

“HEAVENLY NEWS” by Angela Caysfas, Assisting Docent
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“Our Mysterious Moon”

I love our Moon! It is the only “other world” we humans have visited! I find the Moon to be quite mysterious. The Moon’s gravitational interaction with us dictates our ocean tides while only revealing one side of itself - we never see “the Dark Side of the Moon.”

Where did the Moon come from? Most astronomers believe our Moon was formed when a Mars-sized asteroid collided with the young Earth about 4.5 billion years ago. The materials pushed out of the mantle created a massive cloud of gas, dust and rock. The debris quickly began to cool with pieces colliding to form a single large body: the young Moon.

While the Moon orbits the Earth, and we spin around the Sun, the Moon’s phases wax (grow gradually larger) and wane (after a full moon, the lighted portion is gradually reduced to a thin crescent). The new Moon feels like no Moon at all when the sunlit side is completely hidden.

With an orbital plane tilted at about 5 degrees from the ecliptic (the general plane of the Earth’s orbit), the Moon orbits Earth every 27.32 Earth days. About one fourth the size of the Earth and 238,900 miles away, the Moon is the fifth largest moon in our solar system. As anyone with a good pair of binoculars can see during the full moon phase, our Moon is grey and crater-covered.

Humans have observed the Moon ever since they looked skyward. Naked eye observers can easily see the near side of the Moon’s two different terrains: dark areas once thought to consist of vast oceans or seas and highlands. With binoculars, the surface features are revealed as deep craters and high mountain ranges.

The Moon alone is worthy of a lifetime’s amateur study. Telescopes will show the Moon’s bright landscape has been pulverized by countless meteor impacts. The first lunar maps compiled, using the newly-invented telescope, appeared in the 17th century. Lunar soil, termed regolith, is fine-grained fragmented bedrock. When the astronauts landed on the Moon they found a dust-like surface transitioning to larger grains the deeper they dug. The interior of the Moon holds a possible small metallic core, then a thick rocky mantle and finally the crust of powdered granite-like rock.

Most people have experienced the apparently large full Moon rising just after sunset above the eastern horizon. The Moon appears larger when closest to our horizon due to an optical illusion. Many full moons have special names: There is the Harvest Moon which is the full moon nearest the autumnal equinox falling near or about September 23rd in the northern hemisphere. A Hunter’s Moon, also known as Blood Moon or Sanguine Moon, which is the first full moon after the Harvest Moon. A Blue Moon is the second full moon in a calendar month. Blue Moons only occur about once every 2.72 years; thus the expression “once in a Blue Moon” for rare events.

Many countries and cultures have their own stories, myths, legends and songs about the Moon just like we do! Whether we drum to the Moon, howl at the Moon or dance in the moonlight, that familiar shining white sphere is a comfort to behold: our Moon.

You can see more of our moon by visiting the Rotary Club of Cameron Park – Community Observatory located behind Folsom Lake College, El Dorado Center, in Placerville. It is free and our summer hours are 8:30PM – 10:30PM on Friday, Saturday or Sunday evenings (unless there is a new moon!). For driving directions and or weather closure information check out our website at www.communityobservatory.com .