

## A Young Earth and Physics

“Starlight and Time” – D. Russell Humphreys, Ph.D.

**How old is the earth?** What do you believe?

“It cannot be denied, in spite of frequent interpretations of Genesis 1 that departed from the rigidly literal, that the almost universal view of the Christian world until the eighteenth century was that the Earth was only a few thousand years old. Not until the development of modern scientific investigation of the Earth itself would this view be called into question within the church.”

*Christianity and the Age of the Earth,*  
Davis A. Young, 1982, p. 25

What is the hardest question from a creation perspective to answer in terms of the age of the universe? I believe it is this – *If we can observe starlight from stars that we can accurately measure to be millions of light years away, doesn't that mean that the universe is very old? It would take a long time for that light to reach us.*

### Background

Light speed = 299,792 km/sec (186,282 miles/sec)

Light year = the distance light travels in one year (9,454,254,955,488 kilometers)

Einstein's Theory of relativity opens the door. The easy rule of thumb for this lesson is that gravity affects time. We also know that the second law of thermodynamics describes how things break down. We now know that this also applies to the speed of light itself and to gravity (e.g. moon slowly leaving the orbit of earth).

This means that the more gravity you have the slower time runs. This gets hard because to the local observer nothing happened (their perceptions of time, and watches, are distorted as well). But assume you took two identical twins and at age 20 had one live on the moon (low gravity) for 40 years and the other live on Jupiter (high gravity) for 40 years. At age (by earth measure) 60 if you brought them back to earth you would notice that the one from the moon was older than the one from Jupiter.

We know this phenomenon exists from our atomic clocks. They are the most precise timekeeping devices we use and according to Newtonian physics should always be in synch. We now know that the clocks in Colorado and Europe are off by microseconds due to the differing effect of gravity on them.

### Black Holes

These super dense masses of matter were predicted by general relativity. Imagine so much mass in one tiny location that the effect of gravity is so forceful that even light cannot escape. The border of the black hole is called the event horizon, the point at which light bends back on itself. As we saw above, more gravity means slower time and it even theoretically stands still at this point. The center of the black hole is called a singularity and it is where matter and light are crushed down to pinpoints of nearly infinite density.

### **Humphreys' Theory**

When Jesus spoke creation into existence, it was in the form of a “white hole,” a black hole running in reverse. Instead of something sucking everything in, it was massively dense and spewed everything out.

#### Day One (Gen 1:1-5)

- God created a 3D ball of space filled with water (the deep) greater than 2 light years in diameter (12 trillion miles), containing all of the mass of the universe.
- The event horizon is more than a half billion light years away.
- The center of the ball would exert a million trillion g's – very hot and dense, ripping apart the water into elementary particles.
- Thermonuclear fusion begins creating intense light.

#### Day Two (Gen 1:6-8)

- The white hole expands.
- God creates an “expanse”, possibly a boundary between the inner and outer layers.
- Matter below the expanse cools to normal temperature, becoming water beneath an atmosphere.
- Heavier atoms (formed during reactions) coalesce into a mantle (surface of the earth).
- Gravity on the surface drops to normal values.
- The waters above the expanse stay together (now hydrogen, helium and other atoms from reaction processes).
- These “heavens” form interstellar space.
- This expansion started on day two continues until day four.
- The expanse is not the atmosphere.

#### Day Three-Four (Gen 1:9-13, 14-19)

- As the waters above the expanse expand outward the event horizon contracts, reaching earth on day four.
- During these normal, twenty four hour days, billions of years have passed in the universe as stars are created.

Another aspect of gravity impacting time is in how we set our assumptions for dating techniques which we'll explore later.

#### Recommended Further Reading:

*A Brief History of Time*, Stephen Hawking (get the 10th anniversary edition – he opens the door intellectually to God)  
*Creation and Change*, Douglas Kelly