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The Heavens Declare the Glory of God...
The Law of the Lord is Perfect, Restoring the Soul
Psalm 19

The Universe
IfMyPeople.us

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The Universe
Putting Back the Awe of God's Creation
A Six-Part Series

1. Building Blocks
2. Goldilocks
3. To the Moon!
4. Our Neighborhood
5. Stars
6. Galaxies

Building Blocks

Why does ice float? Why does it matter? Why don't atoms (or the universe itself) scatter instead of forming marvelous structures that support life? The answers to these and other questions leaves little doubt they were designed by a in intelligent, loving being to make a universe of order, design, and beauty.

Goldilocks

Not too hot, not too cold, this planet is just right. A LOT of things need to be just so to support life on earth, from heat, gravity, radiation and a raft of other things. Demonstrating Jesus' incredible intelligence and design makes short work of conventional science "just so" life-on-earth-by-accident stories.

To the Moon

Earth's moon is the source of light, bringer of tides & eclipses (and romance). Unlike other planets' moons, ours is unique in many ways. Ways that make life on earth possible

Our Neighborhood

Our tiny planet has a host of neighbors, big & small that provide beauty, awe, wonder, and protection!. See how God wisely placed these sentinels near our world and some fun facts about them.

Stars

The nuclear source of power and light for earth. Stars fill our sky at night and demonstrate only a God Wonders could make such a marvelous creation. Join us as learn how our very unique sun differs from most other stars created by God to bring us safe stable life.

Galaxies

Vast, almost unimaginably huge, these collections of stars and dust and other wonders pepper our vast, God-made universe with beauty, awe, and wonder.

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Be Like Newton:

- Come With a Curious Mind
- “Have You Ever Asked Yourself...”
- Aim: The Glory of God Not the Spotlight of Foolishness

Curious Mind: Don't Take things for granted.

Have You Ever: Be child like in asking how and why etc.

Aim: Great are the works of the LORD; They are studied by all who delight in them. — Psalm 111:2 Tonight (and this series) is for worship.

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Last Time: God's Laws of Nature

Earth's Heart – The Cores

Earth's Bones – The Mantle

Earth's Blood – The Seas

Earth's Breath – The Atmosphere

Earth's Skin – The Magnetic Field

Earth's Heart – Earth's Beating Heart is a mass of hot metal compressed to a solid: the anchor of our life-sustaining planet.

Earth's Bones – The ground beneath us sustains our bodies with its elements and lifts our soul with its discovered beauty.

Earth's Blood – The oceans, lakes and rivers warm, cool, refresh, and protect us. (From last week)

Earth's Breath – Our amazing atmosphere is perfectly designed for protection, life, sustenance, and its discovered beauty

Earth's Skin – Surrounding our circling orb is our incredible shield protecting us from harm outside the planet that would otherwise make life impossible.

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The Big Ideas

1. The Moon is indispensable to human existence.
2. It displays the wisdom and beauty of God's Creation

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The Moon Reflects God's Glory

There is one glory of the sun, and another glory of the moon, and another glory of the stars; for star differs from star in glory.

– 1 Corinthians 15:41

“The sun will be turned into darkness And the moon into blood Before the great and awesome day of the LORD comes.

– Joel 2:31

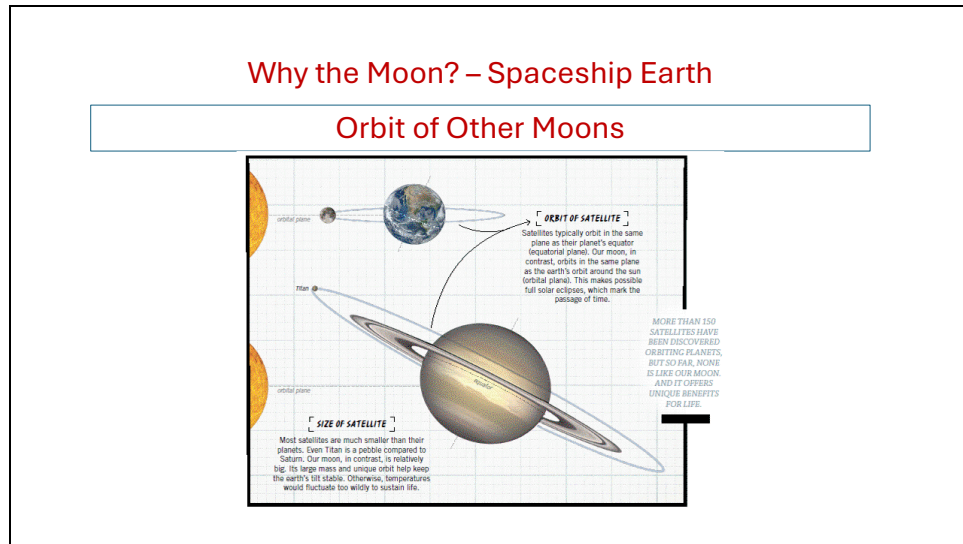
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Earth's Glorious Moon

- Purposes
 - Earth
 - On Earth
 - In Orbit
 - People
 - Utility
 - Beauty



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Our moon's orbit around the earth lies in the same plane as our orbit around the sun. The north pole is tilted a little (more on that later)

Why is that a big deal? The way the moon's gravity interacts with the Earth keeps that tilt the same, about 23°. If it changed at all, what might happen on Earth, how would you notice it?

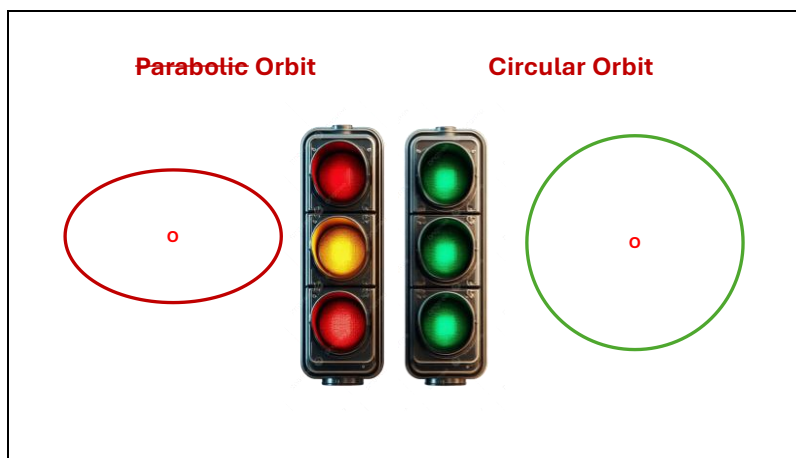
If there was no tilt of the Earth, we would not have seasons. If too much we would experience Super Saharan broiling summer and sub-Antarctic winters, again, life could not tolerate such extremes. This way, the tilt is stabilized to within 2°.

If this orbit were different, the earth's tilt would move around a great deal, causing tidal, seasonal, and daylight time to change radically, making life on earth impossible.

We need this tilt to provide ebb and flow in our habitats.

No other Satellites observed have this characteristic. NONE!

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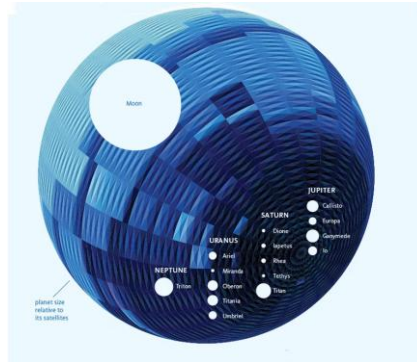


Equally important is the Moon's nearly circular orbit. Almost all others are parabolic (think a balloon slightly squashed). The key is regularity and gradual change to our environment, having squashed, elliptical orbits would cause drastic changes in our orbit, tide, and climate, to name a few.

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Why the Moon? – Tides

- Size & Closeness
- Tides Cleanse Shorelines
- Size Matters
 - 1/5 of Earth Size
 - 1/80 of Earth Mass
 - Creates Tides



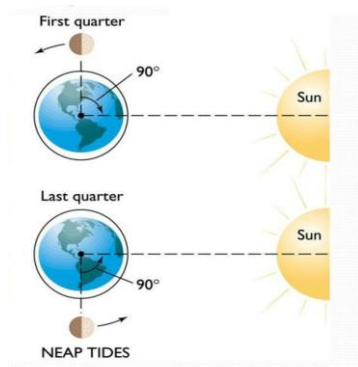
The large mass of the Moon aids in keeping Earth's orbit and wobble stable as well. It also adds beauty in appearance and ..

The size and closeness of the moon provides a gravitational tug on the earth, as does the sun. Combined, these form our marvelous tides, which give circulation around coastlines, cleansing and renewing them.

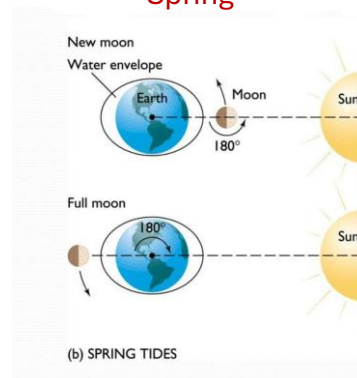
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Why the Moon? – Tides

Neap



Spring



The size and closeness of the moon provides a gravitational tug on the earth, as does the sun. Combined, these form our marvelous tides, which give circulation around coastlines, cleansing and renewing them.

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Why the Moon? – Tides

- Fun Facts:
 - 531-Mile-Thick Cable
 - Provide Electric Power in Places



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The Pull of gravity between the Earth & moon if tethered, require a cable 531 miles thick! That is the power of centrifugal force. In our next illustration, we show the moon being played by ... Amanda Thripp

“The La Rance Tidal Power Station is the world's first tidal power station and also the world's second biggest tidal power station. The facility is located on the estuary of the Rance River, in Brittany, France. Opened on the 26th November 1966, it is currently operated by EDF, and is the second largest tidal power station in the world, in terms of installed capacity. With a peak rating of 240 MW, generated by its 24 turbines, it supplies 0.012% of the power demand of France.

<https://tethys.pnnl.gov/project-sites/la-rance-tidal-barrage>

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Why the Moon? – People

- Times & Seasons Gen 1:14
- Able to see often at night. Gen 1:15,17
- Stimulates Science
- Newton developing theory of gravity
- Able to land on the moon by leap-fogging of American technology
- Beauty

Gen 1:14 – Then God said, “Let there be lights in the expanse of the heavens to separate the day from the night, and let them be for signs and for seasons and for days and years;
The seasons are stabilized and preserved by the moon as we have discussed. Lunar calendars and others are built on the passage of the moon

Gen 1:15,17 – and let them be for lights in the expanse of the heavens to give light on the earth”; and it was so... God placed them in the expanse of the heavens to give light on the earth. These provide light at night and beauty

The Apollo project spun off many new or improved technologies such as CMOS Image Sensors, Memory Foam, Dust-Buster Cordless Vacuum, Freeze-Dried Foods, Cool Suits, Recycling Fluids Technology, Metal-Bonded Polyurethane Foam Insulation, Space Suit Textiles, Astronaut Conditioning Equipment, Flame-Resistant Textiles, Infrared Ear Thermometers, Cochlear Implants, LZR Racer Swimsuits, 3D Food Printing, Water Purification Systems, Solar Cells, and Pollution Remediation Technologies.

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Why the Moon? – Eclipses

- How
 - The Sun as Big as the Moon
 - Moon's Orbit Provides Consistency and Overlapping in the Sky
 - Lunar & Solar
 - Seven-Minute Solar
 - Longer Lunar

Eclipses – Illustrated

Four kinds of eclipses

- Total – Sun is completely blocked out
- Partial – Not all of the sun is blocked off center
- Annular – Not all the sun is blocked but moon is right in the center leaving a ring of sun visible.
- Hybrid – Both total & annular

Eclipses every year or two, but in one area happen about every 400 years in the same spot.

The Moon Will Be Out of a Job

Then I saw a new heaven and a new earth; for the first heaven and the first earth passed away, and there is no longer any sea.

And the city has no need of the sun or of the moon to shine on it, for the glory of God has illumined it, and its lamp is the Lamb. The nations will walk by its light, and the kings of the earth will bring their glory into it.

– Revelation 21:1,23-24