This is a collection of frequently asked questions and answers about the compatibility of belief in evolution and God from talk origins. This text presupposes the reader's belief in the Judeo-Christian God, but many answers are general enough to include most religions. There is no attempt to prove or disprove the existence of God, or the validity of any religion, as that is not the intent. Please contact me at kv07@iastate.edu with any questions or suggestions.

1. Definitions

Science
A method of determine how the universe works by use of the scientific method.

Scientific method
The process of proposing a hypothesis, and then testing its accuracy by collecting data on events the hypothesis predicts. If the predictions match the new data the hypothesis is supported. Generally the best supported hypothesis is considered correct.

Evolution
The fact the frequency of the apperance of alleles in a population of organisms changes over time.

Allele
The pieces of DNA that cause a particular trait, ie. "blue eyes".

The theory of evolution
A number of theories that explain, to the best of current knowledge, by what mechanisms evolution occurs.

The theory of common descent
The theory that all living creatures on earth share a common, remote ancestor. More specifically, given any two living creatures there was a creature that is ancestor to both.

Creationism
One of several beliefs that incorporate a literal interpretation of Genesis. There are variations that allow some figurative interpretation.

Young Earth Creationism
An interpretation of Genesis 1 in which days are taken to be 24 hour events, and that by saying animals reproduce "after their kind" evolution is precluded.

Old Earth Creationism
An interpretation of Genesis 1 in which days are taken to be figurative lengths of time, and the time scales given by geologists are generally correct. However, the special creation of man precludes common descent.

Theistic Evolution
An interpretation of Genesis 1 in which the story line is considered as an explanation for the why and who of
creation, but not the exact method. The purpose of this FAQ is to show that this position is not contradictory.

2. Evolution and Religion

Q1. Doesn't evolution contradict religion?

Not always. Certainly it contradicts a literal interpretation of the first chapter of Genesis, but evolution is a scientific principle, like gravity or electricity. To scientifically test a religious belief one first must find some empirical test that gives different results depending on whether the belief is true or false. These results must be predicted before hand, not pointed to after the fact.

Most religious beliefs don't work this way. Religion usually presupposes a driving intelligence behind it, and an intelligent being is not always predictable. Since experiments judging religious beliefs cannot have predictable results, and may give different results under the same circumstances it is not open to scientific inquiry. St. Augustine commented on this in _The Literal Meaning of Genesis_.

Some religious beliefs do make predictions. These predictions can be tested. If a religious belief fails a test, it is the test that contradicts that religious belief. The theory which makes the correct prediction should have nothing to say on the matter. This does not mean that scientists don't sometimes make the mistake of saying a theory contradicts something.

Q2. Isn't evolution a religion?

Evolution is based on the scientific method. There are tests that can determine whether or not the theory is correct as it stands, and these tests can be made. Thousands of such tests have been made, and the current theories have passed them all. Also, scientists are willing to alter the theories as soon as new evidence is discovered. This allows the theories to become more and more accurate as research progresses.

Most religions, on the other hand, are based on revelations, that usually cannot be objectively verified. They talk about the why, not the how. Also, religious beliefs are not subject to change as easily as scientific beliefs. Finally, a religion normally claims an exact accuracy, something which scientists know they may never achieve.

Some people build up religious beliefs around scientific principles, but then it is their beliefs which are the religion. This no more makes scientific knowledge a religion than painting a brick makes it a bar of gold.

So the answer is no, evolution is no more a religion than any other scientific theory.

Q3. Does evolution contradict creationism?

There are two parts to creationism. Evolution, specifically common descent, tells us how life came to where it is, but it does not say why. If the question is whether evolution disproves the basic underlying theme of Genesis, that God created the world and the life in it, the answer is no. Evolution cannot say exactly why common descent chose the paths that it did.

If the question is whether evolution contradicts a literal interpretation of the first chapter of Genesis as an exact historical account, then it does. This is the main, and for the most part only, point of conflict between those who believe in evolution and creationists.

For more information on several different interpretations you can get James Kieffer's commentary which considers several different ways of looking Genesis, including the literal interpretation. Just send email to LISTSERV@asuvm.inre.asu.edu with the single line message "GET GEN01 RUFF". Repeat this for GEN02 and GEN03 to get the complete commentary.

Q4. If evolution is true, then isn't the whole Bible wrong?

First let me repeat that the underlying theme of the first book of Genesis can't be scientifically proven or disproven. No test has ever been found that can tell the difference between a universe created by God, and one that appeared without Him. Only certain interpretations of Genesis can be disproven.

Second, let us turn the question around. What if I asked you "If the story of the prodigal son didn't really happen, then is the whole Bible wrong?" Remember that the Bible is a collection of both stories and historical accounts. Because one part is a figurative story does not make the entire Bible so. Even if it did, the underlying message of the Bible would remain.
3. Evolution and God

Q5. Does evolution deny the existence of God?
   No. See question 1. There is no reason to believe that God was not a guiding force behind evolution. While it does contradict some specific interpretations of God, especially ones requiring a literal interpretation of Genesis 1, few people have this narrow of a view of God.

   There are many people who believe in the existence of God and in evolution. Common descent then describes the process used by God. Until the discovery of a test to separate chance and God this interpretation is a valid one within evolution.

Q6. But isn't this Deism, the belief that God set the universe in motion and walked away?
   While it could be Deism, the Bible speaks more of an active God, one who is frequently intervening in His creation. If the Bible represents such a God in historical times there is no reason to assume that He was not active in the universe before then. A guiding hand in evolution could exist, even in the time before humans came around. Just because people were not there to observe does not mean that there was nothing to observe.

Q7. So if God directed evolution, why not just say he created everything at once?
   Mainly because all the evidence suggests otherwise. If God created the universe suddenly, he created it in a state that is indistinguishable from true age. If he did create it that way there must be a reason, otherwise God is a liar. Whatever that reason may be, a universe that is exactly like one that is old should be treated as if it were old.

Q8. By denying creation, aren't you denying God's power to create?
   No. Because God did not create the world in seven days does not mean that he couldn't. What did, or did not, happen is not an indication of what could, or could not, have happened. All evidence suggests that evolution is the way things happened. Regardless of what could have happened, the evidence would still point to evolution.

4. Evolution and Proof

Q9. Nobody can really prove anything anyway.
   Except, of course, in mathematics. However, science does not require absolute proof, otherwise science textbooks would be empty. Science works by use of the scientific method: explanations are found, and tests made to tell which ones are correct. Evolution has passed thousands of tests, many of which separated it from theories indistinguishable to non-biologists.

   Few people are aware, for instance, that Darwin's original hypothesis predicted the existence of genetic information. As said before, even if the theory is not correct in every detail, it is very close to the truth. Chris Colby's FAQ gives a clear picture of this.

Q10. Theories have been proven wrong in the past, why not evolution?
   When Einstein proposed general relativity, he revolutionized physics. The theory replaced most of Newton's laws of physics. General relativity, though, still incorporates Newton's laws. This is due to the enormous number of observations and tests that Newton's laws had passed, so any new theory would have to account for them also.

   Similarly, if another theory replaces evolution, the new theory must somehow explain why the current theory passed all the tests. So any new theory that replaces evolution would have to explain why it works so well. Creationism, then, is not a possible replacement.

Q11. Doesn't evolution promote evil?
   Even if evolution did do this, it would not be a reason to assume it is wrong. Chemistry is responsible for millions of deaths every year, but we do not reject its findings because of this. How people use a theory is not a judgment of its accuracy.

   Fortunately we do not face this dilemma. Evolution does not say what is right and what is wrong, but merely what has happened. A historical account of the sacking of Rome does not say that the act of sacking Rome is good or bad, just that it happened. Similarly evolution does not say that any conclusions people might draw...
While many people have claimed the theory of evolution supports their injustice, never forget that many people have done the same with the Bible. One person's opinion should not be considered the whole truth.

Q12. So what would I need to have creationism accepted scientifically?

Read Chris Colby's FAQ for some evidence that must be explained. Also you need to propose a test that would give different results depending on whether creation or evolution is true. Most important, however, is the willingness to abide by the results, even if they disprove creationism.