



Class 9 Science | Earth As A System: Energy, Matter, And Life

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. Glaciers and polar ice belong mainly to the:

- A. Atmosphere
- B. Biosphere
- C. Mantle
- D. Cryosphere

2. All Earth's living organisms collectively form the:

- A. Biosphere
- B. Core
- C. Atmosphere alone
- D. Lithosphere alone

3. Sunlight reaches Earth mainly by:

- A. Radiation
- B. Convection through vacuum
- C. Conduction through space
- D. Sound propagation

4. The approximate speed of sunlight in vacuum is:

- A. 3×10^8 m/s
- B. 30 m/s
- C. 3×10^5 m/s
- D. 340 m/s

5. Compared with dark soil, fresh snow generally reflects:

- A. More incoming solar radiation
- B. No radiation
- C. Less incoming solar radiation
- D. Only sound

6. Unequal solar heating of Earth's surface helps drive:

- A. Nuclear decay
- B. Atomic number changes
- C. Winds
- D. Earth's magnetic polarity alone

7. During a typical sunny afternoon at a coast, the sea breeze blows:

- A. From land toward sea
- B. From sea toward land
- C. From poles to equator everywhere
- D. Only vertically downward

8. Water vapour forming liquid cloud droplets is:

- A. Evaporation
- B. Sublimation
- C. Infiltration
- D. Condensation

9. Water soaking from the surface into soil is:

- A. Infiltration
- B. Condensation
- C. Transpiration
- D. Combustion

10. Green plants remove atmospheric carbon dioxide mainly through:

- A. Photosynthesis
- B. Respiration
- C. Combustion
- D. Decomposition

11. Which process returns carbon dioxide from organisms to air?

- A. Rock freezing
- B. Nitrogen fixation
- C. Condensation
- D. Respiration

12. Nitrogen-fixing bacteria make atmospheric nitrogen available by converting it to:

- A. Metallic nitrogen
- B. Usable nitrogen compounds
- C. Only oxygen gas
- D. Only carbon dioxide

13. Burning fossil fuels increases atmospheric:

- A. Helium
- B. Neon
- C. Argon only
- D. Carbon dioxide

14. Loss of forest cover can increase soil erosion because:

- A. Soil becomes pure rock instantly
- B. Roots and vegetation no longer protect the soil
- C. Rain stops completely
- D. Gravity becomes stronger

15. Which statement correctly compares matter and energy in ecosystems?

- A. Energy cycles but matter never cycles
- B. Neither is transferred
- C. Matter cycles; energy flows and dissipates as heat
- D. Both are recycled completely without loss

ANSWER KEY — check after completing all 15 questions

1.D 2.A 3.A 4.A 5.A 6.C 7.B 8.D 9.A 10.A 11.D 12.B 13.D 14.B 15.C