Science and the Bible

There are two pervasive misconceptions about the Bible. The one held by skeptics is that the Bible is an antiquated book, which is full of fables, stories, scientific fallacies and mistakes. The other view, which is mainly held by liberal theologians, is that the Bible is a religious book and as such, must be interpreted spiritually and allegorically and is not to be taken literally.

In fact, the Bible is self-authenticating, divinely inspired and true throughout, whether it is dealing with history, science or medicine. And as we shall see, it can be relied upon totally.

The story of Creation

- Before addressing biblical creation, let's have a brief look at how other religions explain our existence so that their account of creation can be compared with that of the Bible.
- **The Hindu** texts known as the Upanishads describe the creation of the world as the breaking of a cosmic egg.
- **The Aztecs of Mexico** believed that the present world was the fifth that the gods had created. It was fated to end in universal destruction by earthquakes. The four previous worlds had been destroyed by a great flood, the falling of the sky, a firestorm, and a windstorm.

- **The Maya** believed that the gods made three unsuccessful attempts to create human beings before achieving a satisfactory result. Their first creations–animals, people made of mud, and wooden people–disappointed them in various ways, and they abandoned or destroyed them. Finally, the gods made people of maize (corn) who were perfect, so perfect that their creators clouded their vision to prevent them from seeing too far.
- **A Japanese tradition**, preserved in a volume of mythological history called the *Kojiki*, says that before creation, there was an oily sea. Gods came into being in the High Plains of Heaven. After seven generations of deities, there came the first human ancestors, whose task was to make solid land. They stirred the sea with a jeweled spear. Drops that fell from the spear formed the islands of Japan.

- **A Chinese** creation story tells how Pan Gu was hatched from a cosmic egg. One part of the eggshell formed the heavens; the other part became the earth. For 18,000 years, Pan Gu stood between them, keeping them apart by growing ever taller. Finally, he became weary, lay down, and died. From his eyes came the sun and moon, from his hair the stars, from his breath the wind, and from his body the earth.

- **A Norse** creation story tells how the giant Ymir took shape in the huge icy emptiness called Ginnungagap. Ymir's great cow licked the ice, creating the first gods, including Odin. The gods killed Ymir and divided his body into a series of worlds on three levels: Asgard, the realm of gods; Midgard, the realm of people, giants, dwarfs, and elves; and Niflheim, the realm of the dead. The gods created the first man and woman from an ash and an elm tree.
- According to **Polynesian** tradition, a creator god named Tangaloa sent a bird messenger over an endless primal sea. At last Tangaloa threw a rock into the sea so the tired bird would have a place to land. Then the god created all the islands in the same way. The bird made the first people by giving arms, legs, hearts and souls to maggots.

The biblical account of creation appears in the first chapter of the book of Genesis. The narrative is detailed and the act of creation is attributed to God in its entirety. It was accomplished in six days. It was orderly and highly structured, with each day having its own start and finish. That is: morning and evening. Each day was completed before the next act of creation was started. It is a logical sequence of events with the pinnacle of creation being man—the only being created in the image of God.

The Cosmological Argument (The first Cause Argument)

- The Cosmological argument is a powerful philosophical tool, which is based on a universal law, applicable in all science and human experience. It leads to the conclusion that there must have been a Creator.
- The argument goes like this: in our everyday experiences we observe and know that nothing happens by itself, but rather that everything that happens has a cause. Something cannot come from nothing. For example, suppose you were with a friend and you heard a loud bang, and you said to your friend, "What was that?" and he said, "Nothing, just a bang," you would know that his answer could not be right, because there cannot be a bang without something causing it.
- **Every effect must have a cause.**

If the law of cause and effect applies, as it does, it must apply to the whole universe and to every part of it. The entity that brought about that first cause by the process of creation must be independent (or outside) of creation and also outside of time. This Creator must be living, eternal, omnipotent, omniscient, omnipresent, conscious and moral, and creation must have been volitional. Thus, the basic premise of biblical theology: *In the beginning God created the heaven and the earth* is in complete harmony with the argument presented.

Since the concepts of morality and righteousness, although abstract, are nonetheless real, they must be part of the First Cause.

The most common objection to the argument of a creator God is, “Who created God in the first place?” The response is: the universe had a beginning and the First Cause argument applies. God did not have a beginning as He is outside of time. In fact, time started at the instant of creation, so the First Cause argument does not apply to God.

God spoke everything into existence

Many have wondered why God would be bothered to create such a large range of species, some with their own unique metabolism, even way down at the bottom of the ocean. Or why would God create the great vastness of the universe when only an infinitesimal part can be viewed from earth? Part of the answer is found in Genesis chapter 1. God spoke everything into existence, and thereby He demonstrated His omnipotence. He didn't have to make anything, He simply spoke and it came into being. It was no harder for God to say, "Let there be some aquatic species" than it was for Him to say, "Let the waters abound with an abundance of living creatures." Thus, His statement was fulfilled in every detail. The other part of the answer is that God created for His pleasure.

Our world has been Designed to Support Human Life (Anthropocentric)

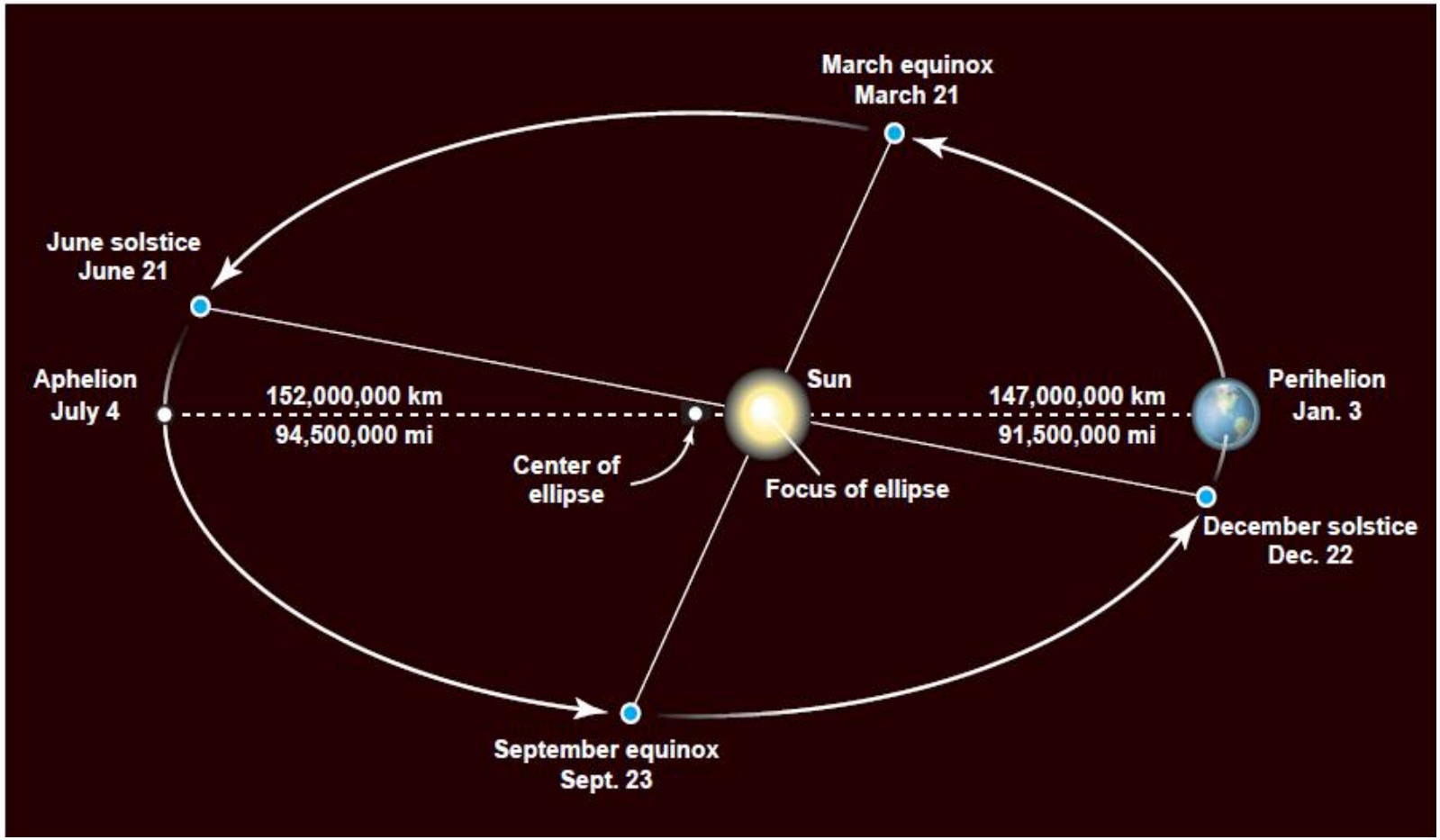
Isaiah 45:18

For thus saith the LORD that created the heavens; God himself that formed the earth and made it; he hath established it, he created it not in vain, ***he formed it to be inhabited****: I am the LORD; and there is none else.*

Let us look at what is unique about the earth that enables it to sustain life as the Bible states that it was designed for.

1. Life is only possible because the earth is exactly the right distance from the sun, giving us a temperature range mainly between 0ºC and 40ºC. If we were five percent closer to the sun, the oceans would boil; five percent further away and all of the oceans would freeze.

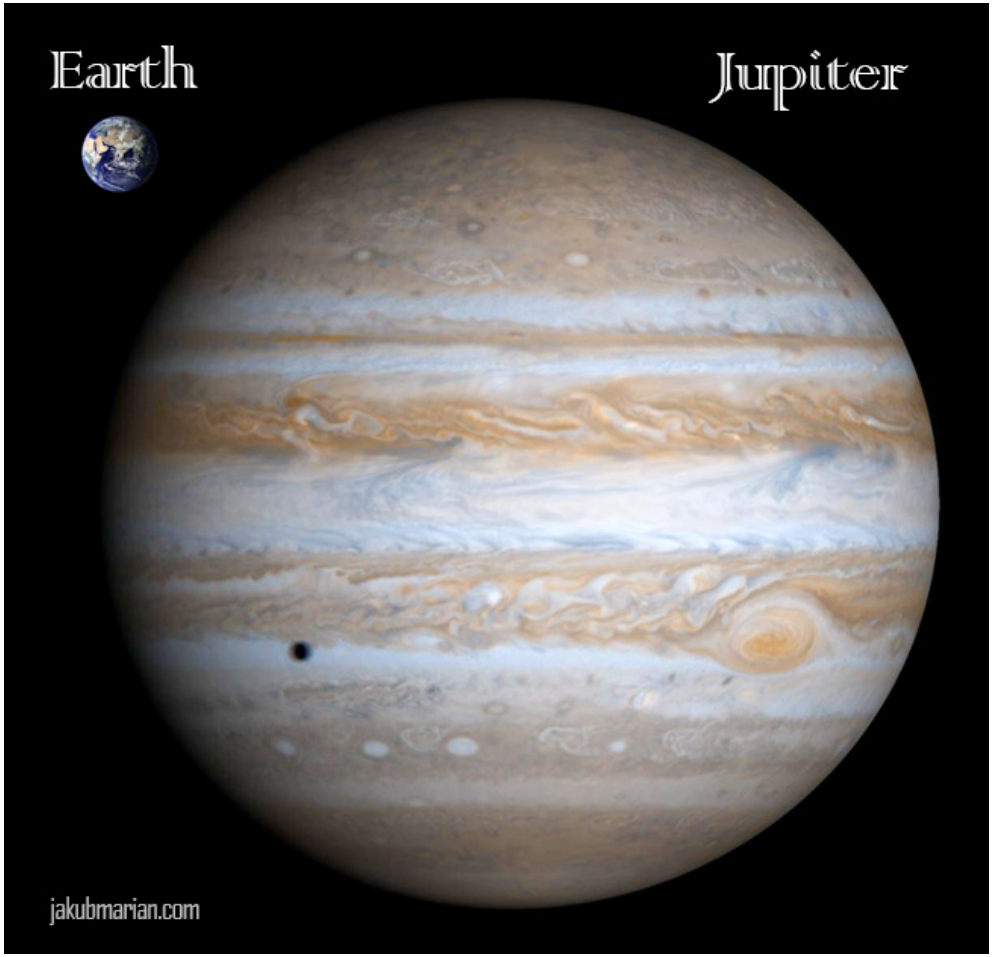
2. The earth's orbit around the sun is nearly a perfect circle. If it were more elliptical, it would be too hot in the summer and too cold in the winter.



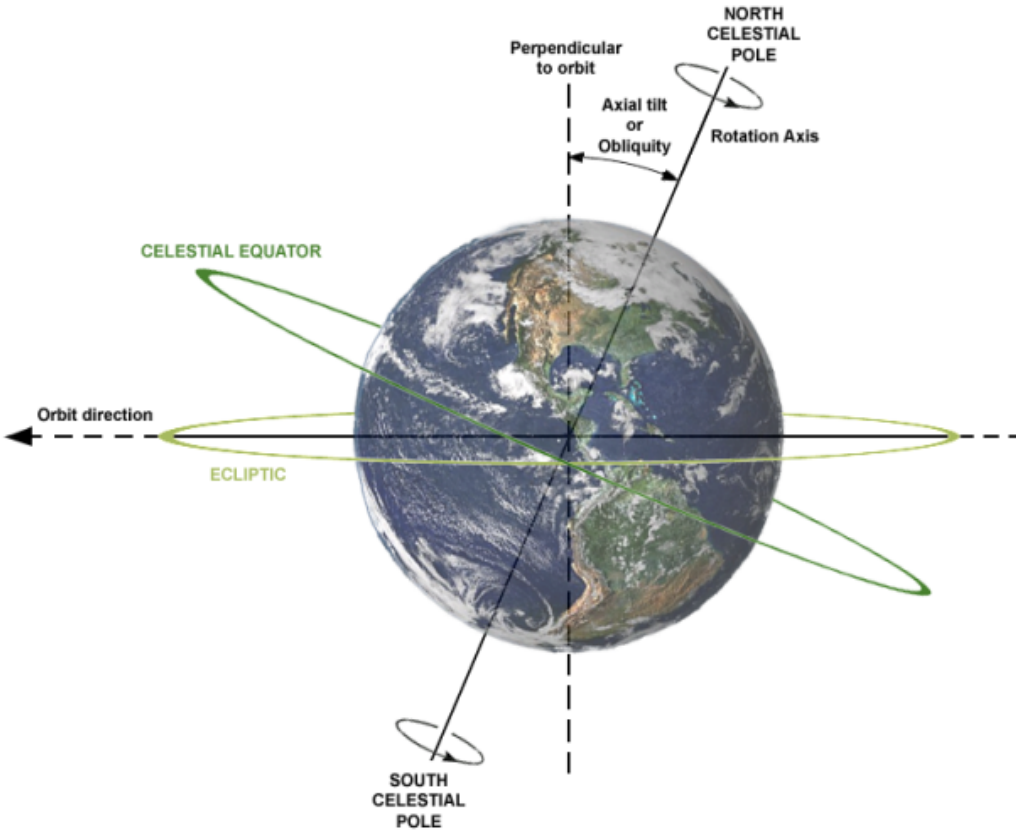
3. If the earth's rotation about its axis was slower, the days would be unbearably hot and the nights unbearably cold. If the rotation was faster, the wind would blow so strongly that people would not be able to stand up.

4. The earth has an unusually large moon and its gravitational pull causes the tides, which, in turn, cleanse the ocean's shores and puts oxygen back into the water by moving it—thereby enabling it to support aquatic life.

5. The huge planet Jupiter, with its strong gravity, is in just the right position to pull many comets and meteors into it, averting them from crashing into the earth and killing much of its life.

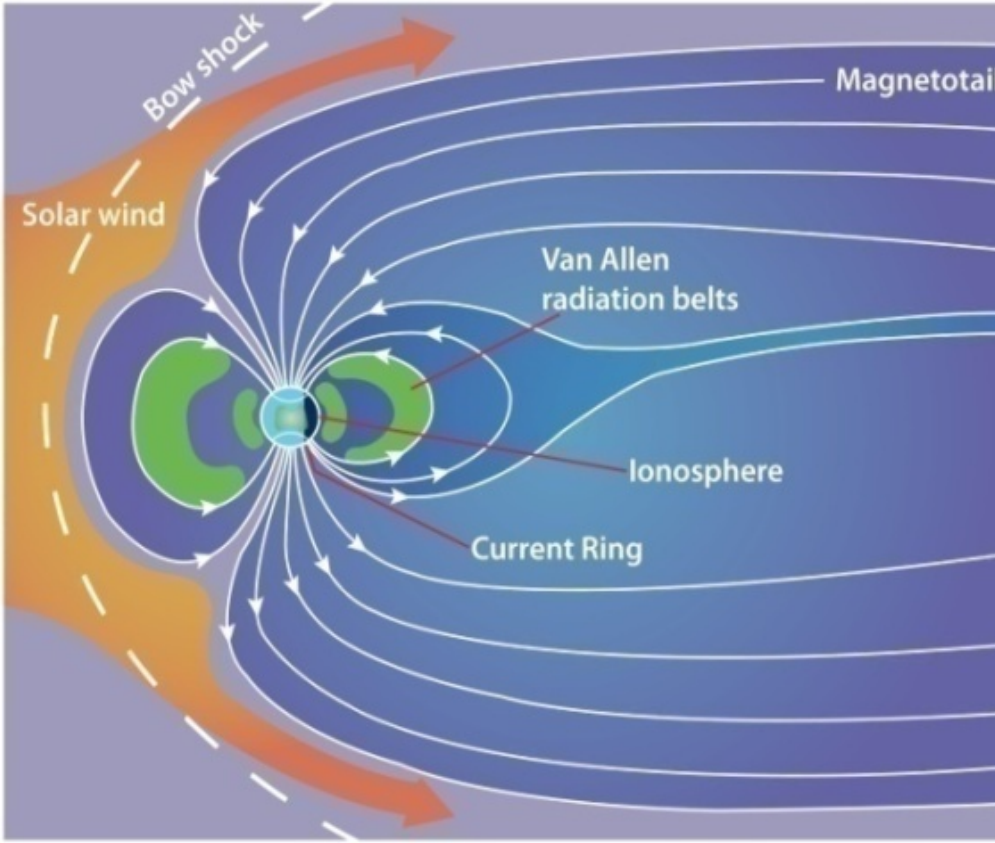


6. The earth is tilted on its axis of rotation at an angle of 23.5 degrees. This is important because the greater proportion of land mass is located in the northern hemisphere. Land absorbs more of the sun's heat than the sea, so the earth is much warmer when the northern hemisphere is pointing towards the sun and this happens to be when the earth is farthest from the sun. This fact gives rise to the seasons and moderates the seasonal temperatures.



7. The earth's unusually thin atmosphere is compatible with life. For example, our near neighbour, Venus, is smaller and yet it has an atmosphere 80 times that of the earth. As a result, its runaway greenhouse effect has produced searing temperatures. The average surface temperature on Venus is 462 degrees C.

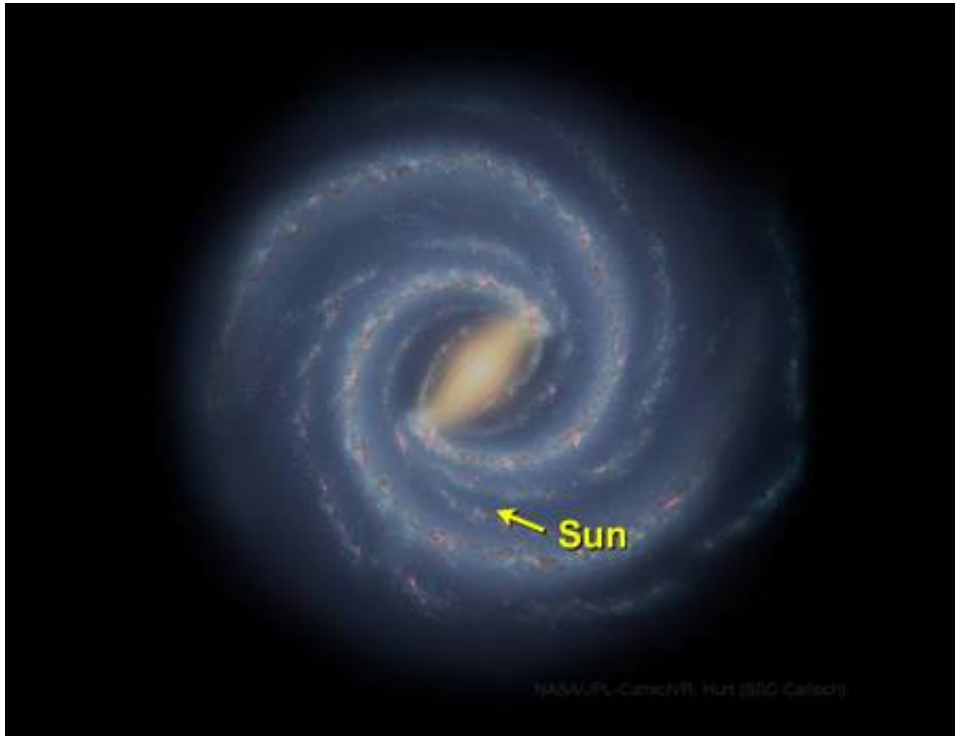
8. The earth has a very large and heavy magnetic core, giving it the highest density of any of the planets in the solar system. Our iron and nickel core produces a large magnetic field which protects us from lethal solar wind. Without such a huge magnetic field, life would not be able to exist.



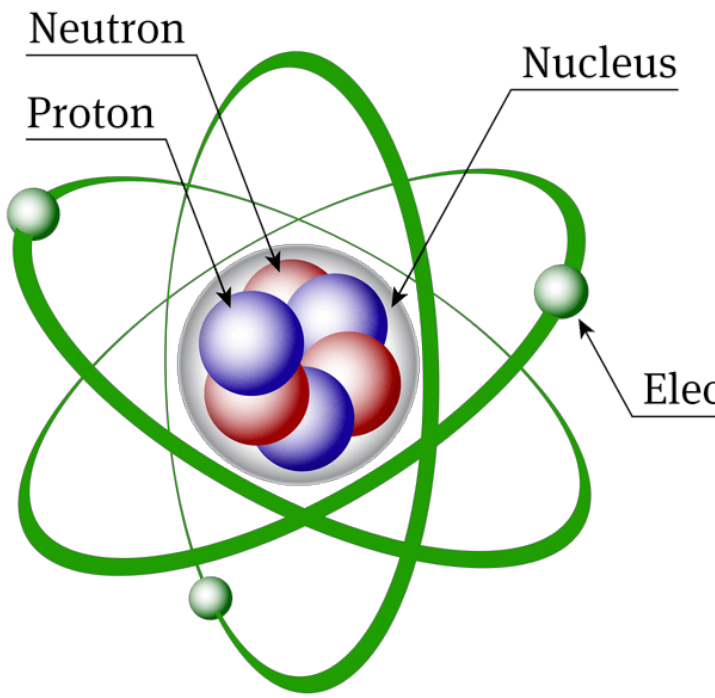
9. The earth's gravity is at just the right strength to enable its inhabitants to be able to move easily

10. As the earth spins on its own axis, it has a tendency to wobble, owing to varying pulls from other heavenly bodies such as the sun. The unseen force of our unusually large moon's gravity gently damps the wobble, preventing rotational instabilities which would have caused dramatic changes in earth's climatic zones over time, thereby making it inhospitable to life.

11. Our solar system is in just the right position in our galaxy (a spiral galaxy called the Milky Way), in what has become known as the Galactic Habitable Zone (GHZ). Too far from the galactic centre and all of the elements necessary for life would not be present; too close to the centre or on one of the galaxy's spiral arms, and x-ray and gamma radiation from neutron stars would destroy life, and the gravitational pull of nearby stars would affect the motion of the planets in our solar system. Our solar system sits at a comfortable halfway from the galactic centre and between two of its spiral arms.



12. The physical constants of the Universe are amazingly finely tuned. The constants of the laws of physics, such as the speed of light; weak nuclear forces; the ratio of neutron mass to proton mass; the gravitational constant and thirty other physical constants are finely tuned to a very precise degree—such that if they were altered even slightly, the universe would either be prevented from existing, would not have matter, or would be unsuitable for any form of life.



13. The one substance without which life would be impossible is liquid water; our world has it in abundance. That is why people at NASA are desperately trying to find liquid water on some other heavenly body. If and when they do, they hope against hope that they will find some form of life, because they believe that life arose from a bunch of chemicals that organized themselves into self-replicating organisms.

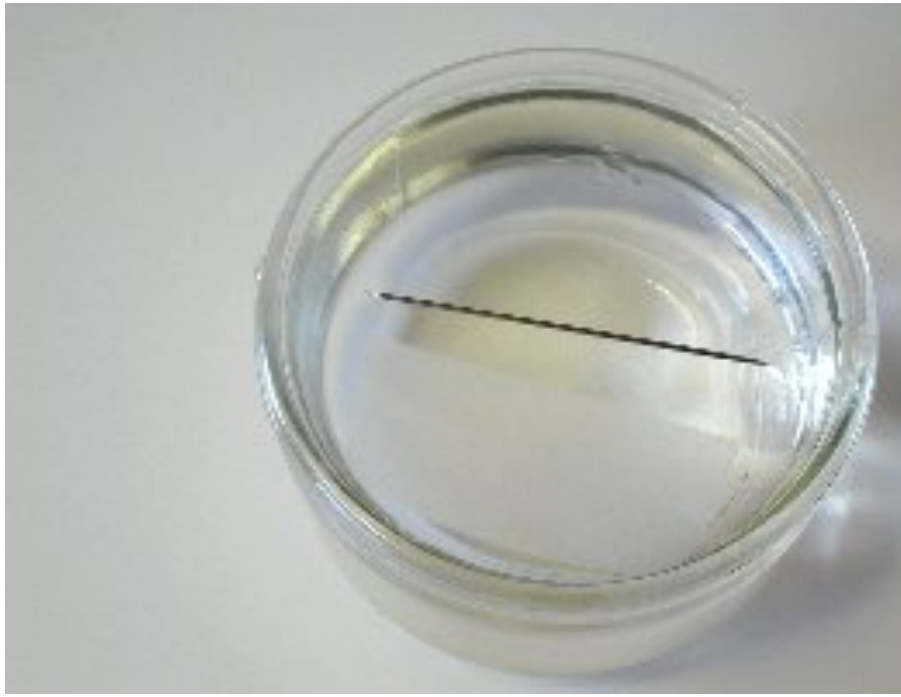
What is driving this multi-million dollar search? Simply this: if they can find life, that will support the argument that evolution is true and that there is no God; as a consequence, they will not be responsible to their Creator for how they have lived.

Wonderful Water

Water has many unusual properties and is necessary for the existence of life. Like all liquids, water contracts and becomes denser as it cools; but amazingly, this process reverses when water reaches 4°C. On further cooling, water begins to expand and becomes less dense and lighter, giving rise to the phenomenon that it freezes from the top down, while all other liquids, which become denser as they cool, freeze from the bottom up. It is this property of water that causes bottles to break if they are filled with water and placed in a freezer; it causes icebergs to float, and it is why the sea and even lakes do not freeze completely.

This property allows marine life to live. In fact, ice has such good insulating properties that even with the air temperature as low as minus 50˚C, the ice layer can be as little as one meter thick and the water below it will remain liquid. In addition, water is the only liquid that exists on earth in all of its three forms; solid, liquid and gas.

One of its amazing physical properties is **surface tension**. That is, water sticks to itself very strongly, more strongly in fact than any other common liquid. This high surface tension can be demonstrated by very carefully placing a needle onto the surface of water contained in a cup, for example. The needle will float, but as soon as one drop of a surfactant (such as a detergent) is added, the surface tension will be broken and the needle will sink immediately.



When this property is expressed in another form, known as **capillary action**, it enables plants to transport water from their roots up to their leaves. As the water is transported, it carries with it nutrients and this highlights another unique feature of water; its great **solvent capacity**; greater than any other liquid, in fact. Without this property, life would not be able to exist.

Another distinctive property of water that enables capillary action to proceed is its very **low viscosity**.

These properties combine to allow water to carry nutrients through very small tubes called capillaries.

Water has the amazing characteristic of being able to absorb a lot of heat. This property is known as **heat capacity**, and it enables the earth's vast amount of water (70 percent of the earth's surface is covered by water) to moderate its temperature. By contrast, the moon has no air or water and as a consequence it has an average maximum daytime temperature of 107^0C and an average minimum night temperature of minus180^0C; conditions under which life could not exist.

Not only does water have a great capacity to absorb heat, it also gives off a lot of heat when it evaporates. This is known as the **latent heat of vaporization** and it enables us to keep our body temperature at 37^0C when we exercise, because the hotter we get the more we perspire, and the more we perspire, the more water is evaporated from our bodies and the more we cool.

The Bible is correct when it states that the earth was created for life.

Mitochondrial Eve

The DNA in the mitochondrial part of our cells is passed on to us exclusively from our mother and it is identical to hers except for a few mutational changes. Recent studies have shown that all women originated from a single woman, estimated to have lived some 150,000 years ago—In fact evolutionists call her ‘Mitochondrial Eve’.

This story was carried in newspapers around the world. What was not nearly so well publicised was the fact that the scientists who carried out the work had miscalculated the rate of mutations for mitochondrial DNA. The rate was later shown to be much faster than previously thought and the revised date for 'Mitochondrial Eve' is now **6,000 to 6,500** years ago which fits very nicely with the calculated time of creation of about 6,000 years ago which is based on generations from Adam and the length of the lives given in the Bible.

L. Loewe and S. Scherer, Mitochondrial Eve: the plot thickens, ***Trends in Ecology and Evolution*** 12, 1997, pages 422–423; A. Gibbons, Calibrating the mitochondrial clock, ***Science***, 1998, 279(5347), pages 28–29.

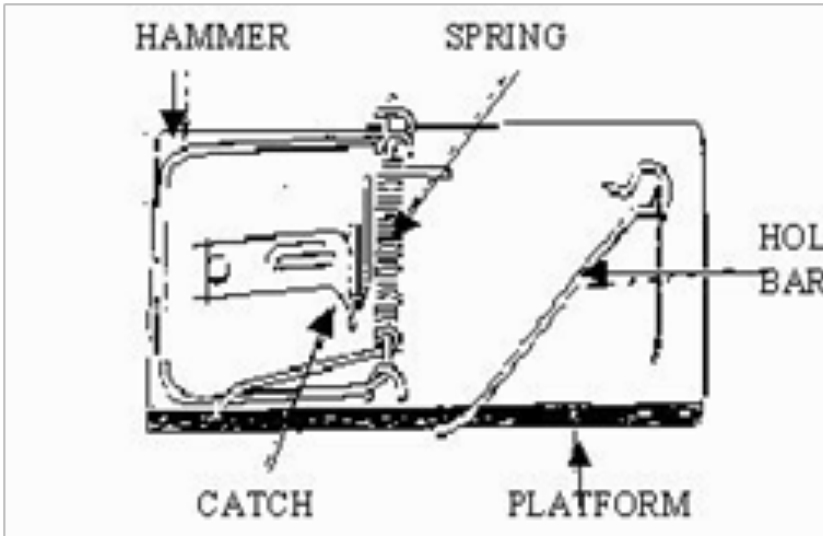
God Created Every Living Thing Complete and Functioning

The fact that God created every living thing complete and fully functioning enables all life to carry out His command to ***be fruitful and multiply*.**

If the above statement concerning God doing the creating is true, then we should be able to see some evidence of design in what He has made. In fact, we see features of design around us all the time. Imagine, for example, if I told you that as I walked past a junkyard one day, there was an enormous explosion that threw bits of molten metal, plastic, leather and an assortment of other material into the air. And as I looked, I saw a watch condensing out of the plasma that the explosion created. When I picked it up, I found that it was not only running, but that it was also set to the right time. Anyone hearing me would rightly conclude that my story was too preposterous to believe. Yet this is what evolutionists maintain, only to a vastly more fanciful extent. The fact remains that the hallmarks of design are patently obvious, even to a casual observer.

There are numerous examples of design evident in all forms of life, such that the creature, body part or function could not possibly have come about by a series of small incremental changes as evolution requires.

A good illustration of what is called **“irreducible complexity”** is the mousetrap. It consists of five pieces; platform, hammer, spring, catch and holding bar. Each piece is essential for the whole to function. Without any of these pieces the trap would not work. All must be present at the same time. It could not have evolved.

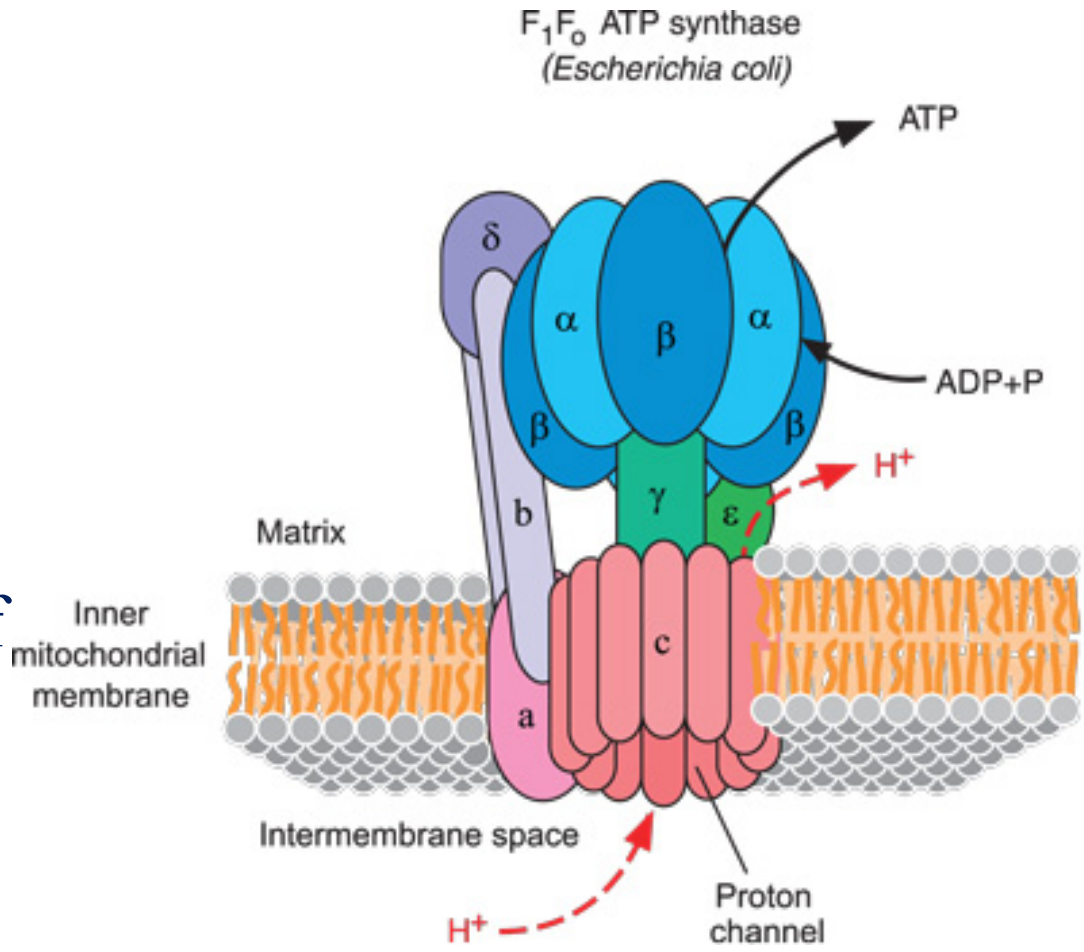


All life consists of many examples of irreducible complexity. There are an abundance of examples of design in biological systems that incorporate irreducible complexity. That is, a function cannot be reduced further and still work. All components must be present at the same time. Three are discussed and will be sufficient to make the point.

ATP Synthase

Life depends on an incredible enzyme called ATP synthase, the world's tiniest rotary motor. This tiny protein complex makes an energy-rich compound, ATP (adenosine triphosphate). Each of the human body's 37 trillion cells performs this reaction about a million times per minute. Over half a body weight of ATP is made and consumed every day!

Speed of rotation: 7,000 rpm



Bombardier Beetle

This tiny beetle defends itself from attacking predators by firing an explosive mixture at 100º C into the face of its attacker. This defence mechanism is brought about by the beetle storing a mixture of hydrogen peroxide and hydroquinone in a pouch in its rear end. There is also an inhibitor to stop the two chemicals from reacting with each other. At the moment of danger, the creature sends the mixture into a reaction chamber where not only is the inhibitor removed, but simultaneously two catalysts are added and the oxygen, which is released from the hydrogen peroxide, reacts explosively with the hydroquinone. The hot mixture is then fired under pressure out of twin tubes extending from the beetle's rear.

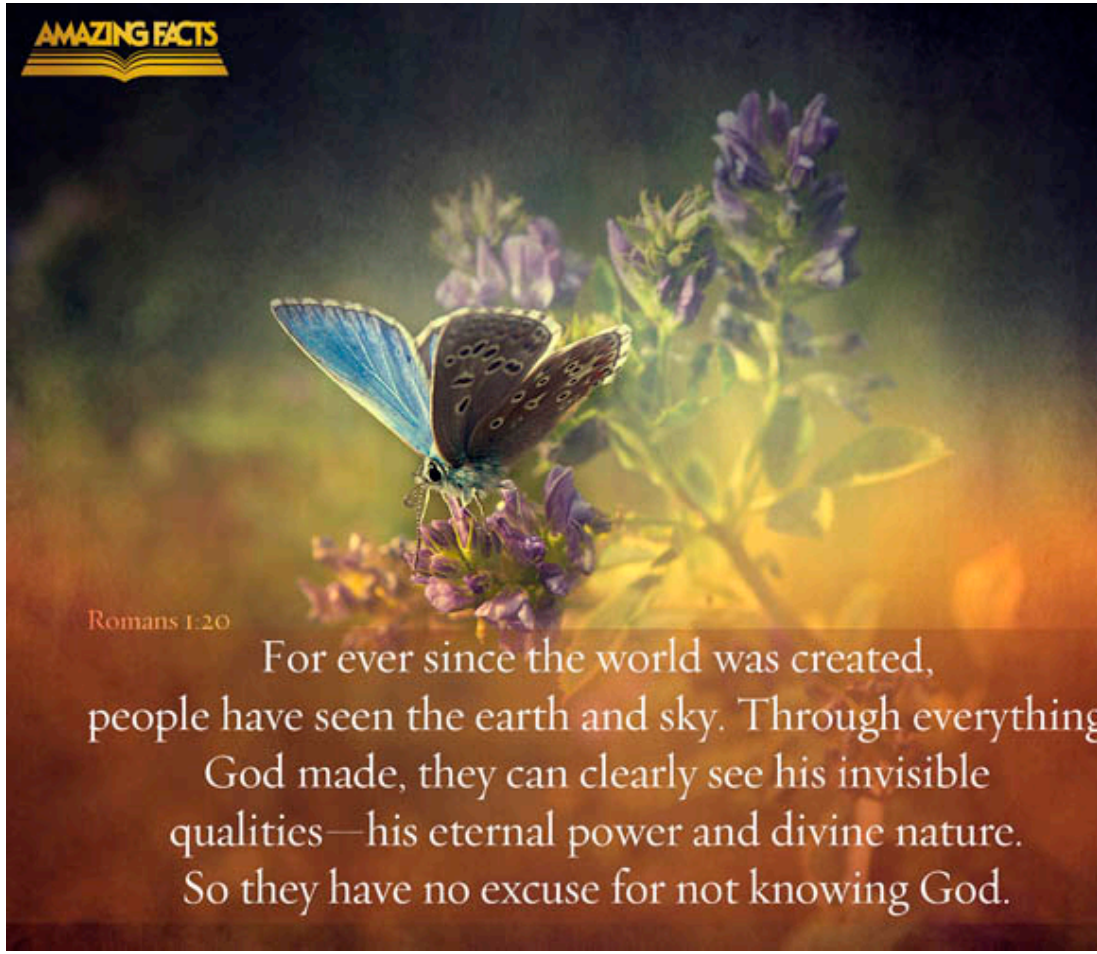
The human eye

The human eye is extremely complicated—a perfect and interrelated system of about 40 individual subsystems, including the retina, pupil, iris, cornea, lens and optic nerve. For instance, the retina has approximately 137 million special cells that respond to light impressions, which are converted to electric pulses and sent to the brain via the optic nerve. A special section of the brain, called the visual cortex transforms the pulses to colour, contrast, depth, etc., which allows us to see ‘pictures’ of our world in three dimensions.

Creation is obvious to everyone who looks

Romans 1:20

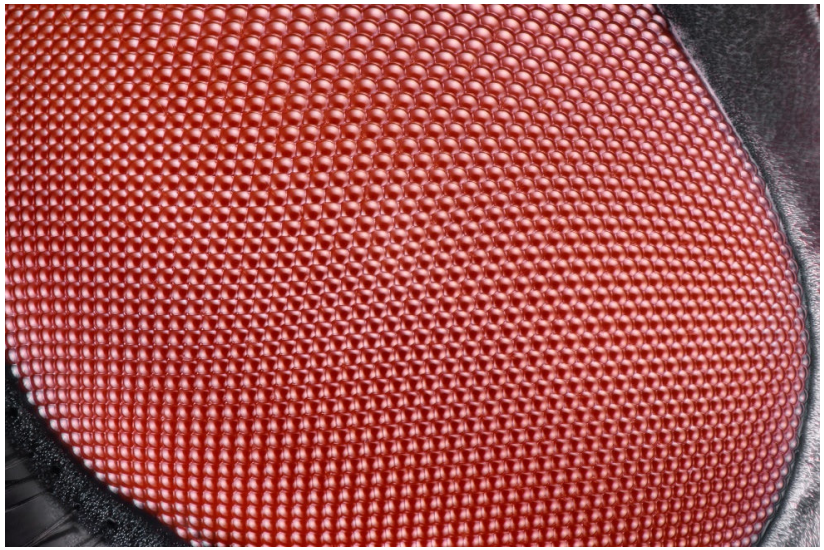
For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead; so that they are without excuse:

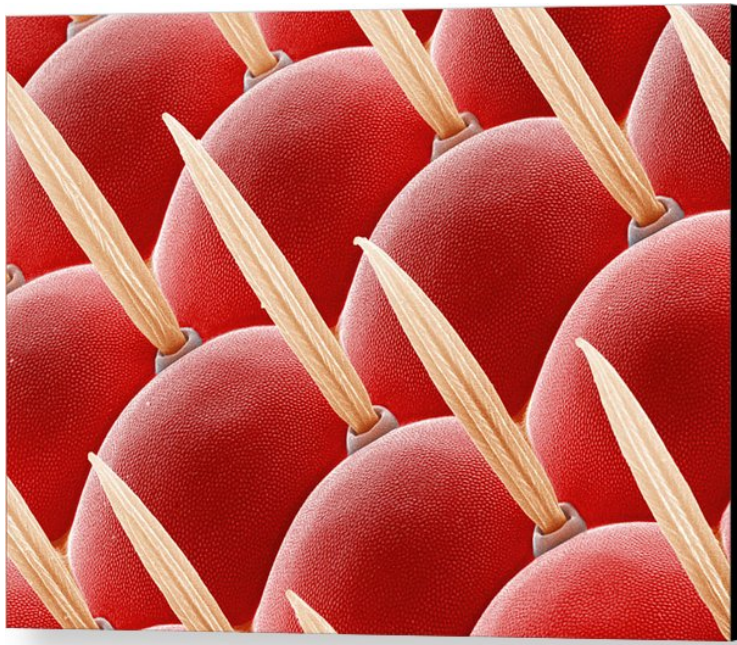


This statement was true in Paul's time and it is even more obvious now with our great advances in technology.

We can see the differences between what man has made to what God had made by simple magnification; the greater the magnification the greater the precision in what God has made.

The eye of a fly is a good example.





Raphael's School of Athens (1509-1511)

MASTERPIECES OF DESIGN

SEEING
Laminated shatter-proof glass

COVERING
Highly developed paint is designed to give protection to the bodywork

AIR FILTER
Air filter with a surface area of 0.07 sq metres

OIL PUMP
Oil is used for lubrication and removal of waste and must be replaced

FUEL
Refined hydrocarbons produce CO_2, water and energy with 20% efficiency

SEEING
The retina has approximately 137 million special cells that respond to light and send messages to the brain

SKIN
Provides protection from bacterial attack and can repair itself when damaged

LUNGS
The human lungs have a surface area of 70 sq metres

HEART
The human heart pumps blood through 100,000 km of blood vessels and lasts a lifetime

FUEL
Oxygen & glucose produce CO_2, water and energy with nearly 100% efficiency

COMPUTING SPEED
An F1 racing car's ECU computing speed is phenomenal, but the human brain is 2,000 times faster (10×10^{12} C/F 20×10^{15} FLOPS)

Something that has been designed requires a designer

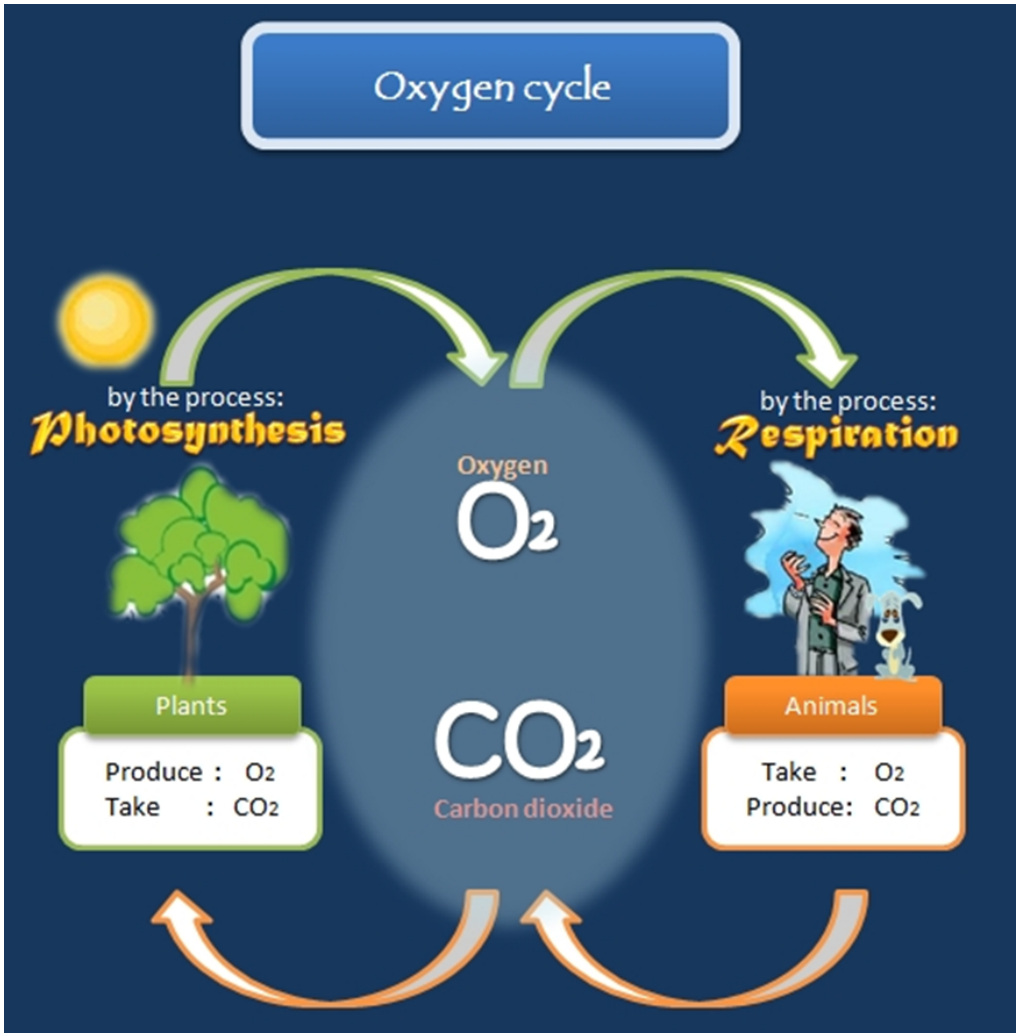
The functionality of each design feature in human beings greatly exceeds that of a car. As well, we can reproduce ourselves

...the Lord God formed the man from the dust of the ground and breathed into his nostrils the breath of life and man became a living being **Genesis 2:7**

adefenceofthebible.com

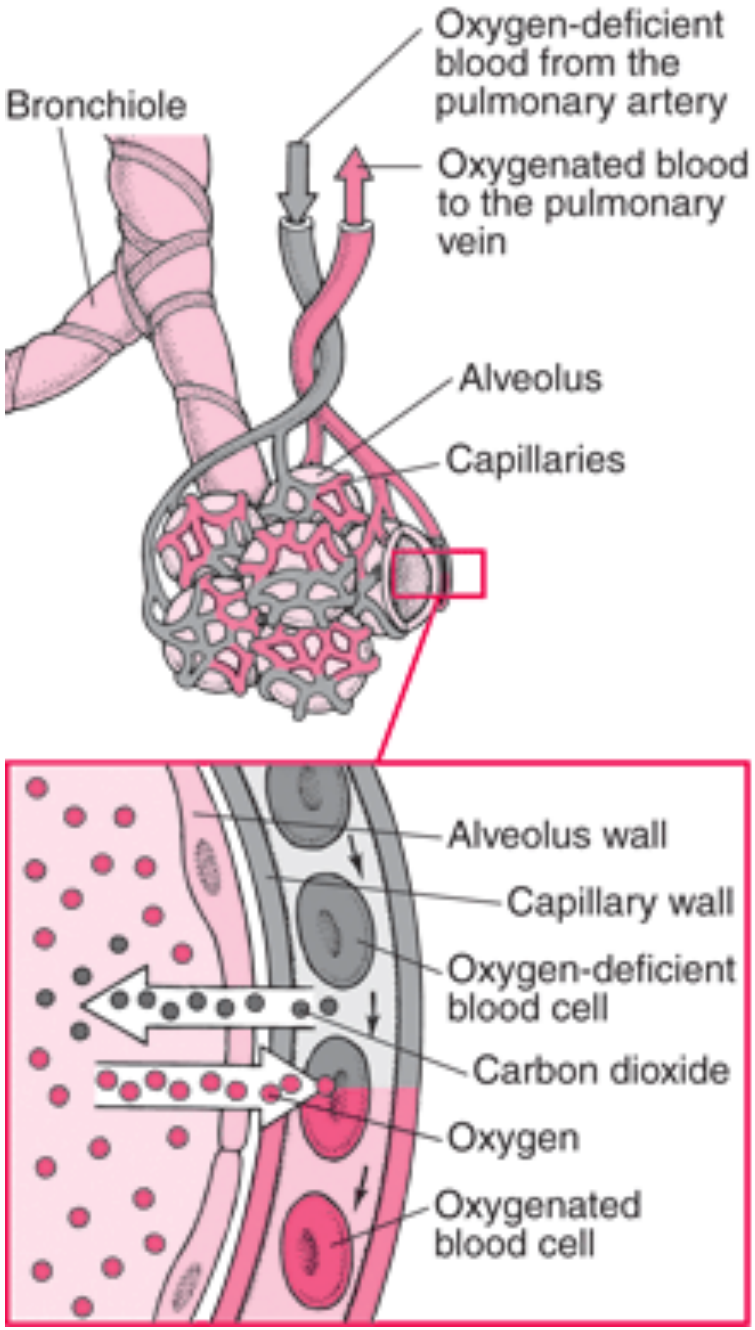
Design in Nature

We take in oxygen through our lungs and it gets taken to our cells by way of our blood. Glucose from our food, gets transported to our cells. The oxygen plus glucose combing to give carbon dioxide plus water and energy. Plants take carbon dioxide and water to form glucose and oxygen via photosynthesis.

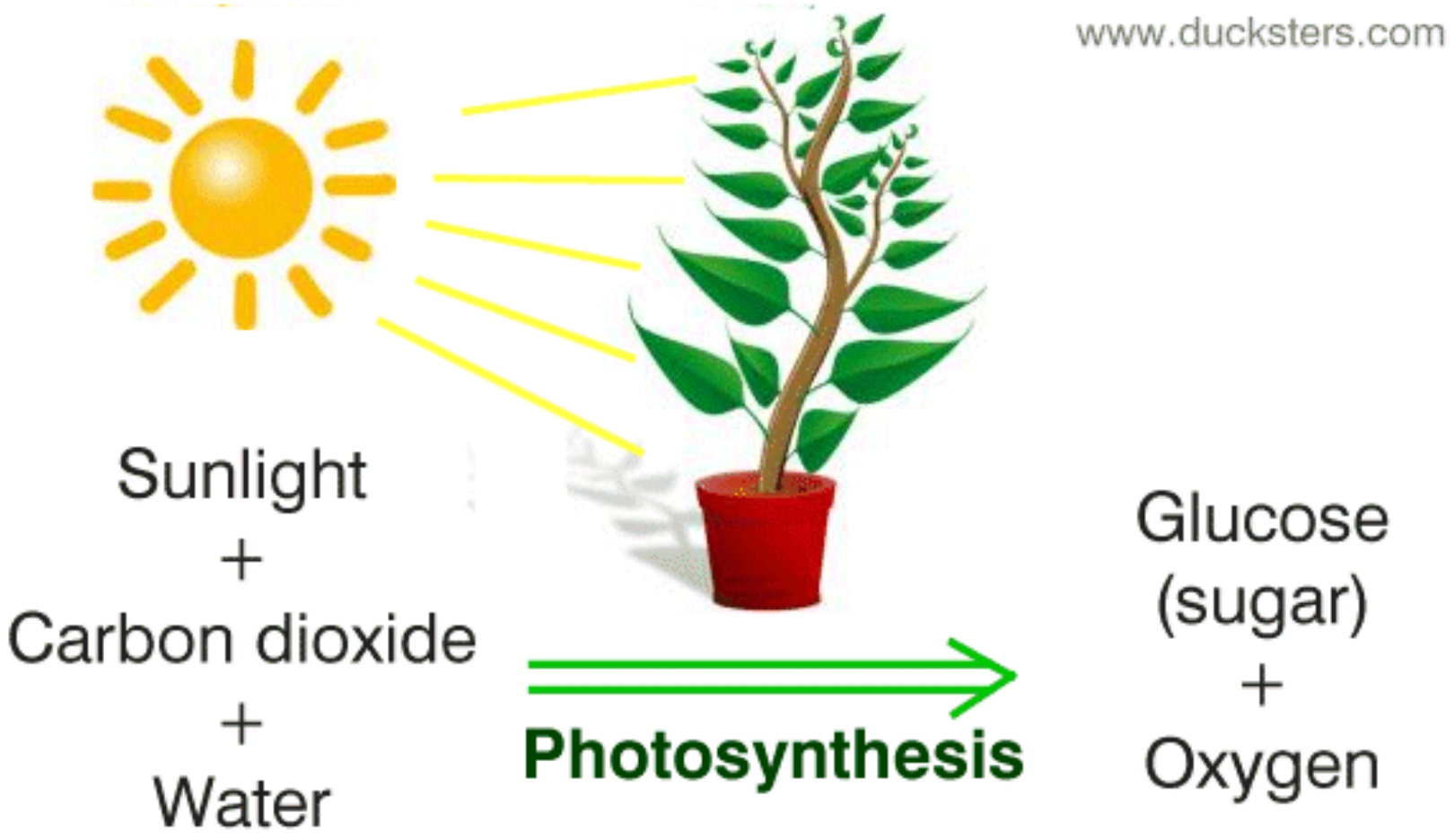


Respiration

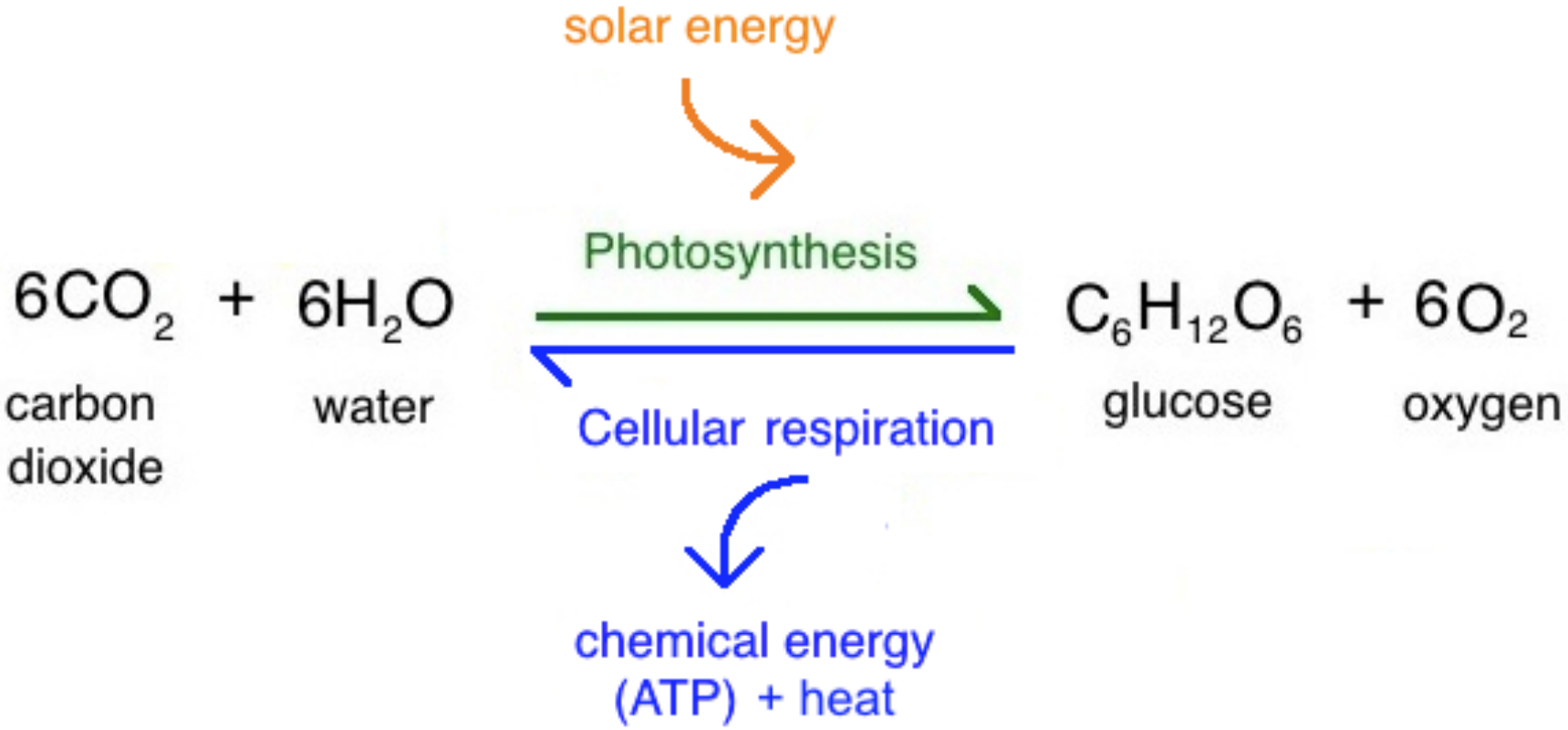
Carbon dioxide coming from the blood to the lungs while oxygen going from the lungs to adhere to haemoglobin in red blood cells



Photosynthesis



God's created cycle; plants and animals depend on each other for their existence



The Isaiah tells us that God designed the world to support life.

Paul says that we have no excuse for not believing because God's hand is clearly evident in what he has created. This is even more true with the help of modern science as we have just seen.

People who do not believe, do so despite the evidence.