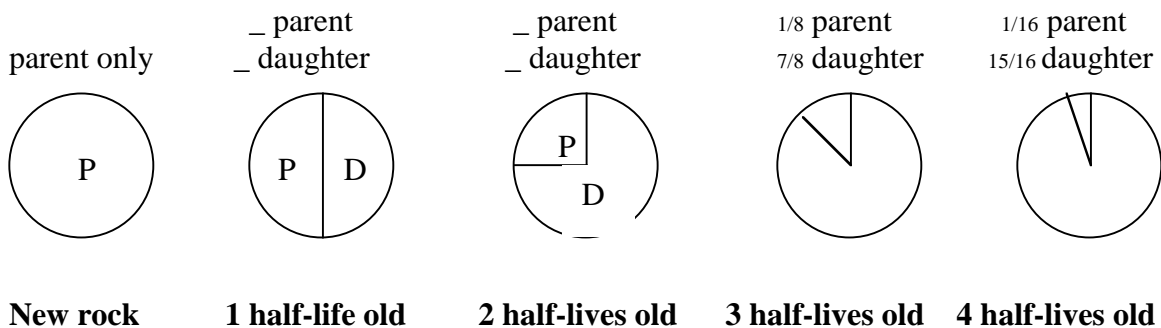


Part 2: What Is The Age Of The Earth?

Most people probably have the opinion that the earth is around 4.6 billion years old because they have been brainwashed into believing so. Actually, the age of earth has been measured dozens of ways with the Biblical genealogy method being the youngest at about 6,000 years. If the thickness of a sheet of paper represents one year, a stack of 6,000 would be roughly up to your knees while a stack of 4.6 billion would be 268 miles high. These two ages — one the oldest of them all and the other the youngest of them all — differ by a factor of about one million times! How can they be so different, with advocates on both sides claiming to be right? The answer is that each group believes different assumptions. **If someone has really thought about the question, they will have thought about the assumptions involved with their method of choice and they will have made the decision to believe those assumptions.** That is if they have really thought about the question and have not simply been brainwashed. As we will see, faith in a particular method rests upon accepting the assumptions of that method, and every method of dating the earth has assumptions. So, let's put our thinking caps on and look at each method with a critical mind.

Age Dating Using Radioactivity

As time passes, radioactive elements (parents) decay to form other elements (daughters) because radioactive atoms have unstable nuclei. They decay at a known measurable rate called a half-life, which is the time for one half of the parent to decay into daughter. If the daughter is also radioactive, it will decay with its own half-life to form another, and so on, until a stable daughter element is reached which is not radioactive and will not change further. Several different parent-daughter combinations are used in dating rocks, probably the most widely known is uranium-lead. Uranium 238 (parent) turns into lead 206 (daughter). Actually, there are 13 intermediate radioactive daughter elements between uranium 238 and lead 206, but in practice, only the amount of parent and stable daughter (lead 206 in this example) are used to determine age. As you can see from the simplified drawing below, the amount of parent decreases while the amount of daughter increases as the rock gets older. One half-life is 4.51 billion years for uranium 238 to lead 206; other parent-daughter combinations are also used and each one has its own half-life time.



Measuring the relative amounts of parent and daughter, and knowing the half-life, the rock's age can be calculated. For example, if a rock has equal amounts of uranium 238 and lead (Pb) 206, then the rock is one half-life old or 4.51 billion years old.

Assumption 1



How do I know there was no daughter element in the rock to begin with?

If there was initial daughter, the rock would appear older than it is. John G. Funkhouser and John J. Naughton, writing in the *Journal Of Geophysical Review*²⁵⁴ tell how they dated the Kaupulehu lava flow in Hualalai, Hawaii, that was known to have erupted in 1800-1801, and obtained ages that are clearly unreasonable. A series of radiometric dates obtained using potassium 40 (solid parent), which decays to argon 40 (gaseous daughter) yielded results of a minimum of 160 million years to a maximum of 2.96 billion years for a 170-year-old lava flow! Put another way, would someone who weighs about 150 pounds believe a scale showing their weight to be 1.3 million tons? The authors attribute this major discrepancy to argon 40 being present in the molten magma as it cooled:

Therefore, such gases [argon] represent a portion of the environment in the magma chamber.

Steven Austin used potassium-argon dating on a lava dome in Mt. St. Helens that solidified in 1986. Using the whole rock gave an age of 350,000 years and dating only the feldspar and glass from those rocks yielded an age of 2,800,000 years. Since the article was written in 1996, the lava was only 10 years old!

*These ages are, of course, preposterous. The fundamental dating assumption (that radiogenic argon was present when the rock formed) is questioned by these data. Instead, data from this Mt. St. Helens dacite argue that significant excess argon was present when the lava solidified in 1986.*²⁵⁵



Isn't it often that rocks of known age are dated. The reason is obvious: why spend several hundred dollars to find out the age of a rock when the age is already known? So, what kind of rock is dated? A rock of unknown age, of course. But what check do you have that the radiometric date is accurate? A different parent-daughter pair is measured for the same rock and, if all results agree, then the age is accepted as true. Do you see any problems with this kind of thinking?

²⁵⁴ V. 73, No. 14, July 15, 1968, p. 4601-4607

²⁵⁵ Austin, S., 1996, *Excess Argon within Mineral Concentrates from the New Dacite Lava Dome at Mount St. Helens Volcano*, Creation Ex Nihilo Technical Journal, V.10, no.3, p.335

David Seidemann, writing in the *Geological Society Of America Bulletin*²⁵⁶ tells of how rocks from drill cores obtained from the floor of the Pacific and Atlantic oceans were dated using the same potassium (K) argon (Ar) method that also resulted in major discrepancies. Not only did samples from the same rock chip vary from 12.3 to 22.8 million years of age but also fossils found in sediments in the drill cores indicate an age of 40 million years.²⁵⁷ How do they explain the difference?

*K-Ar dates of these rocks may be subject to inaccuracies as the result of sea-water alteration. Inaccuracies may also result from the presence of excess radiogenic argon 40 trapped in rapidly cooling rocks at the time of their formation. Because of the problems involved **caution must be used in interpreting the meaning of conventional K-Ar dates for the deep-sea rocks***

On page 1661, Seidemann makes the following statement:

*On summary, potassium is added to deep-sea basalts as the result of submarine weathering. . . **One would not expect uniform addition of potassium to basalts, but would expect the extent of its addition to any given part of the basalt to be dependent on variables such as grain size, the extent of fissuring, and the proximity to a potassium source*** (emphasis mine)

Other articles, in addition to Seidemann's, throw considerable doubt on the reliability of dates obtained from deep-sea rocks. By the way, if the age of ocean crust is thrown into question, then so is the rate of continental drift since dates of oceanic crust are used to obtain drift rates.

Assumption 2



After the lava or magma cooled, how do I know if any parent or daughter entered or left the rock?

If parent entered the rock or if daughter left the rock, it would date younger than it should. But if parent left the rock or if daughter entered the rock, it would date older than it should. Uranium and lead are both soluble in water, lead turns to a gas when heated and argon is a gas that can easily leave a rock.

²⁵⁶ V. 88, Nov. 1977, P. 1660-1666, emphasis mine

²⁵⁷ *ibid*, table 2, p. 1663

Changing our focus from rocks of the ocean floor to moon rocks, consider this statement from an article by Everly Driscoll in *Science News* entitled *Dating Of Moon Samples: Pitfalls and Paradoxes*²⁵⁸

*Much controversy during the past two years has centered around the interpretation that should be given to the ages of lunar material - ages yielded by studying its radioactive history. **If all the age-dating methods (rubidium-strontium, uranium-lead, and potassium-argon) had yielded the same ages, the picture would be neat. But they haven't. The lead ages, for example, have been consistently older.***²⁵⁸

He goes on to describe how Leon T. Silver from the California Institute Of Technology was able to remove 3 to 11% of the lead when the sample was heated to 550 degrees centigrade for one hour and 50% in one hour at 970 degrees centigrade. Driscoll's article concludes:

*On the experiment with lead, most of the variation in the ages of the samples can be explained by merely adding or subtracting volatile lead. **If indeed parents and daughters are moving about on the lunar surface this way, this could be confusing the interpretation of the ages.*** (emphasis mine)

It is also interesting to note that

*By separating material 36 microns and smaller from the larger stuff, Silver found a **200-million year shift** in the apparent age of the Apollo 11 soil.*

So, we are left wondering if the size of the rock used for analysis can change the results.

Returning back to earth, when three different radiometric dates yielded ages with a 1.5 billion year discrepancy for the same rock sample, J. L. Kulp and W.R. Eckelmann conclude:

*The process of lead removal during the life of a radioactive mineral appears to be **rather common**, particularly among the older samples.*²⁵⁹

Assumption 2 may be more significant to your health than you think. The high public concern about radon 222 gas as a health hazard began in December, 1984, when Stanley Watras (a construction engineer) set-off a radiation detector on his way into the Limerick Nuclear Power Plant in Pottstown, Pennsylvania. The detector was there to alert workers of any radiation that they may have picked - up inside the plant but Watras set it off on his way in! The problem was traced to his home in nearby Boyertown where his home had radon levels about 700 times greater than current federal standards. Since then an ambitious study has found that radon 222 is escaping from the ground in many areas of

²⁵⁸ V.101, January 1, 1972, p. 123, emphasis mine

²⁵⁹ Bulletin Of The Geological Society Of America, V. 66, June, 1955, p. 768, emphasis mine

the United States.²⁶⁰ What does radon have to do with dating rocks? Recall that the radioactive decay of uranium 238 to lead 206 involves 13 intermediate radioactive daughter elements and number 6 in the series is radon 222!



If radon is no longer in the rock then the lead 206 that eventually results from that amount of radon won't be there either! How would the radiometric age of a rock be affected if it lost radon? How would the radiometric age of a rock be affected if it was the recipient of radon from other rocks?

Another interesting problem is that different minerals in the same rock yield different ages. For example, Joan C. Engels found that when the mineral hornblende only was extracted from the rock and dated, it yielded an age of 171 million years whereas the mineral biotite treated in the same way yielded an age of 70 million years using potassium-argon dating and both minerals came from the same rock.²⁶¹ In another study, to explain how two different mica minerals (biotite and muscovite) from the same rock could have potassium-argon ages differing by as much as 323 million years, N. S. Brewer states:

*It is concluded that excess radiogenic argon 40 entered the micas in a zone at least 1.5 kilometers thick and 200 square kilometers in area.*²⁶²

P. K. Wanless, et. al., in an article entitled *Excess Radiogenic Argon In Biotites* concludes,

*This study has revealed evidence for biotite incorporating enormous quantities of argon from the immediate environment. In this case the high apparent ages obtained for biotites are not the consequence of preferential loss of potassium since this element was found to be present in average to high abundance in all samples.*²⁶³

Consider this statement from A. Hayatsu in the Canadian Journal Of Earth Science:

*On conventional interpretation of K-Ar age data it is common to discard ages which are substantially too high or too low compared with the rest of the group or with the other available data such as the geological time scale. The discrepancies between the rejected and accepted are arbitrarily attributed to excess or loss of argon.*²⁶⁴

²⁶⁰ Radon Risk And Remedy by David J. Brenner, 1989, p. 3-4 and 35-44

²⁶¹ Journal Of Geology, V. 79, 1971, p. 610

²⁶² Earth and Planetary Science Letters, V. 6, 1969, p. 321

²⁶³ Earth and Planetary Science Letters, V. 7, 1969, p. 167-168

²⁶⁴ V. 16, 1979, p. 974, emphasis mine



Just think how thrilled my students would be if they could throw away all their low grades while keeping all their high grades. Is it possible that the published dates of rocks are only those dates that the author wants you to see because he thinks the others are wrong? One moon rock was far older than the rest — do you think they believed its age, or did they think it was contaminated?²⁶⁵

How have scientists corrected the excess or loss of daughter to reasonable values? By relying on more assumptions! Two examples will illustrate this line of reasoning. To correct for an excess amount of lead, other minerals in the rock that do not contain the parent, such as the mineral feldspar, are analyzed for the amount of two forms of lead: lead 206 which is the ultimate daughter of uranium 238 and lead 204 which is not a product of radioactive decay. The **assumption** is made that the proportion of lead 204 to lead 206 found in the feldspar is the same as the proportion that contaminated the mineral zircon, which contains both parent and daughter, and is the mineral used for dating the rock. It is **assumed** that the two minerals were formed at the same time, while the quantity of lead 204 does not change in either. By finding this proportion of leads in the feldspar and knowing the total lead 204 and 206 in the zircon, it is a simple matter to find the initial quantity of lead 206 that contaminated the zircon and subtracting this from the total lead 206 in the zircon leaves that amount of lead which was produced in situ by decay of the uranium. This corrected amount of lead is then used to find the age of the rock. As a second example, to correct for too much argon, a similar ratio process is used. Our atmosphere today contains about 1% argon of which one part is argon 36 and 295.5 parts are argon 40. It is assumed that this ratio has always been the same, so that any argon 40 trapped in the rock from the atmosphere (or from that which is dissolved in sea water if it formed underwater) can be found by measuring the amount of argon 36 in the rock and multiplying by 295.5. This is the amount of argon 40 contamination and is then deducted from the total argon 40 to give that amount produced by radioactive decay. **But argon 36 is produced in the upper atmosphere by cosmic ray bombardment and is subject to change by a variety of factors including the activity of stars and changes in the strength of earth's magnetic field.**

Assumption 3



They say that the half-life doesn't change — how do they know?

The half-life values used in radiometric dating have been known for less than 100 years since radioactivity was discovered by the French physicist Henri Becquerel in 1896. How sure are we that such values have not changed over thousands, millions, or billions of years? According to the 1986 edition of Encyclopedia Britannica, Edwin A. Olson writes

²⁶⁵ Nunes, P., et. al., *Excess Lead in Dusty Rock 66095 and Implications for an Early Lunar Differentiation*, Science, V.182, Nov. 30, 1973, p. 916-920

*On the laboratory, for example, it is **impossible** to alter the rate of radioactive decay by any combination of pressure and temperature known to exist within the earth's crust. The same is true with respect to gravitational, magnetic, and electric fields as well as the chemical state in which a given radioactive element is found. In short, the process of radioactive decay is **immutable under all conditions** significant to geology and archeology.*²⁶⁶

But John Anderson and George Spangler have concluded from their experiments that radioactive decay rates are not constant and

*the deviations are a function of the environment. They strongly suggest that, at a minimum, an unreliability factor must be incorporated into age dating calculations*²⁶⁷

In his article *Perturbations Of Nuclear Decay Rates* G. T. Emery states,

*Studies have varied the decay characteristics of 12 other radionuclides with changes in the energy state of the orbital electrons; by pressure, temperature, electric and magnetic fields, stress in monomolecular layers, etc.*²⁶⁸

What is the explanation for the following observation of a compound of titanium and radioactive tritium?

*As the mixture was heated, its radioactivity declined sharply. **No process known to physics could account for such a baffling phenomenon; radioactivity should be unaffected by heat.** Nevertheless, as the temperature increased from 115 degrees Celsius to 160 degrees Celsius, **the emission of beta particles fell by 28 percent.***²⁶⁹

It is important to note that researchers in both articles were working with short half-life elements, not the ones used in dating rocks.

If rocks are subjected to external radiation the radioactive decay rate increases, which effectively decreases the half-life. This happens in all nuclear reactors and nuclear weapons. What if an exploding star - a supernova - bathed the earth with neutrinos. Fourteen supernovas have occurred in our galaxy in recorded history and one, in 1987, was observed in the Large Magellanic Cloud - one of two galaxies orbiting our own. For the first time in history, scientists were able to measure neutrinos passing through the earth from this distant supernova 1987a. What if a star closer to the earth released more neutrinos? B. Juneman speculates that

²⁶⁶ p. 782, emphasis mine

²⁶⁷ Pensee, Fall, 1974, p. 33

²⁶⁸ Annual Review Of Nuclear Science, V. 22, 1972, p. 165, emphasis mine

²⁶⁹ New Scientist, Jan. 8, 1994, p.16, emphasis mine

*This would knock our carbon 14, potassium-argon, and uranium-lead dating measurements into a cocked hat!*²⁷⁰

Consider this statement from the book *The Science Of Evolution* by W. O. Stansfield (1977):

*It is obvious that radiometric techniques may not be the absolute dating methods they are claimed to be. Age estimates on a given geological stratum by different radiometric methods are often quite different (sometimes by hundreds of millions of years). There is no absolutely reliable long-term radiological clock. The uncertainties inherent in radiometric dating are disturbing to geologists and evolutionists, but their overall interpretation supports the concept of a long history of geological evolution.*²⁷¹

Radiocarbon Dating

The technique of radiocarbon dating was developed by Willard F. Libby in 1947 and, unlike the other radiometric dating methods discussed above, can only date the remains of something that was once alive. In addition to the three assumptions already discussed, radiocarbon dating involves at least three more assumptions resulting in a history of debate over the reliability of carbon-14 dates. Consider the first paragraph of Robert E. Lee's article *Radiocarbon: Ages In Error*²⁷²

*The troubles of the radiocarbon dating method are undeniably deep and serious. Despite 35 years of technological refinement and better understanding, the underlying assumptions have been strongly challenged, and warnings are out that radiocarbon may soon find itself in a crisis situation. Continuing use of the method depends on a fix-it-as-we-go approach, allowing for contamination here, fractionation there, and calibration wherever possible. It should be no surprise, then, that fully half of the dates are rejected. The wonder is, surely, that the remaining half came to be accepted.*²⁷²

Carbon-14 is formed by cosmic ray bombardment of nitrogen atoms in the upper atmosphere and has a half-life of 5,730 years. Because of the short half life compared to the other parent elements previously described (uranium 238 at 4.51 billion years, potassium 40 at 1.31 billion years), the amount of carbon-14 is, in theory, too small to measure in organic material more than 50,000 years old. Its usefulness is therefore limited to the last 50,000 years. The proportion of radiocarbon (carbon-14) and non-radioactive carbon (carbon-12) in the atmosphere is assumed to have remained constant. Both forms of carbon combine with oxygen to form carbon dioxide in the atmosphere, which is then incorporated into plants through photosynthesis, into animals by feeding on

²⁷⁰ Industrial Research, Sept. 1972, p. 15

²⁷¹ p. 84, emphasis mine

²⁷² Anthropological Journal Of Canada, V. 19, No. 3, 1981, p. 9, emphasis mine

plants, and into marine organisms as they use carbon dioxide dissolved in seawater to make their shells. It is assumed that radiocarbon in the cells of an organism will remain in equilibrium with the atmosphere for as long as the organism is alive. When it dies it stops eating (an obvious characteristic of death), so the amount of carbon-14 that it has when it dies steadily decreases with time since it cannot be replaced by eating. The radiocarbon it contains decays into nitrogen while carbon-12 remains unaffected. The daughter element nitrogen is not measured to get the age because 78% of the air is nitrogen, so the problem of contamination is certain. Thus, the amount of carbon-14 remaining compared to the amount of carbon-12 is used, along with the half-life, to determine the radiocarbon age, which is the time since its death. The older the material the less carbon-14 it contains.

Radiocarbon Assumptions



Since volcanoes erupt enormous quantities of carbon dioxide, won't this affect the amount of carbon-12 the earth has at any one time? Has the flux of neutrons and cosmic rays from the sun and other stars been constant? What if the earth's magnetic field has been stronger or weaker in the past — that would also affect radiocarbon production. Radioactive meteorites coming to earth would increase the production of radiocarbon while the carbon-rich ones would change the amount of carbon-12. Is the ratio of radiocarbon to carbon-12 the same everywhere? Has the half-life of radiocarbon been constant?

On page 83 of William O. Stansfield's book *The Science Of Evolution* (1977) he writes

It now appears that the carbon-14 decay rate in living organisms is about 30% less than its production rate in the upper atmosphere. Since the amount of carbon-14 is now increasing in the atmosphere, it may be assumed that the quantity of carbon-14 was even lower in the past than at present. This condition would lead to abnormally low carbon-14/carbon-12 ratios for older fossils. Such a fossil would be interpreted as being much older than it really is (emphasis mine)

When Jan Mangerud and Steinar Gulliksen dated marine shells in 1975 from Arctic waters, they elected to date specimens that were collected alive before 1940 because

*Since 1962 atomic bomb testing has completely disturbed the natural carbon-14 activity; the use of fossil fuel in this century has also influenced the activity but in the opposite direction.*²⁷³

Sometimes modern carbon itself is so contaminated by radioactive fallout that such materials as ancient American Indian pottery actually date into the future (>100% modern)!²⁷⁴

To explain the discrepancy in shell ages from different Arctic waters, Mangerud and Gulliken state:

*The dominant factor in the variation of the apparent age within the oceans seems to be the circulation of water masses. Atmospheric carbon-14 is transferred at the ocean-atmosphere interface. Therefore, in water masses which do not have contact with the atmosphere, radioactive decay will give a higher apparent age, depending on how long the water has been at depth, the rate of transfer of carbon-14 from the surface layer, and possible contribution of older, deeper water.*²⁷⁵

How can a freshly killed seal have a radiocarbon date of 1,300 years and mummified seal remains thought to be less than 300 years old have a radiocarbon date of up to 4,600 years? Wakefield Dort, Jr., explains the discrepancy as follows:

*Antarctic sea water has significantly lower carbon-14 activity than that accepted as the world standard.*²⁷⁶

When Alan C. Riggs radiocarbon dated the shells of snails living in artesian springs in southern Nevada, he found them to be 27,000 years old! He found their low carbon-14 content is due to the low carbon-14 content of carbonate rocks through which the groundwater passed en route to the springs.²⁷⁷ Groundwater dissolved the carbonate rock and contaminated the carbon in the springs with old carbon deficient in carbon-14. In a laboratory study of living specimens, Meyer Rubin and Dwight W. Taylor determined that approximately 90% of the carbon in shells of clams and snails is derived from atmospheric carbon dioxide dissolved in the water and 10% is derived from the carbon dissolved in the water from other sources.²⁷⁸

²⁷³ Quaternary Research, V. 5, 1975, p. 263

²⁷⁴ Radiocarbon, V. 22, No. 3, p. 987

²⁷⁵ Quaternary Research, V. 5, 1975, p. 267

²⁷⁶ Antarctic Journal, September-October, 1971, p. 211)

²⁷⁷ Science, V. 224, April 6, 1984, p. 581

²⁷⁸ Science, V. 141, August 16, 1963, p. 636

Charles B. Hunt found a greater discrepancy of radiocarbon dates from wet climates than from dry climates. He attributes the difference to more bacteria and/or fungi attack of wood in wetter climates which, he estimates, introduces as much as 90% by weight of modern carbon replacing original carbon.²⁷⁹

Consider this statement from Charles A. Reed:

*The unresolved problem, instead, seems to lie in the difficulty of securing samples completely free from either older or younger adherent carbon. At least to the present, no kind or degree of chemical cleaning can guarantee one-age carbon, typical only of the time of the site from which it was excavated. What bids to become a classic example of Carbon-14 irresponsibility is the 6,000-year spread of 11 determinations from Jarmo, a prehistoric village in northeastern Iraq, which, on the basis of all archaeological evidence, was not occupied for more than 500 consecutive years.*²⁸⁰

Robert E. Lee gives this advice to collectors of specimens to be radiocarbon dated:

*The material must not be handled as it comes out of the soil, nor dusted off with organic tools such as bristle brushes. A proper container ought to be on hand - exposure to the air allows fresh dust and pollen to settle. The sample should be gathered as quickly as possible, and wrapped in new aluminum foil - not dropped into a lunch bag or one's pocket. Samples submitted in cloth, plastic, paper, or any kind of tissue are almost useless...*²⁸¹

Lee also comments that *radiocarbon dates on bone have never been satisfactory*. He gives an example from the famous Coopers Mammot site in Oklahoma where *a single animal produced leg bones dated at 17,575 and ribs 20,400 years old. Still another figure came from testing its tusks!*²⁸² Perhaps what we are seeing here is the evolution of the mammoth from the ribs down!



We can add a few more factors to our list that affect radiocarbon dates: where it lived and what it ate. Finally, contamination can be a problem. Lee concludes his article with this quote from another source: *This whole blessed thing is nothing but 13th century alchemy, and it all depends upon which funny paper you read.*²⁸³ What do you think?

²⁷⁹ Scientific Monthly, November, 1955, p. 245).

²⁸⁰ Science, V. 130, December 11, 1959, p. 1630

²⁸¹ Anthropological Journal Of Canada, V. 19, No. 3, 1981, p. 16

²⁸² *ibid*, p. 15

²⁸³ *Radiocarbon: Some Notes From Merlin's Diary* Annals Of The New York Academy Of Science, V. 288, p. 181-188

Using Genealogies From Scripture

The AD and BC we use is, of course, based upon the birth of Christ. It has been roughly 2,000 years since Christ was born. An interesting bit of trivia is that there is no year zero in the calendar, like there is on a graph of positive and negative numbers you made in math class. Add to this roughly 2,000 years from Christ to Abraham and another 2,000 years from Abraham to Adam. The total is approximately 6,000 years back to Adam with three assumptions.



The Bible cannot be used to get the age of the earth without assuming three things:

1. The Bible is true, not fiction
2. There are no significant gaps in the genealogies
3. The earth is 5 days older than Adam

Assuming No Significant Gaps In Genealogies

The only apparent gap that I am aware of in this list is found by comparing Gen. 11:12 with Luke 3:35-36. The passage in Luke adds Cainan between Shelah and Arpachshad. Since we will be using the age of the father when his son was born, any gaps will affect our result. But, as some have pointed out, we only know of gaps when they are pointed out in Scripture so they are not gaps at all since they are known. Of the 20 generations from Adam to Abraham, 10 are prior to the Flood and the other 10 are after the Flood. Let's say that an error of 100% was made in recording genealogies prior to Christ. A 100% error means that there were really twice as many generations than what the Bible records. So, instead of 40 generations (20 from Adam to Abraham and 20 after Abraham to Christ), there were really 80 generations. This would double the time from Adam to Abraham so the total time would be 4,000 from Adam to Abraham and 4,000 from Abraham to Christ. Adding this to the time from Christ to the present gives a total of about 10,000 years. What is my point? If we assume **major** omissions from the Biblical genealogies, an age of less than 10,000 years results.

Assuming The Days Of Creation Were Literal Days

Could God have taken six billion years to create the universe? Yes! Could God have taken six seconds to create the universe? Yes! God can do anything in any time frame. The important question to ask is **what did God say He did?** He said that He created in six literal days and even defined each day by evening and morning. But some people

believe that each day represents a long expanse of time such as hundreds of millions of years. If this is so, then what did God mean when He said:

*Six days you shall labor and do all your work, but the seventh day is a sabbath of the Lord your God... For in six days the Lord made the heavens and the earth, the sea and all that is in them, and rested on the seventh day; therefore the Lord blessed the sabbath day and made it holy.*²⁸⁴

God certainly did not mean that man was to work for six hundred million years and then rest for one hundred million years!

The Hebrew word translated as *day* is *yom*. If God really meant to convey a long period of time then the Hebrew word *lamad* meaning *age* or *long time* could have been used. Or why didn't He attach to *yom* an adjective such as *rab* meaning *long* so that the two words together *yom rab* would then mean *long time*? Maybe He used *yom* because that is what He meant!

He even defines the word *yom* in the context of Genesis 1 by *And there was evening and there was morning, one day* (Gen. 1:5), *a second day* (Gen. 1:8), *a third day* (Gen. 1:13), *a fourth day* (Gen. 1:19), *a fifth day* (Gen. 1:23), and *the sixth day* (Gen. 1:31). Every time He precedes the day with its definition of evening and morning that is caused by the rotation of earth. There may be some latitude given for how long the earth took for one rotation at that time. I am assuming that it was 24 hours.



Why did God include the phrase *And there was evening and there was morning, one day*? And why did He repeat it 6 times? Would you be more comfortable taking Gen.1 literally if instead it was thousands, millions or billions of years? If so, then you are suffering the effects of brainwashing! **Since He has the ability to do what He did in any amount of time, are we in a position to tell Him how long He took or is He in the position to tell us?**

We get into trouble when interpreting other verses if we make *yom* mean anything different than a literal day. Here are some examples. If a day is really not a day then how are we to understand Gen.1:14(NAS)?

When God said, Let there be lights in the expanse of the heavens to separate the day from the night, and let them be for signs, and for seasons, and for days and years;

If a day is not a day then what is a year? Do you see that if our interpretation is faulty, inconsistencies result. As another example, some have suggested that the long life of men

²⁸⁴ Ex. 20:9-11, NAS, emphasis mine

- up to 969 years, particularly before the Flood - is unrealistically too long. If we divide those numbers of years by ten then they are more reasonable and comparable to a man's lifetime today. But if those years are really decades then the father of Methuselah - Enoch - was only 6.5 years old when Methuselah was born (take Gen. 5:21 and divide by ten) which must make Enoch the youngest father in history!



Adam was made on day six (Gen.1:27-31), lived through day seven and died at the age of 930 years (Gen.5:5). Could this be true if the days of creation were thousands or millions of years?

The most common argument I have heard people use to defend their position that the days of creation cannot be literal days comes from 2 Pet. 3:8 *With the Lord one day is as a thousand years and a thousand years as one day* (NAS). Do we now define a day to be a thousand years?



Methuselah died at the age of 969 years (Gen.5:27). If one day is one thousand years then Methuselah lived 352,958,000 years and if one thousand years is one day then he lived only 23 hours, 15 minutes, 12 seconds. What do you think?

Read all of 2 Pet. 3 and see if you don't agree that Peter is describing how God is not bound by time as we are. God is able to see all of time at once - like we see the paper in front of us.

Still others hold to the Gap Theory believing that between Gen. 1:1 and 1:2 there was a gap of time when God's initial creation was destroyed and Gen 1:2 begins a recreation in six days described in the remainder of Gen. 1. If this was so then how are we to understand Ex. 20:11 (NAS)?

*For in six days the Lord made the heavens and the earth,
the sea, and all that is in them...*

If everything was made in six days then nothing was made prior to those six days! For those who believe that in the gap there existed life that perished in the destruction of the original creation, then there was death before Adam which contradicts 1 Cor.15:21 and Rom. 5:12. These passages state that sin and death entered the world through the human race because of Adam's sin. **If the death of all creatures resulted from Adam's sin, then how could there be death before Adam? If there was no death before Adam then the destruction of a previous creation makes no sense.**

The table below traces genealogies from creation to the destruction of Jerusalem in 588 BC

VERSE IN THE BIBLE	EVENT	TIME SINCE CREATION
Gen 1:1-31	Creation	0
Gen 5:3	Seth born when Adam was 130 years old	130
Gen 5:6	Enosh (Enos in KJV) born when Seth was 105 years old	235
Gen 5:9	Kenan (Cainan in KJV) born when Enosh was 90 years old	325
Gen 5:12	Mahalalel (Mahalaleel in KJV) born when Kenan was 70 years old	395
Gen 5:15	Jared born when Mahalalel was 65 years old	460
Gen 5:18	Enoch born when Jared was 162 years old	622
Gen 5:21	Methuselah born when Enoch was 65 years old	687
Gen 5:25	Lamech born when Methuselah was 187 years old	874
Gen 5:28-29	Noah born when Lamech was 182 years old	1056
Gen 11:10	Shem born when Noah was 502 years old {Shem was 100 years old when he became the father of Arpachshad, which was 2 years after the Flood. Since the Flood ended early in the 601 year of Noah's life (Gen. 8:14), Shem was 100 years old when his father was 602 (early in 601 + 2 years = 602 or 603). So, Shem was born 100 years earlier when Noah was 502.}	1558
Gen. 7:6,11	The Flood occurred when Noah was 600 years old	1656
Gen. 11:10	Arpachshad (Arphaxad in KJV and NIV) born when Shem was 100 years old	1658
Gen. 11:12	Shelah (Salah in JKV) born when Arpachshad was 35 years old	1693
Gen. 11:14	Eber born when Shelah was 30 years old	1723
Gen. 11:16	Peleg born when Eber was 34 years old	1757
Gen. 11:18	Reu born when Peleg was 30 years old	1787
Gen. 11:20	Serug born when Reu was 32 years old	1819
Gen 11:22	Nahor born when Serug was 30 years old	1849
Gen 11:24	Terah born when Nahor was 29 years old	1878
Gen 11:26-12:4	Abraham born when Terah was 130 years old {Terah was 205 years old when he died at Haran in the presence of Abram (Gen. 11:31-32). Abram left Haran with his wife Sarai to travel to Egypt when Abram was 75 years old (Gen. 12:4). Therefore, Abram was born when Terah was 130 years old since 205-75= 130.}	2008
Gen. 12:4-5	Abraham enters Canaan when he was 75 years old	2083
Gen. 12:10 & Exod. 12:40-41	From when Abraham left Haran to enter Canaan and Egypt until the Exodus, exactly 430 years to the day	2513
1 Kings 6:1	From the Exodus to start of the Temple 479 years (in the 480th year or after 479 years)	2992
1 Kings 11:42	From the start of the Temple to the division of the Kingdom 37 years (Solomon reigned 40 years and the Temple was started in his 4th year)	3029
Ezek. 4:4-6	From the division of the Kingdom to the destruction of Jerusalem 390 years	3419

Since the destruction of Jerusalem occurred in 588 BC (agreed upon by Bible and secular scholars), Creation took place 3419 years before that date on 4007 BC. This is approximately the same date - 4004 BC - that Archbishop James Ussher calculated in the year 1650. His analysis was much more exhausting and lengthy at 1600 pages! Perhaps rounding the date of creation to 4000 BC is best. Anyway, 4000 BC is 4000 BC + 2002 AD = 6002 or roughly 6000 years ago. The universe is about 6000 years old according to the Bible. Although Ussher is by far the most referred to young earth chronologist, and usually ridiculed for this fact in textbooks, he is by far not the only one. In his book *After The Flood*, Cooper describes the work of others who reached the same conclusions. Chapter 9 entitled *Ancient Chronologies and the Age of the Earth* in his book is [must reading](#) for anyone interested in defending a young earth. Let [examine](#) some of what he says.

Cooper says that [the](#) early Britons and the Saxons are seen by their records to have looked back to a Creation of about 5200 BC [and](#) a [Creation](#) date of ca 4000 BC [is] favoured by the early Irish chroniclers. [But](#) the most interesting section, in my opinion, describes the work of Joseph Scaliger (1540-1609) who invented the Julian calendar and named after his father.

Scaliger rightly recognised that the calendar as it now stands, i.e. the Gregorian Calendar which was introduced in Europe in 1582, and which he heavily criticised, was a somewhat cumbersome apparatus with which to reconstruct the chronology of past events. Its very complexity lent itself to mistakes, whilst its inherent inaccuracies lent themselves to yet further inaccuracies. So he decided to solve the problem, and his solution was as ingenious as it was simple. Instead of an event being said to have occurred at such a date in such a year BC or AD, it would henceforth be said to have occurred on a certain numbered day. Now, although a day count was the answer, it raised a further question. From which point in time should this day count begin? The answer was obvious. It should begin from Day 1 of the Creation. But when did Day 1 occur? Well, Scaliger (partially) solved the problem by turning his attention to the three basic units upon which virtually all workable calendars are based, namely, the Solar Cycle, the Metonic Cycle and the Roman Indiction.

The definitions of these cycles are²⁸⁵

- Solar cycle: a period of 28 years, which having elapsed, the days of the month again fall upon the same days of the week.
- Metonic Cycle: a period of 19 years at the end of which the new moon reappears on the same day as at the beginning of the cycle.
- Roman Indiction: a period of 15 years in Roman chronology.

²⁸⁵ Webster [New Twentieth Century Dictionary](#), 1983, p.452

The three cycles begin and end together once in $28 \times 19 \times 15 = 7980$ years. The three cycles began together in the year 4713 BC and will end together in the year 4713 BC + 7980 = 3267 AD

This was an excellent and broad base upon which to build his system of chronology, and for convenience's sake Scaliger counted 1st January 4713 BC as Day 1, building up his chronology from there. However, the fact that the three cycles (Solar, Metonic and Roman Indiction) began in the year 4713 BC will hold a certain significance for creationists, for Genesis is quite clear on the matter when it tells us that, apart from their light-giving properties, the solar system and its backdrop of stars were created so that we could measure by them times and seasons, days and years. In other words, God had created a gigantic clock, and what more natural than that the Creator should start that clock ticking, as it were, at a setting that would measure the age of the universe as well as the more mundane passing of the seasons here on earth? Ó

That the three cycles have been unchanged since creation is an assumption and at the time of the Flood, it is conceivable that changes did occur. But when Scaliger's chronology is compared with the Mayan chronology, the length of time before the Flood (the Mayans also believed in a flood) is almost identical! Quoting from Cooper,

If we correlate the Mayan day count with that of Scaliger, we find that the Mayan Day 1 began on Julian Day 584283,²⁸⁶ which equals in our terms 10th August 3113 BC (I make that a Thursday) for the start of the Mayan day count. Now, the significance of this lies in the fact that although the Mayan concept of time was cyclic, they nevertheless knew that the world-destroying catastrophe that had closed the previous age was brought about by water, and that their own age had begun after that catastrophe. In other words, they looked back to the Flood as the close of the old age and the beginning of the new. And it is here that their day count takes on an immense significance. Scaliger's day count, we remember, took him back to the year 4713 BC, and it is more than probable that this corresponds roughly to the year of the Creation. The Mayans, however, did not begin their day count from the Creation, but from the Flood, and this event was set in their chronology, not Scaliger's, in the year 3113 BC, and subtracting 3113 from 4713 leaves us with a 1600 year period between the two dates for the Creation and the Flood, a period of time which corresponds remarkably closely to the 1656 year period set out so precisely in the Genesis record. Little wonder that this information is precluded these days by a cursory dismissal of Mayan mathematics and astronomy. If I were a modernist, I'd dismiss it too!

Although modernists, as Cooper refers to present-day scholars, believe that the Mayans were not advanced in mathematics and astronomy (in spite of their observatories with astronomical alignments), the Mayans did measure the time that Venus takes to orbit around the Sun once (as measured from the earth which also moves so this is not its

²⁸⁶ *Encyclopedia Britannica*. 1985 ed. Vol. 15. p. 474.

actual period) as 584 days. The modern measurement of the same phenomenon is 583.92 days.²⁸⁷ At the very least they were careful observers!

Make An Accurate Time Line Of Earth History

You may already be familiar with a time line of history since many Bibles have one, usually somewhere near the beginning covering several pages. My *Inductive Study Bible* and my *Life Application Bible* both have them but they have a serious problem. The scale on both of them varies from page to page! The scale is a measure of how many years of history is represented by one inch of the time line. If you have a time line, checkout its scale to see if it changes from page to page. Simply see how long on the paper 100 years of history is near the date of creation with 100 years of history near the end. If the length is different, then the scale is different. **What is so amazing about this problem is that time lines are drawn for the very purpose of giving the reader a visual perspective of historical events and, when the scale isn't constant, the reader is unknowingly misled about the timing of historical events!** This is a great example of **brainwashing**. In addition to the scale problem, the *Inductive Study Bible* make no mention of the Flood (it looks like the scale is so small that it wouldn't fit) and the *Life Application Bible* states that both the date of Creation and the date when Noah builds the Ark are undated!

Try making your own time line from creation to today. Lay out a ten-foot tape measure on the floor. Since creation was 6000 years ago, each inch on the tape measure represents 50 years (50 years per inch x 120 inches = 6000 years). Write the following events on separate pieces of paper and place them next to the tape measure at the locations shown below.

Creation, Adam made at 0 inches
Methuselah born at 13.7 inches
Adam dies at 18.6 inches
Noah born at 21.1 inches
Flood begins at 33.12 inches
Methuselah dies during the Flood at 33.12-33.14 inches
Flood ends at 33.14 inches (lasts about one year)
Peleg born at 35.1 inches (also Tower of Babel, the earth was divided)
Abraham born at 40.2 inches
Exodus occurred at 50.3 inches
Start building of the Temple at 59.8 inches
Division of the Kingdom at 60.6 inches
Isaiah born at 65.2 inches
Destruction of Jerusalem at 68.3 inches
Ezra and Nehemiah return to rebuild walls of Jerusalem at 70.8 inches
Alexander the Great and Greek Period begins at 73.4 inches
Roman rule begins at 78.7 inches

²⁸⁷ Ronan, C. *The Cambridge Illustrated History of the World's Science*. Newnes. Cambridge. 1983. p. 55.

Christ born at 80 inches
Paul's missionary journeys at 81 inches
John writes Revelation at 82 inches
King Arthur at 90 inches
The Middle Ages between 90 and 109 inches
Christopher Columbus at 109.8 inches
American Revolution at 115.5 inches
American Civil War at 117.2 inches
World War I at 118.3 inches
World War II at 118.8 inches
Today at 120 inches

How does this time line compare with what you learned in school? Why is it so different from the way most people imagine earth history to be? **Because it is from God who was there and knows all things instead of from men who weren't there and don't know everything.**

The law of the LORD is perfect, restoring the soul; The testimony of the LORD is sure, making wise the simple. ²⁸⁸

The works of His hands are truth and justice; All His precepts are sure. They are upheld forever and ever; They are performed in truth and uprightness. ²⁸⁹

Being different than those around you is unavoidable if you make your Christianity known. If you are not different than those around you then you either keep your Christian beliefs to yourself or you only associate with other Christians or you are a Christian in name only. All three of these possibilities, I believe, Jesus does not reward. I hope that this study has encouraged you to identify those beliefs that are based on brainwashing and to make a defense, based on critical thinking, for what you believe is the truth.

I encourage your comments. Please email them to rick.balogh@valleybible.net.

²⁸⁸ Psalm 19:7, NAS

²⁸⁹ Psalm 111:7-8, NAS