

# Topic: Modern Astronomy

**Aim:** What events led to the formation of the Earth?

1. What is the main theory that explains the formation of the Universe?

**THE BIG BANG THEORY** - The most accepted theory

which explains how a huge explosion formed the Universe approximately 13.7 billion years ago.

Evidence: the detection of cosmic background radiation

(microwaves) in space left over from the explosion and **RED SHIFT!**

2. What is the order in which the main subdivisions of the Universe formed?

First: The **Universe** formed ~13.7 billion years ago

Second: **Galaxies** formed ~10 billion years ago

- a. huge region of space containing hundreds of billions of stars.
- b. scientist think there are billions of galaxies in the Universe
- c. classified by shape



Our Sun and Solar System is on a spiral arm and moves around the center of the galaxy



a. spiral (our galaxy: The Milky Way)

b. elliptical (oval-shaped)

c. irregular  
(no distinct shape)

Third: Our **Solar System** formed ~4.6 billion years ago

A **solar system** is defined as a star (such as our Sun) and the planets, moons, and space debris that revolve around it and contained within it.