

Renewable Energy from the Cosmos

Renewable Energy · Answer Key · 20 Questions

1. What is the primary source of all solar energy harvested on Earth?

A) The Sun

B) The Moon

C) Jupiter

D) Mars

2. Which celestial body is primarily responsible for creating the ocean tides used in tidal energy?

A) Venus

B) The Moon

C) Saturn

D) Neptune

3. Solar panels convert energy from which type of cosmic radiation?

A) Gamma rays

B) Sunlight

C) X-rays

D) Dark matter

4. Wind energy is ultimately caused by the uneven heating of Earth's atmosphere by which star?

A) Polaris

B) The Sun

C) Sirius

D) Betelgeuse

5. What is the name of the process that powers the Sun, providing the energy we capture as solar power?

A) Nuclear fusion

B) Combustion

C) Geothermal decay

D) Photosynthesis

6. Earth's orbit around the Sun affects which renewable resource by changing the angle of sunlight throughout the year?

A) Tidal power

B) Solar power

C) Geothermal energy

D) Nuclear fission

7. Which renewable energy source relies on the Sun's energy to evaporate water, eventually resulting in rain for hydropower?

- A) Tidal energy
- B) Geothermal energy
- C) Hydropower**
- D) Wind energy

8. The Sun is classified as what type of celestial object?

- A) Planet
- B) Asteroid
- C) Star**
- D) Moon

9. What force exerted by the Moon and Sun creates the movement of water used in tidal energy?

- A) Gravity**
- B) Magnetism
- C) Friction
- D) Static electricity

10. Plants use sunlight to store energy through photosynthesis; what fuel source does this eventually create over millions of years?

- A) Coal
- B) Biomass**
- C) Natural gas
- D) Uranium

11. Approximately how many minutes does it take for light from the Sun to reach Earth?

- A) 1 minute
- B) 8 minutes**
- C) 60 minutes
- D) 24 hours

12. Which renewable resource is considered 'indirect' solar energy because it relies on solar-driven atmospheric changes?

- A) Geothermal
- B) Wind**
- C) Tidal
- D) Nuclear

13. The amount of solar energy that reaches the Earth's upper atmosphere is known as the solar constant, and it is derived from which object?

A) The Sun

B) The Milky Way

C) Mars

D) The Moon

14. Why is solar energy considered a 'renewable' resource in space-time terms?

A) It will last for billions of years

B) It is artificial

C) It is found in deep space

D) It is static

15. What cosmic process creates the light that solar panels harvest?

A) Radioactive decay

B) Nuclear fusion in the Sun's core

C) Volcanic activity on planets

D) Supernova explosions

16. Which planetary motion is responsible for the daily cycle of solar energy availability on Earth?

A) Rotation

B) Revolution

C) Precession

D) Nutations

17. The energy trapped in biomass is actually stored chemical energy originally coming from which celestial body?

A) The Sun

B) Jupiter

C) The Moon

D) Saturn

18. What is the visible 'surface' of the Sun that emits the solar radiation captured by Earth?

A) The corona

B) The photosphere

C) The core

D) The radiation zone

19. Which space phenomenon would theoretically block all solar energy from reaching Earth if it passed directly between the two?

- A) A lunar eclipse
- B) A total solar eclipse**
- C) A comet
- D) A galaxy

20. Unlike solar and wind energy, geothermal energy is heat that originates primarily from where?

- A) The Sun
- B) The Moon
- C) The interior of the Earth**
- D) Solar flares