Name: Score:

10 Multiple choice questions

Term 1 of 20

What fraction of the 92 natural elements are required for life?

- ◯ **Only 5 elements are required for life.**
- ◯ **About 25 elements are required for life.**
- ◯ **None of the elements are required for life.**
- ◯ **All 92 elements are required for life.**

Term 2 of 20

What is an acid?

- ◯ **A substance that absorbs H+ ions and increases pH.**
- ◯ **A substance that does Not react with water at all.**
- ◯ **A substance that releases H+ ions when dissolved in water.**
- ◯ **A substance that forms solid precipitates in water.**

Term 3 of 20

What are radioactive tracers?

- ◯ **Stable isotopes that do not emit any energy.**
- ◯ **Isotopes that are used solely for industrial purposes.**
- ◯ **Elements that are only found in trace amounts in the earth's crust.**
- ◯ **Isotopes that emit energy and electrons, used to track atoms in biological systems.**

Term 4 of 20

What is the first step in the scientific method?

- ◯ **Observation/Exploration.**
- ◯ **Natural Selection.**
- ◯ **Seminars/meetings And Scientific Literature/publications.**
- ◯ **Evolution.**

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Term 5 of 20

What is a compound?

- A compound is an ion with a charge.
- A compound is a mixture of elements.
- A compound consists of two or more elements in fixed proportions.
- A compound is a single element.

Term 6 of 20

What is a valence shell?

- The shell that contains only neutrons.
- The shell that determines the mass of the atom.
- The outermost shell of an atom, where electrons determine how the atom will bond.
- The innermost shell of an atom, containing all protons.

Term 7 of 20

What is the role of water as a solvent?

- It repels all types of molecules.
- It solidifies most substances at low temperatures.
- It only dissolves gases and not solids.
- It dissolves many substances, including salts, proteins, and sugars.

Term 8 of 20

What is an example of an organism's adaptation to its environment?

- The color of the beach mouse, which is well matched to its local background.
- The size of the beach mouse, which is significantly larger than other mice.
- The diet of the beach mouse, which consists solely of fruit.
- The habitat of the beach mouse, which is found in urban areas.

Term 9 of 20

What happens to an atom when it loses electrons?

- It becomes negatively charged.
- It becomes positively charged.
- It remains neutral.
- It becomes neutral.

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Term

What is a covalent bond?

- ◯ **A bond formed when electrons are transferred from one atom to another.**
- ◯ **A bond that does not involve any electrons.**
- ◯ **A bond formed when two atoms share electrons.**
- ◯ **A bond that occurs only in ionic compounds.**

10 Matching questions

- What is the first electron shell's capacity?
- What are Van der Waals interactions?
- What is the second electron shell's capacity?
- What makes water a polar molecule?
- What are evolutionary adaptations?
- What does the mass number represent?
- What does the pH scale measure?
- What are some examples of organisms in the domain Eukarya?
- What are hydrophilic substances?
- What does a pH of 14 represent?

A. Inherited traits that enhance survival in an organism's specific environment.

B. The first electron shell can hold 2 electrons.

C. The second electron shell can hold 8 electrons.

D. Electrons spend more time near the oxygen than the hydrogen.

E. Highly basic solutions, such as sodium hydroxide.

F. Substances that are water-loving and dissolve well in water.

G. Weak charge attractions between polar molecules.

H. The concentration of free H+ ions in solutions.

I. The number of protons plus the number of neutrons in an atom.

J. Amoebas, algae, dinoflagellates, diatoms.

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