

- I. HANDS ON: Lunar Phase Calendar, Eclipse Photos, Books
- II. WELCOME TO OUR FULL MOON CELEBRATION - The December Full Moon is called the Full Long Nights Moon and Full Cold Moon
- III. POEMS: “Silver” by Walter de la Mare (1873-1956)  
“Night” by William Blake (1757-1827), Verse 1

#### IV. INTRODUCTIONS

#### V. The Sun, The Moon and The Stars

- A. THE SUN - While the days are still getting shorter, the sun is now setting just a little bit later every night. How Long Was The Sun In The Sky Today?

	<u>*SUNRISE</u>	<u>SUNSET</u>	<u>DAY LENGTH</u>	<u>MOONRISE</u>
12/15	7:07 am	4:13 pm	9 H, 06 M	4:12 pm
12/21	7:10 am	4:15 pm	9 H 05 M	11:00 pm

\* Times Listed are from The Old Farmer’s Almanac for Boston

- B. THE MOON AND ITS PHASES - Poem: “The Moon Game” Anonymous

- 1.) What will the Moon look like tonight?
- 2.) Lunar Vocabulary - Go over the words in the Glossary
- 3.) Why The Moon has phases - Demonstration
- 4.) What phase was/will be The Moon on your birthday this year?

#### C. THE PLANETS AND THE STARS -

- a.) Bright Venus blazes away in the west until it sets around 6:30.
- b.) Jupiter, at its brightest of the year, rose in the NE about 3:30 this afternoon, and will be overhead around 11:00 pm.
- c.) What Constellation Comes to Mind when you think of the Night Sky in Winter? “Orion” by David McCord (1897 - 1997)

#### VI. What words come to mind when you think of the moon?

- A. Loony . . . Lunacy . . . Lunatic →

Let’s look at the root of those words:

The word lunatic comes from *luna* (moon in Italian/Spanish/Latin), and in these modern times, strange behavior is still occasionally associated with full moons. A lot of people thought the moon could make you crazy. Even Aristotle believed that moon phases influenced human moods. The logic? The moon affects tides; humans have water in their bodies (60%), specifically their brains (73%);

therefore the moon affects human brain water, controlling moods and, on occasion, inducing madness.

E. SOLAR ECLIPSES - Did you see either of the last two solar eclipses? August 21, 2017, or April 8, 2024? Where were you? PHOTOS

Did you see the Partial Lunar Eclipse on Sept, 17, 2024? PHOTO

Next Solar Eclipse - August 12, 2026 over Greenland, Iceland, and Spain.

## VII. POEMS

A. "To Know the Dark" by Wendell Berry (b. 1934)

*To go in the dark with a light is to know the light.  
To know the dark, go dark. Go without sight,  
And find that the dark, too, blooms and sings,  
And is travelled by dark feet and dark wings.*

B. "Welcome to the Night" Excerpt (Joyce Sidman)

***The night's a sea of dappled dark,  
The night's a feast of sound and spark,  
The night's a wild, enchanted park. Welcome to the night.***

## VIII. WALK AROUND THE FARM

Cup hands around ears to improve hearing! (from Jeff Adams)

Stop and Listen - What do you hear?

Do you Know Your Colors?

Poem: "The Owl and The Pussycat" by Edward Lear (1812-1888)

Look For Moon shadows

## IX. FIRE ON THE PATIO WITH APPLE CIDER

A. Share a Full Moon Memory

B. Poem: "Dutch Lullaby" aka "Wynken, Blynken and Nod by Eugene Field (1850-1895)

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**WAX** - To increase in size; to grow. Used of the Moon as it increases in size from a new moon to a full moon.

**WANE** - To decrease in size; to diminish. Used of the Moon as it decreases in size from a full moon to a new moon.

**TERMINATOR** - The dividing line between the illuminated part of the Moon and the dark part of the Moon.

**NEW MOON** - The Moon is positioned approximately between the sun and the earth (*but not exactly, except during solar eclipses!*) Thus the illuminated side is facing away from the Earth, and **the Moon is invisible to us**. The new Moon rises around dawn and sets at dusk, as it is in the same position in the sky as the Sun.

**WAXING CRESCENT MOON** - The Moon at any stage between new moon and 1st quarter moon *when less than half of the illuminated hemisphere is visible*.

**1ST QUARTER MOON** - A week after new moon, the Moon is one quarter of the way around its orbit **and appears as a half moon**. The first quarter moon rises about noon and sets about midnight.

**WAXING GIBBOUS MOON** - During the week after 1st quarter, the Moon is more than half illuminated, but not fully illuminated. The word "gibbous" means "humped".

**FULL MOON** - About two weeks after new moon, the Moon is almost opposite the Sun in the sky, with Earth lying approximately between, so the side facing earth is fully illuminated. (When the Earth is aligned **exactly** between the Moon and Sun at full moon a **lunar eclipse** occurs). The full moon rises about sunset and sets about sunrise.

**WANING GIBBOUS MOON** - During the week after the full moon, its illuminated side begins to diminish, but it is still more than half illuminated.

**3RD QUARTER MOON** - Three weeks after new moon and a week after full moon, the Moon is three quarters of the way around its orbit and **again appears as a half moon**. In this phase, it is sometimes called **last quarter**. The 3rd quarter moon rises about midnight and sets about dawn.

**WANING CRESCENT MOON** - The Moon at any stage between 3rd quarter and the succeeding new moon, where less than half of the Moon's surface is illuminated.

**NOTE:** The Lunar cycle from new moon to new moon is about 29.5 days long. Each day the Moon moves about 13 degrees eastward in the sky in its monthly orbit.

SOURCE; Mark R. Chartrand. National Audubon Society Field Guide to the Night Sky. Alfred A. Knopf. New York. 1991, 1997. pages 636-637.