

Hadean Eon - Crossword Answers

1. a) This type of decay has been used to date the world's oldest rocks as being 4.5 billion years old: **Radioactive**
b) Whichever came first as the long macromolecule it had to have two characteristics; do this and have catalytic function: **Replication**
2. Because of its stability and structure this biopolymer is not a good candidate as the first self-replicating macromolecules: **DNA**
3. The Miller-Urey experiments tried to explain the origins of these organic building blocks in the primitive oceans: **Biomonomers**
4. Most of the earth's gaseous atmosphere probably resulted from its release from the cooling molten core. The process was called this: Outgassing
5. The third planet in the orbit of the sun occupies our solar system's habitable zone: **Earth**
6. Solid, small lipid droplets suspended in solution but lacking an aqueous core: **Microspheres**
7. These forces held the Earth's atmosphere in place: **Gravitational**
8. Saturn and this planet had orbits that resonated in a 2:1 ratio which disturbed the large non-planetary objects at the edge of our solar system: **Jupiter**
9. The longest era during the last eon of Earth's history: **Paleozoic**
10. This substance may have assisted in the chemical formation of long chains of amino acids or nucleotides: **Clay**
11. a) The age of flowering plants and dinosaurs marks this era in Earth's history: **Mesozoic**
b) This one carbon hydrocarbon gas was present in the earth's original atmosphere: **Methane**
12. Discovery of this virus reversed the direction of information flow between DNA and RNA: **HIV**
13. Because this gas was missing the first forms of life lived under these conditions and had this type of metabolism: **Anaerobic**
14. The field of science that is primarily interested in the atomic element six on the periodic table: **Organic Chemistry**

15. In terms of their water solubility lipids are described as being this: **Hydrophobic**
16. The name given to the rich mix of inorganic and organic compounds that appear in the oceans at the end of the Hadean: **Primordial soup**
17. This process creates RNA from DNA: **Transcription**
18. On a planet located in the habitable zone of a solar system, what chemical compound is abundant in its liquid form? **Water**
19. This process creates proteins from mRNA molecules: **Translation**
20. Water is the universal solvent for these types of molecules and compounds: **Polar**
21. Organic chemistry is the study of the chemistry of this element: **Carbon**
22. What percentage of the sun's mass is not made up of the two atoms involved in the nuclear fusion reaction that produces the sun's energy? **Two**
23. Mineral core of our planet: **Iron**
24. Inside a lipid vacuoles reaction rates do this: **Increase**
25. a) Recent studies of the solar system place this as the outermost planet prior to 4,000 Mya: **Uranus**
b) This describes the problem of long chains of either RNA or protein as the first biopolymers. They are this: **Unstable**
26. These protein building blocks were found in the material produced by the Miller experiment: **Amino Acids**
27. The only organic building block that hasn't been synthesized under prebiotic conditions: **Nucleotide**
28. The sun is this kind of reactor: **Nuclear**
29. This term describes the explosion of life forms that appeared 540 million years ago: **Cambrian**
30. Protocells that have been made to date lack this one characteristic of life: **Evolution**

31. In the first 4,000 Mya of the solar system as these two large planetary neighbours grew and moved away from the sun and their changing orbital speeds ultimately resulted in this planet orbiting the sun twice as often as its neighbour: **Saturn**
32. Geological eons are divided into these: **Eras**
33. In the chemical composition of the sun this atom is the second most abundant: **Helium**
34. Number of lipid layers in a micelle: **One**
35. Geological eras are combined into these larger units of time: **Eons**
36. The first appearance of this marks the end of the first eon in earth's history: **Life**
37. The form that water initially took during the formation of the planet: **Vapor**
38. This property of water allows plants to transport water from their roots to leaves without any expenditure of energy by the plant: **Cohesion**
39. This term describes life's origins as occurring somewhere other than the planet earth: **Panspermia**
40. Catalytic ribosomes are evidence that this being the first self replicating biopolymer: **RNA**
41. Whether its protein or RNA that come first doesn't affect the fact that whichever it was, it had to be capable of this: **Replication**
42. This abbreviation describes events that happened between 4.1-3.8 billion years ago: **L.H.B**
43. The outer planets of the solar system are made up of this: **Frozen gases**
44. This model explains the loss of the large non-planetary objects at the edge of our solar system and the final positioning of the planets of our solar system: **Nice**