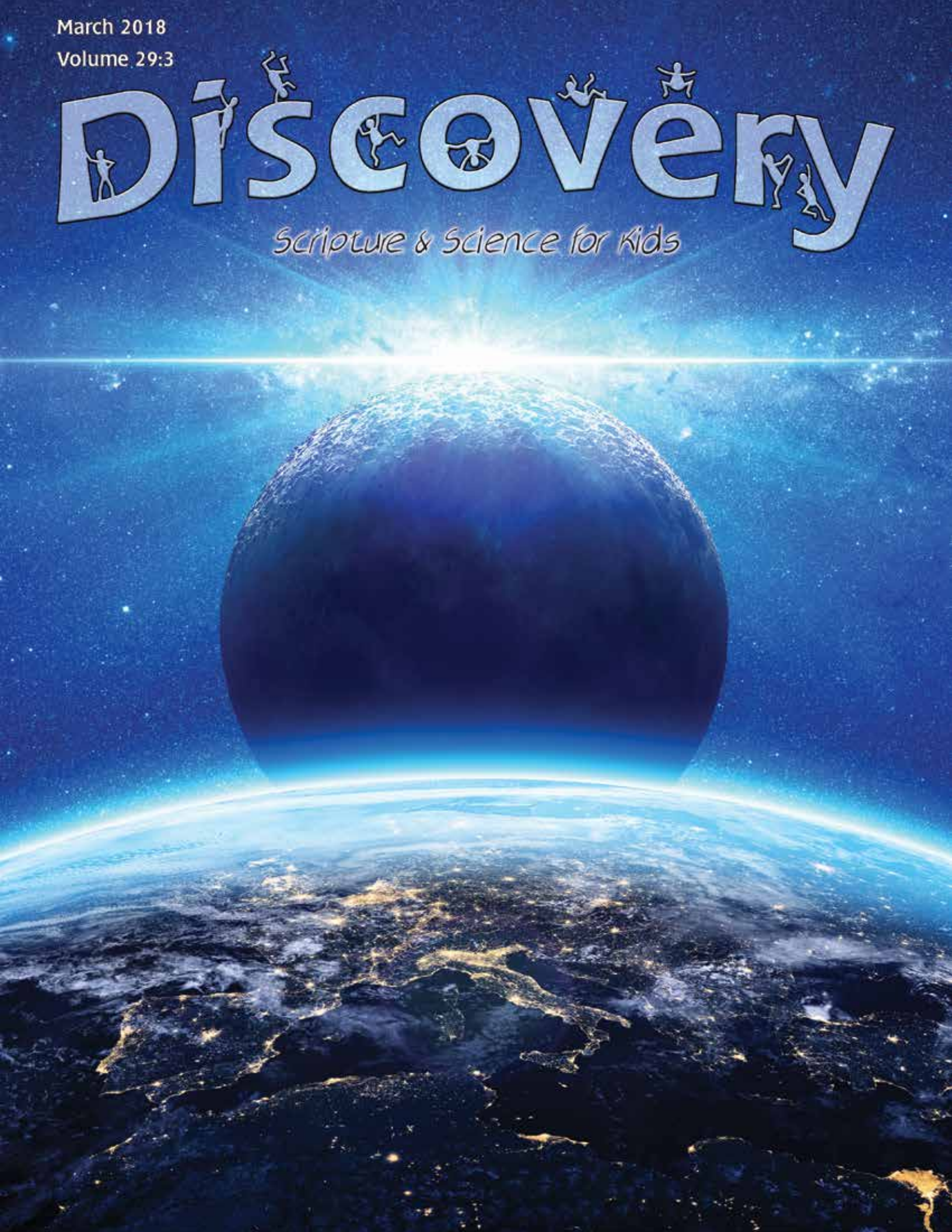


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# Discovery

*Scripture & Science for Kids*



# PLANET EARTH IS JUST Right

KYLE BUTT

## SUPPOSE THERE WAS A BOY

WITH A MESSY ROOM. HE WANTED IT TO BE

CLEAN, SO HE PUT ALL OF HIS CLOTHES,

electronic gadgets, and everything else in a huge pile in the middle of the floor. Underneath this pile he shoved a stick of dynamite and lit it. When the dynamite exploded, do you think it would have caused the boy's clothes to be neatly folded and tucked nicely into their drawers?

Would his jackets and hanging clothes have "exploded" onto hangers in his closet, and all his electronic gadgets placed carefully on his desk? Of course not! Huge explosions don't cause order or design. Huge explosions cause chaos and disorder. It takes an intelligent being to put things together in an orderly way.

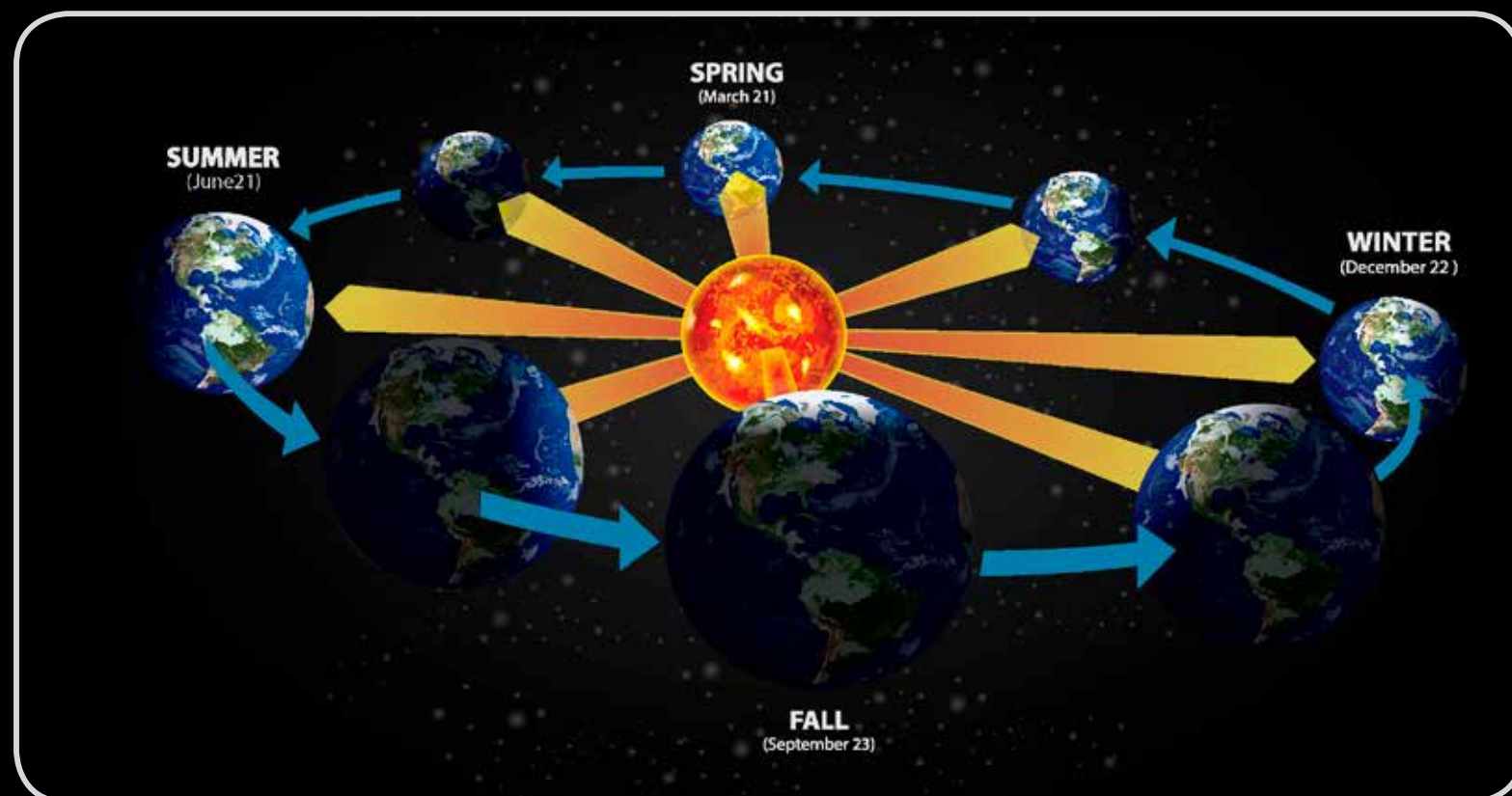
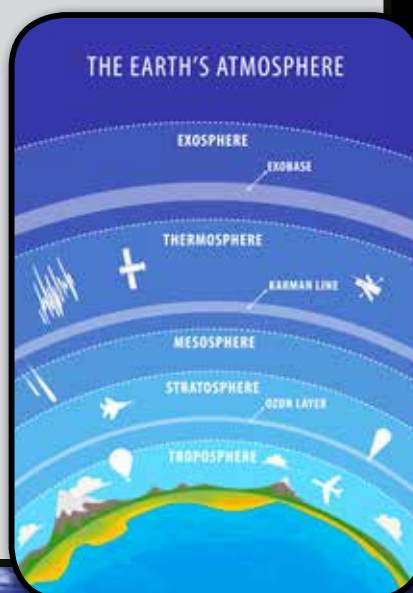
People who don't believe in God say that a huge explosion (called the Big Bang) caused our Universe. The problem with this idea is that our Universe is very organized. In fact, it is put together so well that it runs better than any clock or machine that has ever been designed. An explosion can't explain how our Universe is put together so well. Let's look at just how well designed our Universe is.

## The Goldilocks Principle

In cosmology (the study of the origin of the Universe) there is something called the Goldilocks Principle. Maybe you remember the story of Goldilocks. She went into the three bears' house. Everything that she tried of Papa Bear's did not work for her, and everything she tried of Mama Bear's did not suit her, but everything she tried of Baby Bear's was "just right." That phrase "just right" describes exactly how things in our Universe fit together for humans to live on Earth. Our Universe is "just right" in many different ways.

## The Earth's Perfect Orbit

Many years ago, scientists thought that our Earth went around the Sun in a perfect circle. We have learned this is not true. The Earth actually travels in an ellipse. An ellipse is a round shape that is "flatter" than a circle. That means that all the points of an ellipse are not the exact same distance from the center as they are in a circle. It just so happens that the Earth's elliptical orbit is perfect for life to exist. The Earth departs from a straight line about 1/9<sup>th</sup> of an inch every 18 miles (on average). If that distance were 1/8<sup>th</sup> of



an inch, then we would get too close to the Sun, and the heat would destroy life as we know it. If the Earth departed 1/10<sup>th</sup> of an inch every 18 miles, our planet would veer too far from the Sun, and the Earth would get too cold to support life as we know it. The Earth's elliptical orbit is "just right."

## Earth's Perfect Atmosphere

"Atmosphere" is the word we use for the air and sky that surround the Earth. The air that we breathe is made up of several different gases. About 78% is nitrogen, about 21% is oxygen, and the remaining small part contains gases like water vapor, carbon monoxide, carbon dioxide, ozone, and argon. It just so happens that Earth's atmosphere is perfect for life. The amount of oxygen is perfect for humans and animals to breathe. The small percentage of gases, such as carbon monoxide and ozone, filter out ultraviolet radiation waves that would harm humans and animals. In addition, the gases absorb the heat and keep the Earth the perfect temperature. Earth's atmosphere is "just right" for life.

## The Force of Gravity

There are four main forces in the Universe. Gravity is one of these forces. Gravity is the force that keeps the Earth rotating around the Sun. It is also the force that causes a ball to fall to the ground

when you throw it into the air. Scientists who have studied gravity realize that it is perfect for the existence of our Universe and for the survival of life. If gravity were only a tiny bit different, our Universe would not exist as it does today. Gravity is "just right."

## Someone Knew We Were Coming

One scientist named Freeman Dyson, after looking at all the finely tuned aspects of our Universe, said: "It almost seems as if the Universe must, in some sense, have known we were coming." Since explosions do not cause order and fine-tuning, something else must be going on. How could our Universe be put together perfectly from a huge explosion? It could not have. In fact, since our Universe works more perfectly than any finely tuned clock, we can know that an intelligent Designer created it. It was not the Universe that knew we were coming, but the God of the Universe Who designed our world specifically for humans to inhabit. Many years ago, the prophet Isaiah said that God "created the heavens, and formed the Earth and made it **to be inhabited**" (Isaiah 45:18). The reason our Universe looks perfectly designed is simply because it is **perfectly** designed by the greatest Designer ever—God!

# THE MOON DECLARES GOD'S GLORY

ERIC LYONS

## ABOUT 3,000 YEARS AGO, KING DAVID WROTE:

*The heavens declare the glory of God; and the firmament shows His handiwork. Day unto day utters speech, and night unto night reveals knowledge. There is no speech nor language where their voice is not heard. Their line has gone out through all the earth, and their words to the end of the world (Psalm 19:1-4).*

God told us through His servant David that we can look to the heavens, examine them from far away, and come to the right conclusion: something so big, beautiful, and well-designed must have a Creator. The heavens and the Earth testify day after day and night after night that "He who built all things is God" (Hebrews 3:4). "There is no speech nor language" of any mature person who cannot understand this truth. People may willfully choose not to believe it, but the evidence from the heavens for a Creator "has gone out through all the earth...to the end of the world."

One of the many wonders in the heavens is the celestial (a word that means "in the sky") object that we call the Moon. There are many moons in the Uni-

verse, but when we talk about "the Moon," we usually mean **our planet's** moon.

Consider what the Moon does. First, it often provides light at night. Have you ever been out in the country where there are no visible manmade lights, and yet you can still see "in the dark" because there is a full Moon? Though the Moon is "the **lesser light** to rule the night" (Genesis 1:16), it is capable of reflecting a large amount of useful light. Along with the Sun and stars, God set the Moon "in the firmament of the heavens to give light on the earth, and to rule over the day and over the night, and to divide the light from the darkness" (Genesis 1:17-18).

Second, for thousands of years the Moon has been of great help to man in keeping track of time. Like clockwork, every 29½ days the Moon changes from totally dark to totally light—from being a "New Moon" to a "Full Moon." The lunar calendar is based on the Moon's cycles throughout the "year." Many people (especially in Arabic countries) still use this kind of calendar. Not surprisingly, Moses wrote 3,500 years ago that the Moon and other celestial bodies help with tracking "days and years" (Genesis 1:14).



Third (and perhaps most important), the Moon plays a vital role in helping Earth remain a hospitable place for life to flourish. How is that? The Moon's gravity and Earth's gravity pull on each other. The Moon's pull on Earth causes the movement of the oceans—making the tides rise and fall. If not for the Moon being on average 240,000 miles from Earth, this "just-right" movement of the waters would not be able to cleanse the shorelines, stir up the waters, and support the great amount of life both in and out of the water (which often depend on each other).

Scientists have concluded that if the Moon were 20% closer to Earth, the Earth's tides would be so high that much of the currently inhabited lands would often be covered with several feet of water. On the other hand, if the Moon were 20% farther away, the oceans would turn into stagnant waters unable to support the billions of living things both in and out of the oceans. (Did you know that tiny plants in the oceans produce large amounts of oxygen that

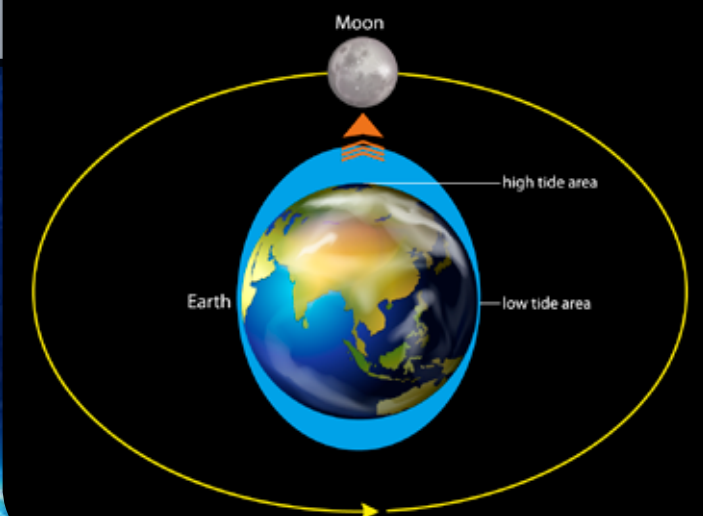
humans need to survive—oxygen that gets circulated by the movement of the ocean's waters?)

Atheists admit that they do not know how the Moon came into being, but one of their "best" theories is that another planet collided with Earth billions of years ago. This accidental collision is said to have produced a large number of rocky fragments that began orbiting Earth. Eventually the remains clumped together at high temperatures. Over the years, the new celestial body of clumped material cooled and became Earth's Moon.

Does this theory by atheistic evolutionists really make good sense? No way! Accidents don't produce the kind of design we see in the Earth and Moon. The Moon had to have been "set" **by Someone** in just the right spot in the heavens to help control the movement of the Earth's oceans. That same **Someone** gave the Moon its predictable pattern that it follows every 29½ days. The fact is, the amazing design of the heavens (including the Moon) "shows His [God's] handiwork." The Moon, like all of Creation, is a result of the mighty hand of our all-powerful God.

*"O Lord, our Lord, how excellent is Your name in all the earth, Who have set Your glory above the heavens.... When I consider Your heavens, the work of Your fingers, the Moon and the stars, which you have ordained.... Lord, how excellent is Your name in all the earth!" (Psalm 8:1,3,9).*

### Tidal Changes Caused by the Moon's Gravity



# ACTIVITY PAGES



## MATCH, FIND, AND CIRCLE

V F K Y S H B G G X Y N  
J M O O N F W D O T U M  
A O F F W S X M L J P X  
F J C G O U B G D B E Z  
A V U R K P J H I H R V  
G B T A B E W C L G I D  
J C K V K R P D O G G B  
H O J I V M B K C E E P  
Q S S T Z O L G K I E K  
P M Y Y D O U H S W B B  
N O Y P D N E R P F K A  
B L V I J H M L R Q C Q  
F O T H V O O O I D T J  
H G S I U Y O Z N F S O  
H Y B C D C N D C F N X  
D T O T D E V G I U J Y  
G R E D D R S D P P O G  
V W Z V O F V U L J A E  
L W Y F L I E L E Y B N

## FILL IN THE BIBLE VERSES (NKJV)

1. "The \_\_\_\_\_ declare the glory of God; and the firmament shows His \_\_\_\_\_" (Psalm 19:1).
2. "He who built all things is \_\_\_\_\_" (Hebrews 3:4).
3. "God made \_\_\_\_\_ great lights: the greater light to rule the day, and the \_\_\_\_\_ light to rule the night. He made the stars also (Genesis 1:16).

1. \_\_\_\_\_ Rise and fall as a result of the Moon's gravitational pull on Earth
2. \_\_\_\_\_ Occurs when the Moon reaches its closest orbital distance to Earth, causing the Moon to appear larger and brighter
3. \_\_\_\_\_ The study of the origin of the Universe
4. \_\_\_\_\_ The second Full Moon in one month
5. \_\_\_\_\_ Orbits around the Earth in approximately a 29½ day cycle
6. \_\_\_\_\_ Gets circulated by the movement of the ocean's waters
7. \_\_\_\_\_ Closest orbital distance
8. \_\_\_\_\_ The force that keeps the Earth rotating around the Sun
9. \_\_\_\_\_ Describes how things in our Universe fit together perfectly for humans to live on Earth

- |                         |              |
|-------------------------|--------------|
| A. Perigee              | F. Oxygen    |
| B. Moon                 | G. Blue Moon |
| C. Goldilocks Principle | H. Cosmology |
| D. Gravity              | I. Supermoon |
| E. Tides                |              |

## TRUE OR FALSE

1. \_\_\_\_\_ The beauty and complexity of the heavens should fill us with awe toward the Designer of the Universe.
2. \_\_\_\_\_ The Earth travels in an elliptical orbit around the Moon.
3. \_\_\_\_\_ The calculable ("clockwork") behavior of the Universe proves the Universe is not the product of evolution.
4. \_\_\_\_\_ Earth's Moon is the only one in the Universe.
5. \_\_\_\_\_ It is silly to think that there is ever more than one Full Moon in a month.
6. \_\_\_\_\_ If gravity were only a tiny bit different, our Universe would not exist as it does today.
7. \_\_\_\_\_ The Universe is full of design.
8. \_\_\_\_\_ Accidental explosions are known to cause design and order.

## ON A SEPARATE SHEET OF PAPER

1. Discuss the design of Earth, including its orbit and atmosphere.
2. Explain what is meant by "Super Blue Blood Moon."
3. Attempt to draw what a Super Blue Blood Moon looks like from where you live.



### Dear Digger Doug,

Above the mountains, when the Sun will come up—the moon and the stars will be up.  
Why can we see the moon when the Sun is up?  
—John, Age 4

Dear John,

Always great to hear from our younger readers. It is true, the Moon can be seen sometimes during the day and other times during the night. Any time the Moon is visible, it is reflecting the Sun's light. At night the Moon will appear bright because it is in a dark sky, but during the day the Moon will appear less bright because the blue sky is fairly bright.

Just like the Earth orbits (goes around) the Sun in a yearly cycle, the Moon orbits the Earth in a monthly cycle. During each month, the Moon goes through phases: Full, Quarter, Crescent, and New. These phases are caused by the alignment of the Sun, Earth, and Moon, where we see different portions of the sunlit side. When the Moon is on the opposite side of the Earth from the Sun, an observer on Earth will see a Full Moon. During the other phases of the Moon, when the Moon is not exactly opposite the Sun, it will be visible during the day for some amount of time.

Thanks for writing, and enjoy looking at God's wonderful night (and day) lights.



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# SUPER BLUE BLOOD MOON

ALANA MAY

**SUPER BLUE BLOOD MOON.**  
WHEN YOU HEAR THAT TERM, YOU MIGHT THINK IT SOUNDS LIKE A SCARY DISASTER from a video game or movie. However, it was an actual event that recently occurred and was visible to much of North America and the Pacific Islands. But what exactly was this marvel in the sky? Let's break it down.

## SUPERMOON

The Moon travels in an elliptical orbit around the Earth. A Supermoon occurs when the Moon reaches its perigee (closest orbital distance) and thus appears larger and much brighter than usual.<sup>1</sup>

## BLUE MOON

As the Moon orbits the Earth in about a 29½ day cycle, it goes through various phases. Since 29½ is less than most calendar months, there occasionally will be two Full Moons in one month. The second of these Full Moons is called a Blue Moon.

## BLOOD MOON

A lunar eclipse occurs when the Moon passes through Earth's shadow, blocking the sunlight on the Moon. One of the first things a person might notice is the reddish color of the Moon. The red color is caused

by the bending of sunlight through Earth's atmosphere as the Moon enters Earth's shadow and reflects only the refracted light.

## SUPER BLUE BLOOD MOON

On January 31<sup>st</sup>, 2018, the Moon was at its orbital perigee (Supermoon) at the time of the second Full Moon of the month (Blue Moon). Along with these events, a lunar eclipse occurred causing the Moon to appear in a reddish hue (Blood Moon). And there you have it: a Super Blue Blood Moon.

These naturally occurring events are part of the physical laws God put into place when He created the Universe. The calculable behavior of the Universe allows scientists to predict celestial events long before they occur (proving the Universe is not the product of a random accident). The beauty and complexity of such celestial events should fill us with awe toward the Designer of the Universe.



<sup>1</sup> <https://www.space.com/34515-supermoon-guide.html>



## ANSWERS

FILL IN THE BLANKS: 1. heavens, handiwork; 2. God; 3. two, lesser, MATCH, FIND, AND CIRCLE: 1. E (Tides); 2. I (Supermoon); 3. H (Cosmology); 4. G (Blue Moon); 5. B (Moon); 6. F (Oxygen); 7. A (Perigee); 8. D (Gravity); 9. C (Goldilocks Principle); TRUE OR FALSE: 1-T; 2-F; 3-T; 4-F; 5-F; 6-T; 7-T; 8-F.

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