

Name _____ Date _____ Moravian University

DISTILL THE DEFINITION TO ITS BASIC MEANING

Instructions: Take the word on the left and find the most important information, words, or numbers associated with it to complete a shortened definition on the right. The full definitions of these words can be found elsewhere in this chapter. **You may not use more than six words for your core definition.** **Abbreviations will count as words,** such as mi./sec., equals miles/second, equals two words. Numbers, symbols, and punctuation will not count as words unless used incorrectly. Here is an example of an incorrect usage. “2 b or not 2 b” will mean “To be or not to be,” and will have six words, not four. The grammar police will also be arresting you! The word or a similar word may **NOT** be used in the definition unless there is an asterisk with the word underlined. The asterisk is only good for the word directly next to it. In Electromagnetic Force*, only “Force” applies to this situation.

DEFINE THE WORD	DEFINITION: NO MORE THAN SIX WORDS MAXIMUM
Astronomical Unit	
Astronomy	
<u>Baryonic Matter</u>*	
Big Bang	
Black Hole	
Composition	
Dark Energy	
Dark Matter	
Density	
Distribution	
Ecliptic	
<u>Electromagnetic Force</u>*	
Electromagnetic Spectrum	
Evolution	
Galaxy	
Gravity	
Hydrogen	
Inverse Square Law	

DEFINE THE WORD	DEFINITION: NO MORE THAN SIX WORDS MAXIMUM
Ion	
<u>Light</u>* <u>Year</u>*	
Mass	
Meridian	
<u>Move</u>*<u>ments</u>	
<u>Oscillating</u> <u>Universe</u>*	
Physical States of Matter	
Planet	
Plasma	
Precession	
Qualitative	
Quantitative	
Quantum Mechanics	
Revolution	
Rotation	
Solar System	
Speed of <u>Light</u>*	
Stellar System	
Star	
String Theory	
Strong Nuclear <u>Force</u>*	
Universe	
Weak Nuclear <u>Force</u>*	

BASIC ASTRONOMY WORD LIST

1. **Astronomical Unit**: The average distance from the Earth to the sun, approximately 93 million miles or 149 million kilometers.
2. **Astronomy**: The science which investigates all matter and energy in the universe.
3. **Baryonic Matter**: The protons, neutrons, and electrons which govern the chemical makeup of the universe which we can observe. It comprises about five percent of the known universe.
4. **Big Bang**: A theory for the beginning of the evolution of the universe. The hypothesis purports that the universe appeared or “popped” from a small primordial atom or from “nothingness” and will keep expanding/accelerating forever. The notion that an explosion occurred is no longer considered valid; but the big bang has been impossible to remove from the literature, and so the words remain.
5. **Black Hole**: The volume of space surrounding a collapsed star in which the escape velocity equals or exceeds the speed of light.
6. **Composition**: The (qualitative and quantitative) chemical make-up of matter.
7. **Dark Energy**: An unknown force that can be quantified and is responsible for the expansion and acceleration of the universe. The amount of dark energy in the universe remains constant with volume and represents about 68 percent of the known universe.
8. **Dark Matter**: An unseen mass of unknown substance which can be quantified and comprises about 27 percent of the known universe. Its only similarity to baryonic matter is that it possesses gravity.
9. **Density**: The mass of an object divided by its volume. Mass per unit volume.
10. **Distribution**: The position or arrangement of matter/energy through an area or a space.
11. **Ecliptic**: The reference plane of the solar system which is created by the Earth orbiting the sun. It can also be defined as the path of the sun in the sky created by the Earth’s orbital motion, or the plane of the Earth’s orbit projected into space.
12. **Electromagnetic Force**: It governs how electrons orbit the nucleus of atoms and how atoms interact with each other to form the chemical bonds of the matter which we see all around us.
13. **Electromagnetic Spectrum**: All of the forms of energy which travel at the speed of light in a vacuum and which are represented by an electrical as well as a magnetic component— (**most intense**) gamma rays, X-rays, ultraviolet, visible, infrared, microwaves, and radio energy (**least intense**).
14. **Evolution**: The process of change over time from a beginning to an end.
15. **Galaxy**: The basic manner in which matter clumps or congregates in the universe. Galaxies can be composed of millions to trillions of stars.
16. **Gravity**: The force of attraction acting between two bodies. That force is directly related to the mass of the bodies and inversely correlated to the square of their distances ($1/d^2$).
17. **Hydrogen**: The most abundant element in the universe as well as the simplest element on the Periodic Table of Elements. It is composed of one proton and one electron.
18. **Inverse Square Law**: The intensity of a force varies as one over the distance multiplied by itself ($1/d^2$). It governs how the strength of electromagnetic energy (light), magnetism, and gravity (even sound) varies with distance from the source.
19. **Ion**: An atom or molecule (radical) which is not electrically neutral because it has either gained or lost one or more electrons.
20. **Light Year**: The distance that light travels in one year, approximately 5.8 trillion miles.

21. **Mass:** The quantity of matter which an object contains.
22. **Meridian:** An imaginary great circle that intersects the south point on the horizon, the point directly overhead (zenith), the North Celestial Pole (near to the North Star), and the north point on the horizon. The meridian divides the eastern sky (a.m.—antemeridian, before the meridian) from the western sky (p.m.—post meridian, after the meridian).
23. **Movements:** The change in the position of a celestial object due to a change in the position of the Earth or the object itself.
24. **Oscillating Universe:** An outdated theory which states that the universe started with a big bang, but has a sufficient amount of matter to collapse upon itself, regenerating into another big bang in an endless cycle. Astronomers now know that the universe is not only expanding, but it is also accelerating. There will be no future collapse only endless acceleration.
25. **Physical States of Matter:** solid (volume/shape remains constant), liquid (volume remains constant/shape changes), gas (volume/shape change), and plasma (see specific definition)...
26. **Planet:** A round object, which is not the satellite of another planet; it is in orbit around the sun, and it is massive enough to clear its orbital path from debris.
27. **Plasma:** A hot, ionized gas in which ions and electrons are in free association.
28. **Precession:** The conical wobbling of the Earth's axis created by the sun's unequal pull on the equatorial bulge of the Earth. One precession cycle takes about 25,800 years.
29. **Qualitative:** A description of something...
30. **Quantitative:** Putting a numeric value on something...
31. **Quantum Mechanics:** The physics of the very small which governs the interactions of the parts of an atom and the interactions of atoms and molecules with each other.
32. **Revolution:** The orbiting motion of one body around another body. The Earth completes one orbit around the sun in a period of 365.24 days.
33. **Rotation:** The spinning motion of a body around its axis. The Earth rotates in a period of 23 hours, 56 minutes, 4 seconds.
34. **Solar System:** Our family of planets, moons, dwarf planets, and smaller bodies that are in orbit around the sun.
35. **Speed of Light:** The distance covered by electromagnetic radiation in a unit time interval. In a vacuum it is equivalent to 186,000 miles per second or 300,000 kilometers per second. The symbol "c" which represents the speed of light comes from the Latin word *celeritas*, which means speed.
36. **Stellar System:** A star surrounded by other stars in orbit around it, or a family of planets, moons, and lesser bodies orbiting around a star other than our sun.
37. **Star:** A self-luminous body which maintains its energy output because of the conversion of matter into energy within its core.
38. **String Theory:** A hypothesis which proposes that the universe is ultimately composed of minuscule vibrating strands of energy which are found within subatomic particles known as quarks. The vibrations of the strings are governed by six additional tiny point dimensions which create the physical constants which allow us to describe the universe in which we live. According to String Theory the universe has a total of 11 dimensions.
39. **Strong Nuclear Force:** It is the "glue" which binds the nucleus of an atom together.
40. **Universe:** All matter and energy everywhere...
41. **Weak Nuclear Force:** It is the force which governs how radioactive isotopes decay.