

QUESTIONS:-

1. What is the scientific evidence of the Big Bang?

Astronomers think the Big Bang is the best way to explain how the Universe started and how it changed over time. All science is based on evidence. So what is the evidence for the Big Bang?

1. Redshift of Galaxies

By analysing the spectrum of light from a star or galaxy, astronomers can tell us how fast it is moving, and whether it is moving towards Earth or away from Earth.

"If an object is moving away from Earth, its light shifts to longer, redder wave lengths, an effect known as **red shift**."

Red shift supports the Big Bang theory. The light from distant galaxies is red shifted (this tells us the galaxies are moving

away from us) and the further away the galaxy the greater the red shift (the more distant the galaxy the faster it is moving).

2. Blue shift of Galaxies

"If an object is moving towards Earth, its light shifts to shorter, blue wavelengths, an effect known as **blue shifts**."

3. Microwave Background

A long time ago, the whole universe was very hot. As it grew in size, the heat left a "**glow**" which fills the entire universe. The Big Bang theory predicts this glow should still exist. It also predicts that we should be able to detect this glow as "**Microwave Light**".

Scientists have found this **Cosmic Microwave background**. They have accurately measured it using orbiting detectors. It is very good evidence that

the "Big Bang theory" is correct.

4- Mixture of Elements

Some **Chemical Elements** were created soon after the Big Bang. Elements like hydrogen and helium. The Big Bang theory predicts how much of each element was made in the early universe. When astronomers look at very old galaxies and stars, the amount of each chemical they see agrees with the **Big Bang theory**.

Some of the other theories agree that the Big Bang theory is based on a false premise. Some, instead, prefer to build theories on a static universe, which is what was originally predicted by Einstein's theory of general relativity.

2. What is the age of solar system?

"The age of solar system is 4.6 Billion years."

3. How the age of solar system can be calculated?

By studying several things, mostly meteorites, and using radioactive dating techniques, specifically looking at daughter isotopes, scientists have determined that the solar system is 4.6 billion years old.

4. What is the possible shape of the universe?

The size of the universe depends a great deal on its shape. Scientists have predicted the possibility that the universe might be closed like a sphere, infinite, and negatively curved like a saddle, or flat and infinite.

A finite universe has a finite size that can be measured, this would be the case in a closed spherical universe. But an infinite universe has no size by definition.

According to **NASA**, scientists know that the universe is flat with only about a 0.4 percent margin

M T W T F S

DATE

of error (as of 2013).