

# Exploring the many faces of our Moon

**A**S SAD A SITUATION as it is, I hope everyone is practicing safe distancing and other safeguards to limit the spread of the COVID-19.

One thing that the situation does not keep you from doing is stepping outside and on clear evenings and taking in the stars above. Give it a try, and good health to all!

I'll take a bit of a different tact this month, and focus on our Moon.

Earth's natural satellite is the easiest astronomical object to see in the night sky, one that is very impressive to virtually everyone who views it. Its mountains, craters and large lava plains are easily visible in telescopes or even binoculars.

It is best viewed when it is about half illuminated — when shadows give the surface features a three-dimensional look. When the Moon is full, it is front-lit and not as impressive in a telescope, but we then have wonderful moonlit nights. Something for everyone, you might say.

Our Moon is not the largest natural satellite in the solar system. That honor goes to Ganymede, one of Jupiter's four "Galilean" moons. Our Moon comes in at number four, after Titan (Saturn), Callisto, and Io (Jupiter).

But in terms of relative size the parent planet, our Moon is the largest, about one quarter the size of the Earth. The Moon is about 2,150 miles in diameter.

The Moon takes 27.32 days to orbit the Earth, at an average distance of 238,900 miles.

The distance varies, since the Moon's orbit is elliptical. At its farthest, it is about 252,000 miles distant and about 225,000 miles when it is closest. The Moon is also "tidally locked" in its orbit — it makes one revolution in the same amount of time it takes to make one orbit of the Earth, so we always see the same side.

In recent years the term "Supermoon" has become popular to describe the Moon when it is closest to Earth, especially when that coincides

**What's in the Sky**  
Jim White



with a full Moon. And it is indeed a bit larger (as much as 14 percent) and as a result illuminates the Earth more.

The term came about in the 1970s, and although it has no precise astronomical definition, it adds to our interest. If it results in more people viewing the Moon, that is good in my mind!

How big is the Moon in the sky? It is surprisingly small, covering only about one half of a degree. We see 180 degrees in the sky, from horizon to horizon, so a half degree is only about 1/360th of that span. If you hold a dime out at arm's length and hold it up toward the Moon, it will completely cover the Moon. Or try this — take a soda straw, and look through it at the Moon. You will be able to see the entire lunar disc through the straw, even when we have a Supermoon!

But it appears much larger to most of us, particularly when it is near the horizon, due to a phenomenon known as the "moon illusion."

There are various theories about why we perceive this, and no real consensus. Some think it is related to the view near the horizon, when objects on Earth (trees, buildings, etc.) are near it and make it look larger. But that is a perception, not real.

Our Moon is always changing in the sky, as it orbits the Earth. The "new Moon," when the Moon is between the Earth and Sun, means the Moon is up during the day and we don't see it at all. A few days later, we see a sliver of the "waxing crescent Moon" low in the western sky. Waxing means it is growing in brightness. After about a week, we have a "first quarter" Moon, which is half illuminated. It rises at about noon, and sets at midnight. Another week goes by, and

we have a full Moon, which rises at about sunset and sets at sunrise. In another week, we have a third-quarter "waning" Moon (decreasing in brightness), again half illuminated, rising at midnight and setting at midday. Then we have a waning crescent Moon, and soon we are back to a new Moon. All in all from new Moon to new Moon is about 27 days.

### Earthshine

When the Moon is in its crescent phase, only slightly illuminated, have you ever noticed that you can see the outline and some faint features on the area not directly illuminated by the sun? This is called Earthshine. At that time, if you were

standing on the Moon looking up at Earth, Earth would be almost "full." And Earth is very bright! We all know how bright the landscape here on Earth is at full Moon, but our Moon, with its gray surface, is not nearly as reflective as the Earth, with its bright clouds and Oceans.

If you were standing on that dark area of the Moon, you would see a brilliantly illuminated Earth, making the "night sky" bright enough for that light to be reflected back... and thus we see the dark areas of the Moon.

A few days later, when the Moon is about half full, the view from the Moon would be of a half full Earth, not nearly as reflective, and thus less Earthshine. For April, a good time to

view the Moon is the start of the month, when it will be at first quarter and visible in the evening. Full Moon will occur on April 8. On "tax day," April 15, find the third-quarter Moon in the morning sky,

low in the southeast. New Moon will occur on April 23, with another first-quarter Moon at the end of the month on the April 30.

Enjoy April's Moon and the rest of the night sky!

### NEA Crossword Puzzle

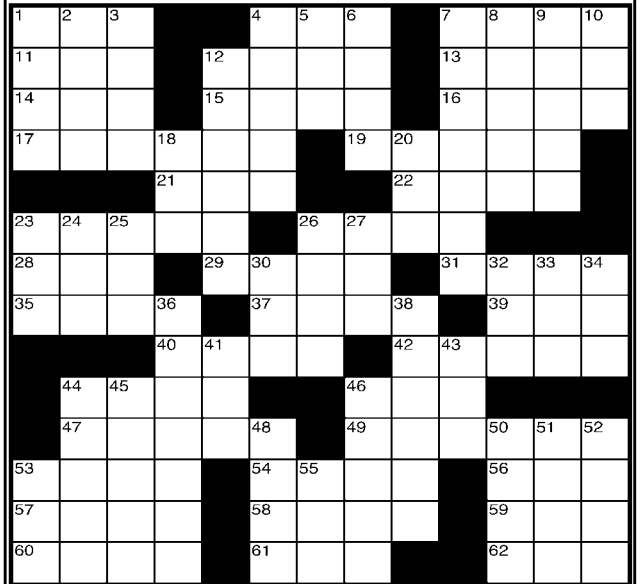
- ACROSS**
- 1 German physicist
  - 4 Lao-Tzu's "way"
  - 7 Snazzy
  - 11 Grass skirt go-with
  - 12 Em, to Dorothy
  - 13 Himalayan monk
  - 14 Help out
  - 15 Louver
  - 16 "WNBA Tuesday" broadcaster
  - 17 Ruffles
  - 19 Talk pompously
  - 21 Princess Di's niece
  - 22 Pecan shape
  - 23 Ms. Wither- spoon
  - 26 Overfeed
  - 28 Age
  - 29 Tablet
  - 31 Bona fide
  - 35 Action word
  - 37 — pro quo
  - 39 Puppy cry
  - 40 Vaulted recess
  - 42 Asserts
  - 44 Feeling
- DOWN**
- 1 Norwegian monarch
  - 2 Legatee
  - 3 Popular hemline
  - 4 Oklahoma oil city
  - 5 Literary collection
  - 6 Eight, in Roma
  - 7 Butcher's tool
  - 8 — la vista!

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- 9 Use force
- 10 Preserve food
- 12 Dozing
- 18 Deli units
- 20 Compost
- 23 Step on the gas
- 24 Before
- 25 Swab target
- 26 Slide sideways
- 27 Muhammad —
- 30 Mensa stats
- 32 Organ of sight
- 33 Full of hot —
- 34 CD fore-runners
- 36 Chimps' kin
- 38 Delicate
- 41 Pricing word
- 43 Poodle's doc
- 44 Car import
- 45 Figure of speech
- 46 Energy sources
- 48 Nimble
- 50 Misfortunes
- 51 Honey
- 52 Jellystone bear
- 53 Rotating part
- 55 Above, in verse

### CARBON AND OXYGEN REVEAL THE DIVINE PLAN #14

We will continue on with the "Transformation" incident to show that the 6-8-3 pattern is the manner in which The Creator has chosen to reveal His plan of saving mankind from himself. In the Transformation we first see the "6" in the fact that it states that on the "6th day" Yahshua went up a certain mountain. He brought with him Peter, James and John. They met Moses and Elijah. Already there were the Father and the Holy Spirit (not a person but the physical manifestation of the power of the Father that humans could see). This makes "8". Note when the disciples saw Moses and Elijah they said, "Lord let us make "3" tents one for you and one for Moses and one for Elijah." There is the pattern, a 6 and an 8 and a 3. Yes you may suggest that this is stretching the text to force the pattern, but it is not for it is right there. No other numbers are used in this incident but a 6 an 8 and a 3. Mankind is in trouble. The troubles mankind has found himself in are universal and impossible to fix. Carbon based human flesh has many flaws. It needs to breathe. It must consume. It must reproduce and it will produce unwanted waste. It also ages and decays while experiencing tremendous pain and eventually death. Only a miracle will fix or save us from our plight. The human body will be miraculously changed from a carbon based body #6 to an oxygen based body #8 occurring over 3 different immortalization events. g.d. fischer zionman@netcnct.net 541-296-8578



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### WILDWOOD ACADEMY ANNOUNCES ONLINE MIDDLE SCHOOL

# Wildwood Academy launches online schooling!

Wildwood Academy is offering online schooling during this extended break due to Covid-19. There is a complete curriculum, taught live from educators, for students in 5th - 8th grades (and even some advanced 4th graders) that includes math, history, science, geography, English, art, and much more.

There is also a math option designed by Eric Cohn and he teaches the upper level courses.

All proceeds go to assist educators and staff during these challenging times.

You can learn more at <https://www.wildwood-academy.org/online-middle-school>.

Or, please email [info@wildwood-academy.org](mailto:info@wildwood-academy.org) for more information.



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