The Moon has always held a special place in our imaginations and in daily life. The Moon is Earth's only natural satellite and one that we can easily see most nights. The Moon does not shine with its own light. It simply reflects light coming from the Sun.



From Earth, it might look like the Moon is changing shape each night – from a tiny sliver to a half moon to a full moon and back again. What's actually happening is that from our spot on Earth, we see different parts of the Moon lit up by the Sun as the Moon travels in its orbit.

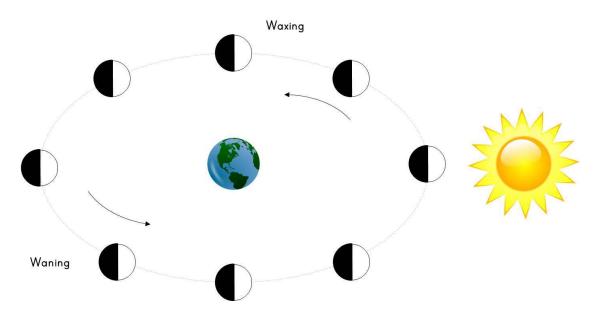
### Phases of the moon

The Moon doesn't shine on its own; it reflects sunlight. So the side of the moon facing the Sun is ALWAYS lit. But the lit side does not always face the Earth! As the Moon circles the Earth, the amount of the lit side we see changes. These changes are known as the phases of the Moon and it repeats in a certain way over and over. The following diagrams illustrates Moon, Earth and the Sun as viewed from

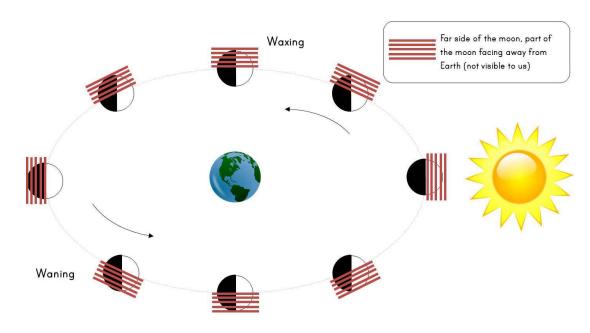


above our Solar system, how much of the "lit" side can we see from the Earth and how this can be seed from the Earth

# Moon, Earth and Sun as viewed from above our Solar System

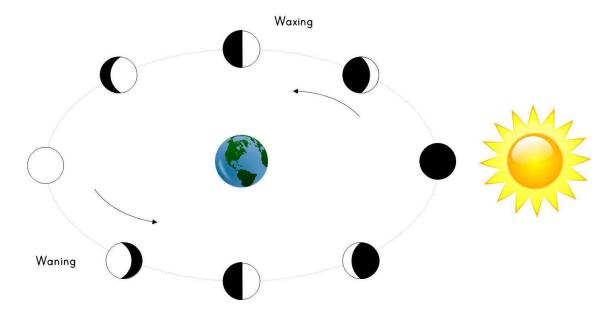


# How much illumination can be seen from the Earth?





### Moon as seen from the Earth



To summarize the causes for the phases, the Sun shines on the Moon; when the sunlight reflects off the Moon's far side, we call it a New Moon; when the sunlight reflects off on the Moon's near side, we call it a Full Moon; Between New and Full, we see parts of the illuminated side of the Moon.

(Yummy) Activity 1: Oreo moon phase cookies

Open some Oreo cookies and scrape off the creme filling to make the phases of the Moon. Here are the full moon and the new moon, make the rest of the phases.











Full moon



Waning gibbous



Third quarter



Waning crescent

## Part 2: Constellations

Constellations are a group of stars that forms a particular shape in the sky and has been given a name. Many years ago, people liked to make up stories about the constellations

For example, these two group of stars, people saw then as two bears – big bear, little bear or Ursa major and Ursa minor



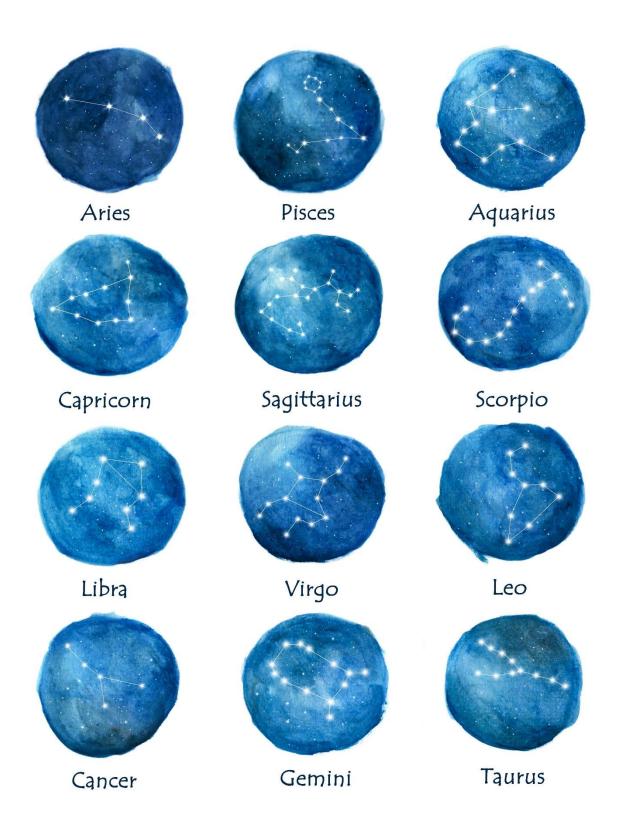
Activity 2: Using this star map, how many constellations can you spot tonight. If you don't have clear skies, activity 3 will be a great alternative for this.





Activity 3: Cut out each of these constellation circles and punch out holes where the stars are. Shine a light in a dark room through these circles and project the constellation on the wall. Can you see the shapes our ancestors saw?







Activity 4: Make your own constellation. From these group of stars what all shapes can you see? Can you make your own constellations?



Activity 5: Using the chart from activity 3, make models of constellation. You can use marshmallows for stars and toothpick for connecting them. If you don't have marshmallows, take a piece of aluminum foil and make small shiny balls of stars.

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