

DEFENDABLE FAITH - ANSWERING TOUGH QUESTIONS ABOUT CHRISTIANITY

Does God Exist? - The Evidence from Astronomy

Romans 1:18–20 NKJV 18 For the wrath of God is revealed from heaven against all ungodliness and unrighteousness of men, who suppress the truth in unrighteousness, 19 because **what may be known of God** is manifest in them, for God has shown it to them. 20 For since the creation of the world His invisible attributes are clearly seen, **being understood by the things that are made**, even His eternal power and Godhead, so that they are without excuse...

The conventional wisdom of our day:

- The Earth is an _____ planet.
- _____ life exists, probably in many, many places in the universe.

But the conventional wisdom is not true.

- The Earth, our solar system, and our galaxy are very _____ indeed.
- Our home is not identical to billions of others. It may even be completely _____.

The Earth and its surroundings were designed for _____ habitation.

EARTH'S PLACE IN ITS _____

- **The right galaxy**
 - **Elliptical galaxies**
 - Stars, with their solar systems, if they have a system, orbit within their galaxy.
 - The center of any galaxy is often the location of black holes and supernovae, which produce vast amounts of _____ that is catastrophic for life.
 - The problem in an elliptical galaxy for a planet is that its orbit will bring it close to the deadly middle of the galaxy.

- **Irregular galaxies**
 - The dangers of supernovae and black holes are _____ throughout an irregular galaxy.
- **Spiral galaxies**
 - Spiral galaxies offer the _____ place conducive to supporting life once it has begun.
 - There are places within the spiral galaxy in which a star with its solar system can orbit _____ passing through the regions in which overwhelming radiation is an everyday possibility.
 - This potential _____ exists in spiral galaxies.
- **The safe place**
 - Only spiral galaxies offer a good home for a planet to host intelligent life, but as we have seen, only certain portions of even a spiral galaxy are _____.
 - The size of the galaxy also matters, with bigger being better.
 - The Milky Way is in the top one or _____ percent of the most massive of the galaxies.

EARTH'S PLACE IN ITS SOLAR SYSTEM

- **Our special _____**
 - **80% of stars are red dwarfs. Red dwarf stars _____ support planets with life.**
 - If a planet were positioned close enough to be heated adequately by a red dwarf, it would also be subjected to sufficient _____ to destroy its atmosphere.
 - It would also then be close enough for the gravity of the star to _____ the rotation of the planet.
 - **Our sun is in the top ____% of stars in its mass, which strengthens its luminosity.**
 - Increased luminosity means the planet can be further from the star and still be adequately warmed to keep _____ water on the face of the planet.

- The resulting increase in distance from the star, means that the planet will not be frozen in its _____ by the gravity of the star.
- **Our sun is highly _____, far more so than comparable stars.**
 - Its luminosity only varies by 1/10 of 1% over the full sunspot cycle of eleven years.
 - Its balance of red and blue light is _____ for the support of life.
- **Stars like our sun, of the right mass, the right luminosity, the right spectrum, orbiting only in the safe place of a spiral galaxy, are _____ rare, even given the size of the entire universe.**
- **Our special spot**
 - **Earth is the right _____ from the sun to maintain water in liquid form, a necessity for life.**
 - The planet must occupy a band that is less than 4% of the total allowable distances from the sun within the solar system.
 - **Earth's orbit is _____ rather than elliptical. This means that our planet does not experience major temperature variations during our annual journey around the sun.**
 - **The stable tilt of the Earth on its axis at an angle of 23.5 degrees gives us _____ seasons and a stable climate.**
- **Our sister planets**
 - Even the other planets around us help make the Earth habitable.
 - _____ has a circular orbit, which means that it does not interfere with the critical circular orbit of the Earth around the sun.
 - Jupiter is our friend as well because its huge mass, more than 300 times the mass of Earth, helps to deflect _____ from coming to the interior of the solar system where they could be a threat to life on Earth.
 - Mars and Venus both provide protection for the Earth from _____, taking many hits that otherwise might have hit the Earth.
- **Earth is located in just the right place within a very rare, and possibly absolutely unique solar system, around a very exclusive type of star, and**

benefited by other planets within the system in such a way so as to sustain _____ on Earth.

THE CONDITION OF THE EARTH AND ITS MOON

- **The _____ of the Earth**
 - To support life, a planet must be of sufficient mass to retain an atmosphere and to keep the _____ from its interior from being radiated too quickly into space.
 - However, if a planet is too _____, its increased gravity causes its surface features to level out. For a planet with a great deal of water, this is disastrous for life because a water world is a _____ world.
- **The composition of the Earth**
 - Even simple bacteria need sixteen essential _____ in order to form. Humans require twenty-six. The Earth has them all.
 - The atmosphere of the Earth is perfect for life, _____% oxygen.
 - _____ other planet has yet been discovered with an atmosphere even close to one that will support life.
 - Even the creation of ores near the _____ of the Earth is highly unusual.
- **The _____ engine of the Earth**
 - Inside its core is a controlled nuclear reaction producing enough heat to keep molten iron moving about the core, creating the Earth's _____ field.
 - In turn, the magnetic field shields the Earth from deadly _____ rays.
 - Plate tectonics (the movement of the plates _____ on the mantle beneath the crust of the Earth) provides for the formation of continents and mountains, preventing the deadly water world effect discussed above.
 - This same phenomenon also fuels the Earth's carbon dioxide - rock cycle which helps to regulate the _____ gases in the atmosphere, keeping the temperature in the range required for life.

- **The much more than romantic moon**
 - Even our moon, which itself is parched, airless, and dead, makes a _____ to life on Earth.
 - In 1993 scientists discovered that the large size of the moon in comparison to the moons around other planets stabilizes the _____ of the Earth on its axis.
 - The moon also contributes significantly to the rise and fall of the _____ of the oceans on Earth.
 - On the other hand, if the moon were significantly larger than it is, the resulting _____ tides would be disastrous.
 - James Kasting, professor of geosciences and meteorology at Penn State says, "Earth's climatic _____ is dependent to a large extent on the existence of the moon."

All of this evidence gives us a very clear picture that the planet upon which we live is not _____.

- It is a very unique body, with very incredible properties, suspended in just the right place around an equally unique star and in the company of other planets that seem to have no purpose but to serve the good of the Earth.
- That very special solar system itself is in the most perfect place _____ in the whole universe to provide for a habitation for intelligent life.

And how did it get there? How did all of these precise conditions merge to provide a place that could harbor life?

- Some would say by sheer _____, but the probabilities of such make believing that conclusion extremely difficult.
- Everything we discover about our planet and its place in the universe points to _____, planning, and intention. The observations point to intelligent design.

Genesis 1:1 NKJV In the beginning God created the heavens and the earth