

GRADE: 10

UNIT: INDEPENDENT PROJECT

THE THEME OF THE LESSON: THE UNIVERSE.

HOW DID IT ALL BEGIN?

Learning objectives:

10.1.8 develop intercultural awareness through reading;

10.5.6 write coherently at text level using a variety of connectors on a range of familiar general and curricular topics.



NEW WORDS

1. Eternally	мәңгі	вечно
2. Exist	өмір сүру	существовать
3. Starling discovery	таңғажайып ашу	ошеломляющее
4. Expand	кеңейту	расширять
5. Logically	қисынды	логически
6. Explode	жарылу	взрываться
7. Widely accepted	кеңінен қабылданған	общепринятый
8. Hypothesis	гипотеза	
9. Collapse	құлау	рухнуть
10. Prior	алдыңғы	предшествующий
11. Countless	сансыз	бесчисленный
12. Expansion	кеңейту	расширение
13. Contraction	қысқарту	сокращение
14. Motivation	мотивация	
15. Infinite	шексіз	бесконечный

The Big Bang Theory

Before the 20th century people believed that the universe had existed forever and had looked the same way forever. But in 1929 astronomers made a **starling** discovery. Looking through their telescopes they noticed that the galaxies in our universe are actually moving away from each other at enormous speed-our universe is expanding! If our universe is expanding then logically at some point in the past the entire universe was contained in a single point in space. The Big Ban Theory states that about 14 million years ago our universe we know today. Our universe in other words has not existed forever. It had a definite beginning. Before our universe came into existence there was nothing... no time, space, matter, energy ... nothing! The Big Bang created time, space and matter. The Big Bang Theory is currently the most **widely accepted** hypothesis for the origin of the universe. However, it still leaves many questions unanswered. For instance, it doesn't explain why the big bang in the first place.



THE CYCLICAL UNIVERSE

The Cyclical Universe Theory addresses the question, “What caused the big bang?” The answer it gives is the collapse and expansion of a prior universe. According to the Cyclical Universe Theory, our universe began when another universe collapsed violently into a **single point** then exploded out again. Trillions of years from now, our own universe will stop expanding and begin to contract. Eventually, it will also collapse into a single point and explode out again giving rise to a new universe. Our universe is therefore **the latest** in an endless series. Countless universes have preceded this universe and countless others will follow it. Space and time had no beginning. Cycles of expansion, contraction, collapse and explosion have been going on forever.

THE MULTIPLE UNIVERSE THEORY

According to the Multiple Universe Theory, what we have been calling the universe is actually nothing like we thought! It is just a single bubble in an infinite number of universes. We are actually living a multiverse consisting of trillions is different. The main motivation behind the Multiple Universe Theory is to provide an explanation as to why our universe seems to be so perfectly suited towards supporting life. For many people, this fact demands an explanation. They feel it is too much of a coincidence that the conditions in our universe just happen to be right to make life possible. The Multiple Universe Theory states that there is nothing mysterious about this. There are trillions upon trillions of universes in the multiverse and therefore at least a few of them will have conditions that make life possible. We simply happen to be living in one of these universes.

EXERCISE– I. READ THE ARTICLE AGAIN , THEN FOR QUESTIONS 1-8, CHOOSE FROM THEORIES A-C. THE THEORIES MAY BE USED MORE THAN ONCE.

WHICH THEORY/THEORIES:

1. say space, time, and matter have existed forever with no beginning or end?
2. do most physicists support?
3. suggests a reason why our universe has the ideal conditions for supporting life?
4. says our universe came from an earlier universe?
5. say only one universe exists at any one time?
6. is supported by evidence we can see?
7. says our universe will eventually disappear?
8. says our universe we are living in is unique?

FILL IN: EXPANDING, EXPLODED, COLLAPSE, PRIOR, INFINITE

1. Astronomers have discovered that our universe has been ... since it was formed.
2. Many universes may have existed ... to the one we are living in.
3. Our universe might actually be just one of a(n) ... number of other universes.
4. One day our universe may ... and give rise to a new universe.
5. According to the Big Bang Theory, our universe ... into existence from a single point.

FEEDBACK

