

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.

Term

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

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What happens to an atom when it loses electrons?

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

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

- | | | |
|----------------------|--|---|
| <input type="text"/> | What is the first electron shell's capacity? | A. Inherited traits that enhance survival in an organism's specific environment. |
| <input type="text"/> | What are Van der Waals interactions? | B. The first electron shell can hold 2 electrons. |
| <input type="text"/> | What is the second electron shell's capacity? | C. The second electron shell can hold 8 electrons. |
| <input type="text"/> | What makes water a polar molecule? | D. Electrons spend more time near the oxygen than the hydrogen. |
| <input type="text"/> | What are evolutionary adaptations? | E. Highly basic solutions, such as sodium hydroxide. |
| <input type="text"/> | What does the mass number represent? | F. Substances that are water-loving and dissolve well in water. |
| <input type="text"/> | What does the pH scale measure? | G. Weak charge attractions between polar molecules. |
| <input type="text"/> | What are some examples of organisms in the domain Eukarya? | H. The concentration of free H ⁺ ions in solutions. |
| <input type="text"/> | What are hydrophilic substances? | I. The number of protons plus the number of neutrons in an atom. |
| <input type="text"/> | What does a pH of 14 represent? | J. Amoebas, algae, dinoflagellates, diatoms. |