



CREATOR

VOLUME 11

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THE DEPTH OF GOD'S CARE!

For You created my inmost being; You knit me together in my mother's womb (Psalm 139:13).

Hi, I'm Jenny!¹ God is my Father, and He made me through the big, strong hands of His Son, Jesus (John 1:3-4). These are the same hands that created giant galaxies,² and lovingly knit me together using the tiniest of parts. Please come with me today into the incredibly small and detailed world of atoms and beyond. I hope we will see that there is no limit to the power of our Lord Jesus. He's such a wonderful Creator and Savior!



Jenny

God has keen eyes and is able to see everything in the universe as clearly as everything else (Genesis 1:31). Because Jesus made us, He can see inside us...and without squinting! He sees an atom as clearly as a star. He moves and works among the things that are very large and extremely small at the same time. He needs no telescopes or microscopes.

¹ Jenny is a fictitious character.
² See CREATOR Volume 10 Number 4

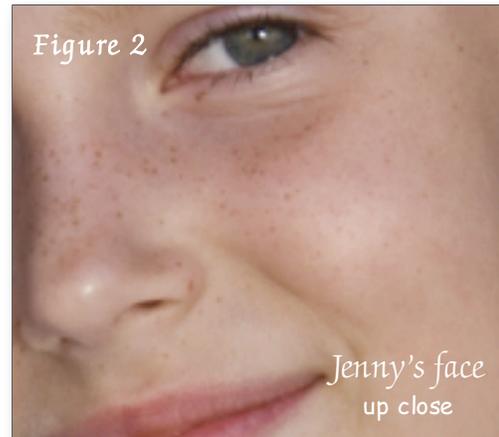


Figure 2

Jenny's face
up close

Jesus doesn't allow us to see all the wonders of creation at once, so our journey must go in steps. Each step will take us into a realm ten times closer (smaller) than the one before it. Let's start by using a magnifying glass to see what my skin might look like really close up (Figure 3). Kind of strange, huh?!

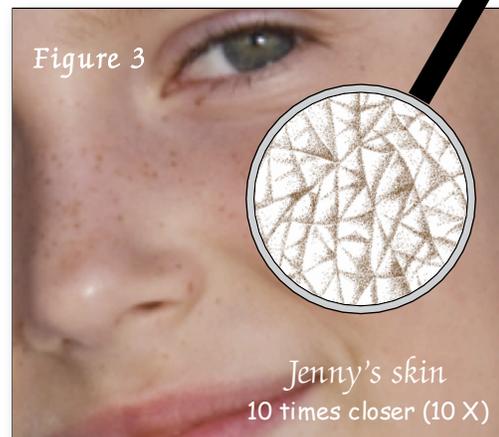
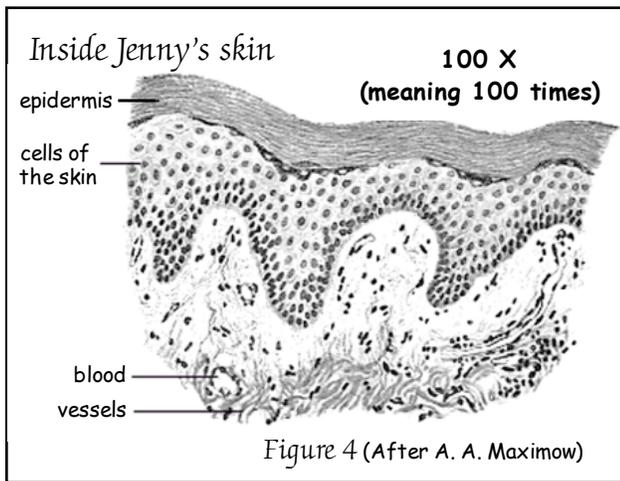


Figure 3

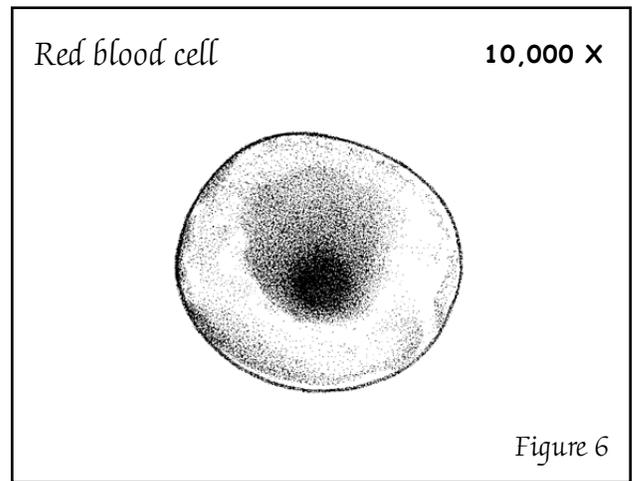
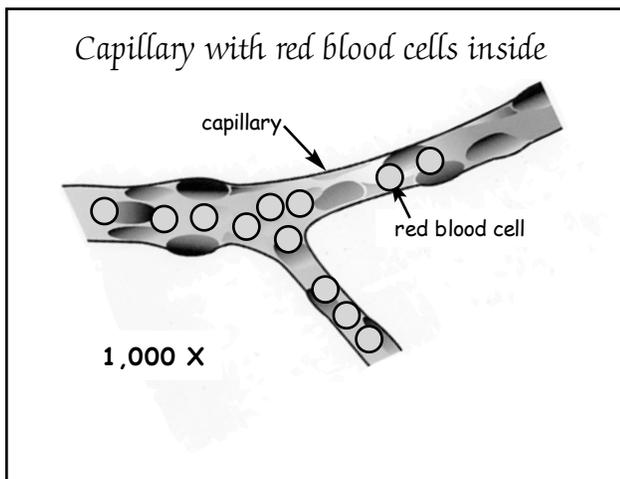
Jenny's skin
10 times closer (10 X)



If we take another step, this time *inside* my skin, we might see what's in Figure 4. This is what a cut on my face would look like under a microscope. At this magnification (100 times), we start to spot the individual cells and blood vessels of my skin.

Further magnification, to one thousand times what our eyes normally see, reveals a capillary in my skin (Figure 5). A **capillary** is a tiny blood vessel. God has laced my body with millions of capillaries. If you laid them end-to-end, they would add up to **thousands of miles** of blood vessels! When I get embarrassed, the capillaries in my face fill up with red blood cells and this is what causes me to blush.

At 10,000 magnification, we can see a red

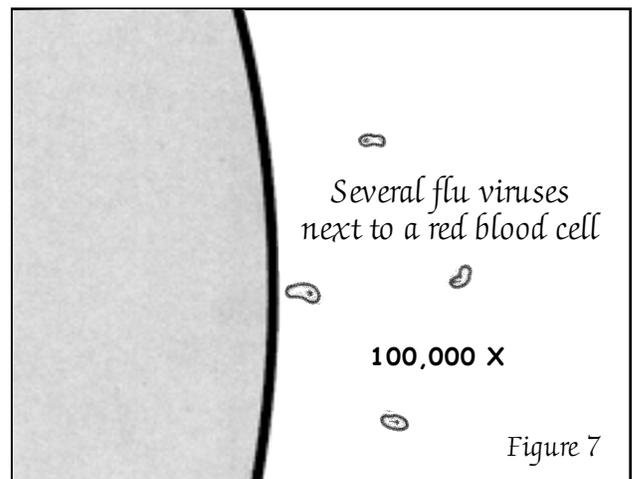


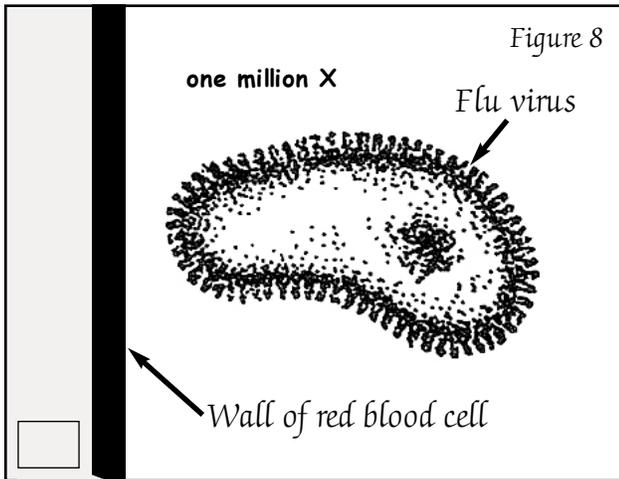
blood cell up close (Figure 6). The red blood cells of my body are found, naturally, in my blood stream. These special cells are formed in the bone marrow and survive about 120 days. Old red blood cells are continuously being removed from circulation by my liver and spleen.

Red blood cells carry oxygen from my lungs, through my arteries, to the rest of my body. They also transport carbon dioxide from my body to my lungs. Every time I breathe, I inhale oxygen and exhale carbon dioxide.

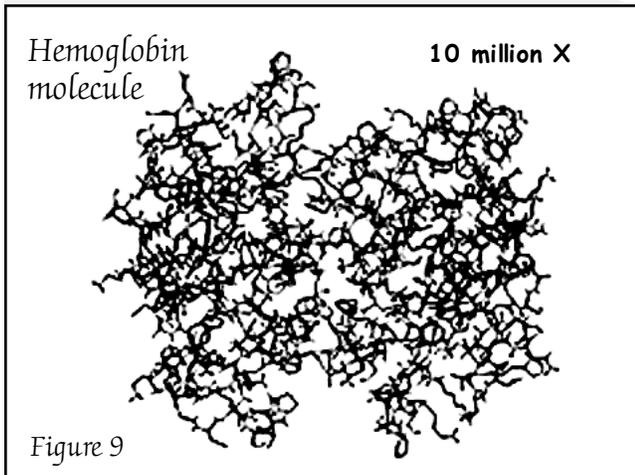
I've been feeling a little sick lately and if we look at the next picture (Figure 7) we can understand why. Those little blobs floating around next to one of my red blood cells are flu viruses (germs that cause the flu).

If we take another step—this time into the



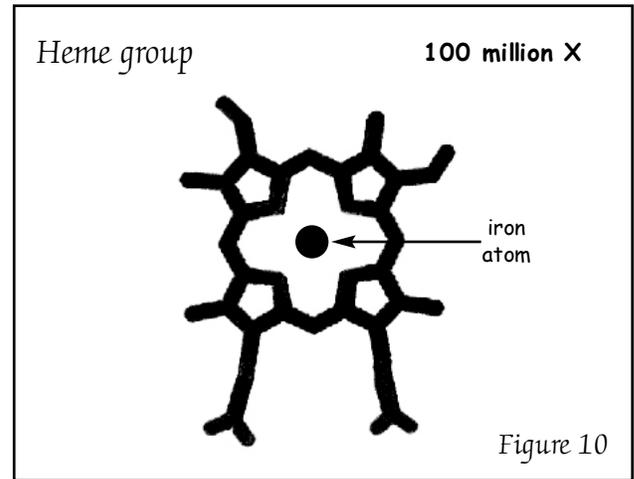


At a magnification of one million times, we see a flu virus up close and, for me, all too personal! God did give it an interesting shape.



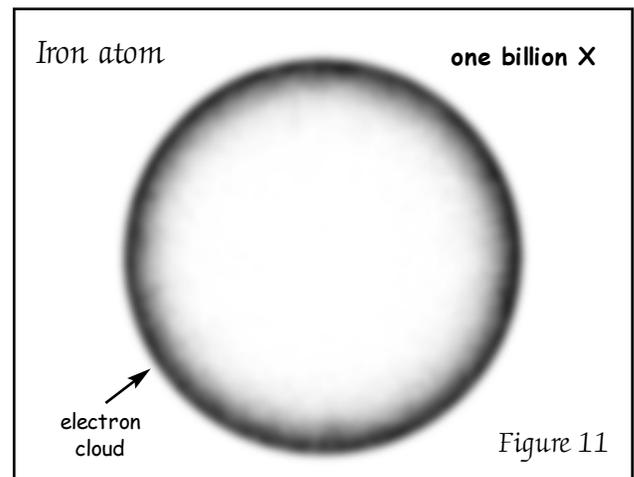
“heart” of a red blood cell—we can identify a single hemoglobin molecule. “What’s hemoglobin?” you ask. Well, **hemoglobin** (pronounced hee - mow - GLOW - bin), is a complex protein Jesus placed in red blood cells and it’s what latches onto oxygen. (It acts like a “close friend” of oxygen.) Each red blood cell contains about 300 million hemoglobin molecules. It’s a “complex” protein because it’s actually four smaller protein molecules rolled up in one.

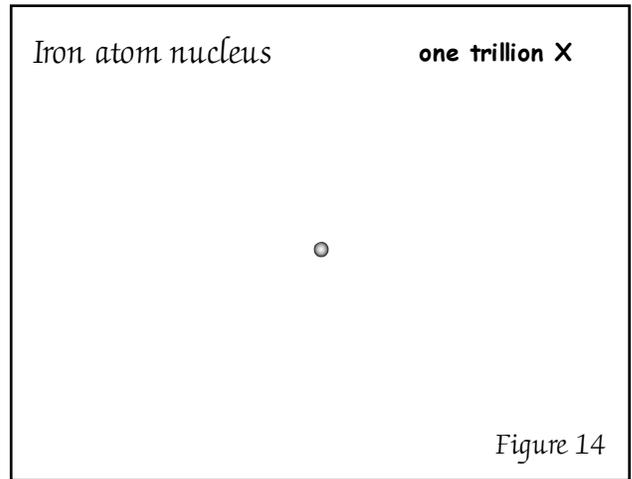
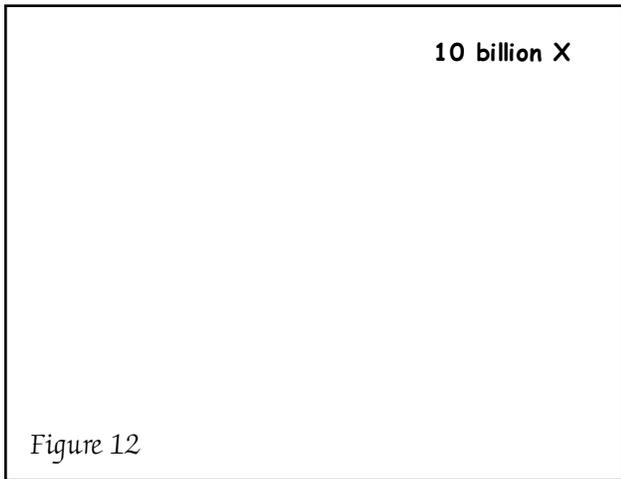
Each of these four smaller proteins has



something called a **heme group** at the center of it, like the yolk of an egg. There are four heme (pronounced heem) groups in a hemoglobin molecule. The heme group is able to carry one oxygen molecule from the lungs to most anywhere in the body. Thus, each hemoglobin molecule transports a total of four oxygen molecules.

God put an **iron atom** at the core of each heme group (Figure 10). Iron is needed for hemoglobin to work properly. If a person lacks iron in their food, they can’t produce hemoglobin and they will become anemic (ah - NEE - mik). The picture of an iron atom below (Figure 11) has been magnified one billion times. It’s tiny, but Jesus made it oh-so-important!





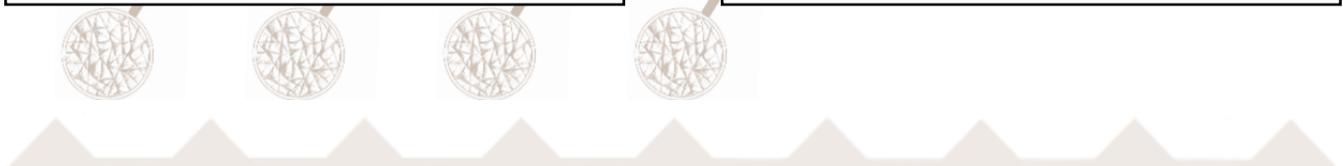
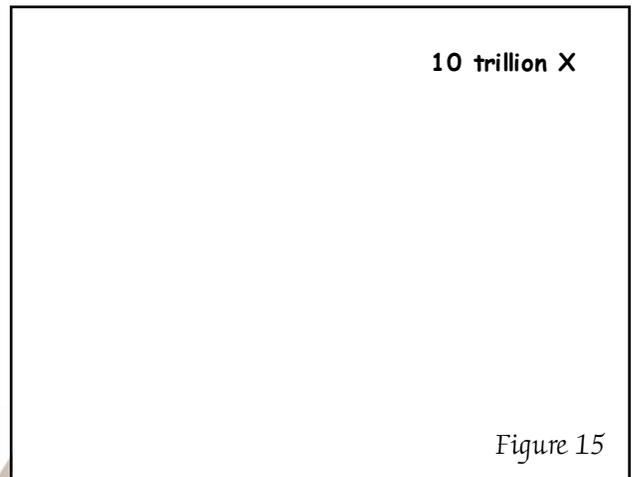
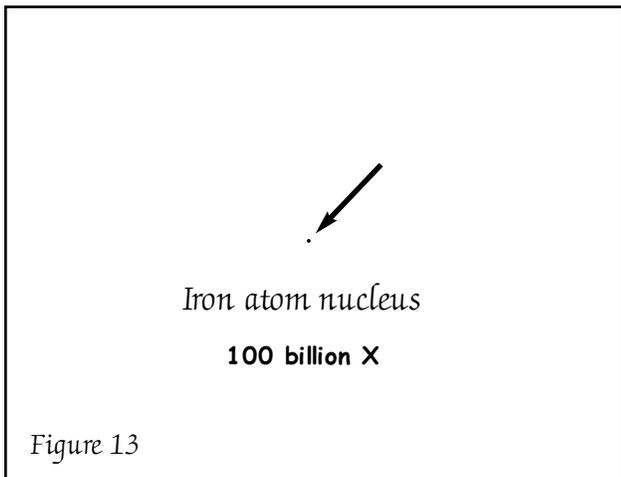
If we magnify an iron atom to ten billion times, what we normally can see, we see . . . well, we see nothing! That’s because, believe it or not, the iron atom is mostly empty space. God made all atoms by placing electrons on the outside and a nucleus at the center of each atom. **Electrons** are extremely small, negatively-charged particles that orbit around the nucleus of each atom. The **nucleus** of an atom is composed of larger particles called **neutrons** (NEW - trons) and positively-charged **protons**.*

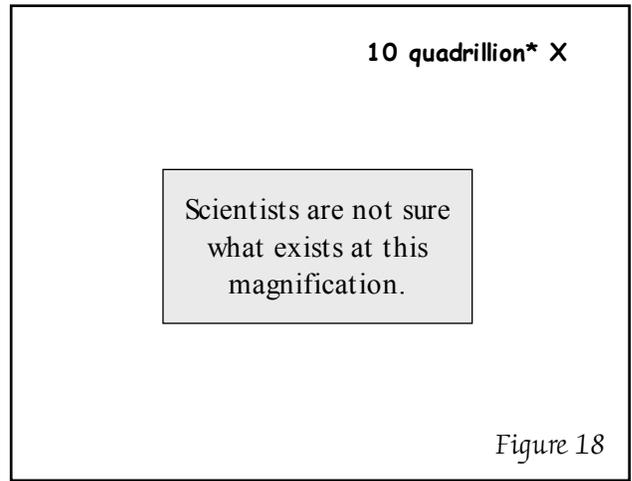
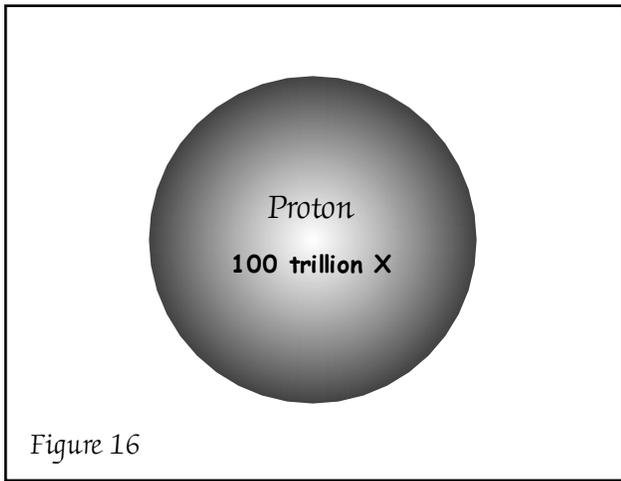
Jesus placed the electrons far from the protons and the neutrons. If the nucleus of an atom was three feet (one meter) across—the size of a beach ball—its electrons would be three miles (five kilometers) away!

Now let’s jump to a magnification of 100 billion times (Figure 13) and then to one trillion times (Figure 14). We begin to “see” the nucleus of our iron atom. At a magnification of ten trillion times (Figure 15), we can identify the individual protons and neutrons the Lord Jesus glued into the nucleus. The nucleus of an iron atom has 26 protons and 30 neutrons. The number of protons is equal to the number of electrons, so an iron atom also has 26 electrons.

Only God has ever seen a proton or a neutron because they are just too small for us to see, even with the most powerful microscope. There are experiments that scientists can do to prove that they exist though.

In a way, I wish this were the end of our





journey because my head is starting to hurt. Jesus placed even smaller particles inside protons and neutrons. Can you believe that?! Special instruments, called **atom smashers**, are needed to detect them.

Physicists—scientists who study atoms—use high-speed electrons and such to probe **subatomic particles** (protons, neutrons, and others). Atom smashers several miles in diameter are needed to “see” inside an atom. It’s weird—the smaller we go, the larger our instruments must get! But only God, Who is infinitely big, can see the “infinitely small” (Psalm 139:15-16)!

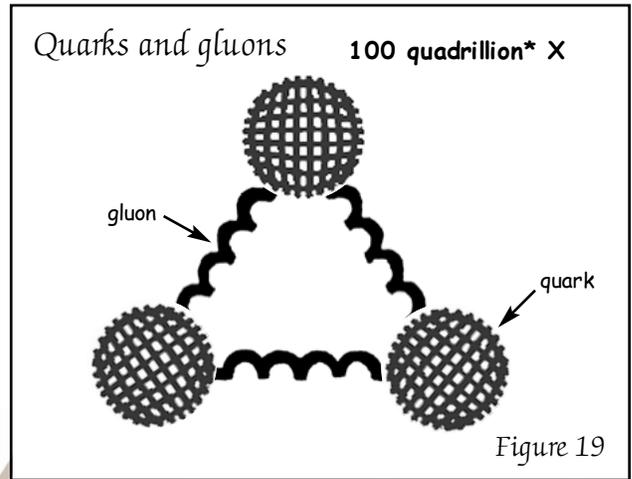
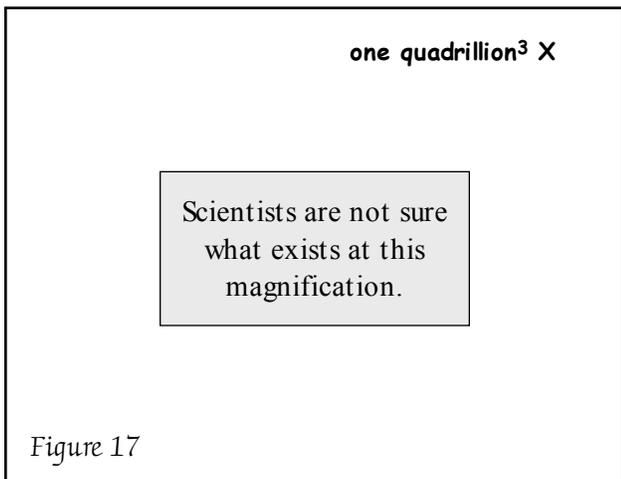
Physicists believe that protons and neutrons are made of things called **quarks** (pronounced kwarks) and **gluons** (pronounced

glue - ONS). Quarks (Figure 19) are about the same size as electrons, but are **ten thousand times smaller** than the proton in Figure 16.

It’s scary—scientists keep discovering more and more subatomic particles! How does the Lord Jesus keep the tiny pieces of my body from getting all messed up?

It just goes to show how great God is! He made my body so complex, and it’s His power that holds me together moment by moment. How can anyone think they don’t need Him?!

I praise You [Lord] because I am fearfully and wonderfully made; Your works are wonderful, I know that full well (Psalm 139:14)!



³ In the U.S. and France, one quadrillion equals 1,000,000,000,000,000. In Great Britain and Germany, a quadrillion is one billion times larger—one followed by 24 zeros. We are using the U.S./French version.

DIVINE VISION

For He views the ends of the earth and sees everything under the heavens (Job 28:24).

In the beginning, God took a myriad of atoms and molded them around His character—the result was His creation. Creation is not God, but His character is indelibly imbedded in the fabric of the universe. God’s glory raised the formless dust of the Earth (Genesis 1:1-2) and created all things.

God is eternal and He is **outside of time** (Psalm 90:1-4). Our God is also infinite and He resides **outside of space** (Psalm 57:5). God is not limited by time but stands above it. He is not limited by the dimensions of space either. It is these two attributes of His character—His **eternality** and His **infinitude**—that make God **unknowable** to finite beings like us.

The microcosm of Christ’s creation reveals the infinite reach of His almighty hands. His Spirit touches the infinitely big AND the infinitely small, **for God is infinite in both directions!** This is comforting. If we view God as only infinitely large, then we might wrongly think He is “too big” to bother with our “small problems.” None of our problems are trivial to God. But one is most important—sin!

All this points to Jesus. Since God resides outside of space and time, it was necessary for Him to reach down to us in order for us to see Him. Jesus became the visible manifestation of an invisible, unknowable God (Colossians 1:15). It is true that creation gives us a glimpse into God’s character (Romans 1:20). But if our Heavenly Father had not sent His Son from Heaven to Earth, we would not know personally how much He cares for us and how much we have sinned against Him.

We can choose to deny our sins or we can embrace a Savior Who will deliver us from the penalty of sin, which is hell. No one can escape God’s knowledge of their sin—He sees it all!

There is coming a time when the universe will be burned in God’s holy fire (2 Peter 3:10-12). But Jesus died a gruesome death on a

cross to pay the penalty for our sins. If we believe we are sinners, sincerely repent of those sins, and believe that He can save us from His Father’s wrath—He will!

Most people deny God’s coming wrath, but it is all too real, more real than the blood that courses through our bodies. God is able to preserve our lives for all eternity or He can allow us to disintegrate in the presence of His holiness. **Jesus alone is the difference.** He alone is our Protection. He is the only way to His Father in paradise (John 14:6). IF you believe this and have never surrendered your life to Christ, do it now! One warning: Becoming a Christian will not make life easy here on Earth. Many people will hate you because they hate Jesus. You will not get rich as some claim, but you will have riches in Heaven!

“Oh, Lord Jesus, You are everywhere. There is no limit to You! All that we see is a mere shadow of Your being. You are far greater than anything in the universe. Please give me a heart to know You. Please forgive me for all my sins—my rebellion against You. I believe You died on a cross to forgive my sins, and You came back from death to give me eternal life. Be my Lord and Savior today. In Your name, Amen!”



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