

Biochemistry of the Cosmos

Biochemistry · Answer Key · 10 Questions

1. What is the most abundant chemical element found in the universe?

- A) Oxygen
- B) Carbon
- C) Hydrogen**
- D) Nitrogen

2. Which molecule, essential for life on Earth, has been detected in the icy plumes of Saturn's moon Enceladus?

- A) Water**
- B) Methane
- C) Ammonia
- D) Sulfuric acid

3. What element, the backbone of all known biochemistry, is formed in the cores of stars?

- A) Silicon
- B) Carbon**
- C) Iron
- D) Helium

4. Which gas, often produced by biological processes on Earth, is found in large quantities in the atmosphere of Titan?

- A) Argon
- B) Methane**
- C) Helium
- D) Neon

5. What is the primary substance that astrobiologists look for on other planets as a solvent for biochemical reactions?

- A) Liquid water**
- B) Liquid nitrogen
- C) Liquid mercury
- D) Liquid methane

6. Which chemical compound is the main component of the ice caps found on Mars?

- A) Solid ammonia
- B) Solid oxygen
- C) Solid carbon dioxide**
- D) Solid methane

7. What is the main chemical element found in the atmosphere of the gas giant Jupiter?

- A) Nitrogen
- B) Hydrogen**
- C) Oxygen
- D) Carbon

8. Which light-absorbing molecule is used by plants on Earth to convert sunlight into energy?

- A) Hemoglobin
- B) Chlorophyll**
- C) Melanin
- D) Keratin

9. What element is commonly found in the metallic cores of terrestrial planets like Earth and Mars?

- A) Iron**
- B) Calcium
- C) Gold
- D) Silicon

10. Which simple sugar is often studied in the context of prebiotic chemistry found in meteorites?

- A) Fructose
- B) Ribose**
- C) Lactose
- D) Sucrose