

Renewable Energy Explorer

Renewable Energy · Answer Key · 20 Questions

1. Which part of a solar panel directly converts sunlight into electricity?

- A) The frame
- B) The glass cover
- C) The photovoltaic cells**
- D) The mounting brackets

2. What type of renewable energy harnesses the heat from within the Earth?

- A) Wind energy
- B) Geothermal energy**
- C) Tidal energy
- D) Solar thermal energy

3. The largest portion of electricity generated from renewable sources globally comes from which energy type?

- A) Wind power
- B) Solar power
- C) Hydropower**
- D) Biomass energy

4. What is the main principle behind how a wind turbine generates electricity?

- A) Sunlight hitting blades
- B) Water flowing through a generator
- C) Wind turning blades connected to a generator**
- D) Earth's heat creating steam

5. Which of these is a common source for generating biogas, a type of renewable energy?

- A) Volcanic eruptions
- B) Decomposing organic matter (like waste)**
- C) Lightning strikes
- D) Ocean waves

6. What is the primary role of a 'photovoltaic' cell in solar energy systems?

- A) To store sunlight
- B) To create heat from sunlight
- C) To convert light directly into electrical energy**
- D) To reflect sunlight

7. Which renewable energy source relies on the gravitational pull of the Moon and the Sun?

- A) Geothermal energy
- B) Biomass energy
- C) Tidal energy**
- D) Solar energy

8. Large scale solar power plants that use mirrors to concentrate sunlight are often called:

- A) Solar farms
- B) Photovoltaic arrays
- C) Concentrated Solar Power (CSP) plants**
- D) Solar panels

9. Why are wind turbines often located in open, elevated areas or offshore?

- A) To avoid shadows from trees
- B) To get more sunlight
- C) To capture stronger and more consistent winds**
- D) To be closer to cities

10. In a hydroelectric power plant, what causes the turbines to spin and generate electricity?

- A) Steam from underground
- B) The flow of water**
- C) Strong winds
- D) Burning biofuels

11. What is a key advantage of geothermal energy compared to solar or wind energy?

- A) It is always available, day and night**
- B) It is the cheapest to install
- C) It only works in hot deserts
- D) It requires no water

12. What is the process where plants are grown specifically to be used for energy production?

- A) Photosynthesis
- B) Bioenergy farming**
- C) Recycling
- D) Composting

13. What are the primary 'fuel' sources for tidal energy?

- A) Sunlight and heat
- B) Wind and rain
- C) The movement of ocean water due to tides**
- D) Burning wood

14. What is the most common material used to make the blades of large wind turbines?

- A) Steel
- B) Concrete
- C) Wood
- D) Fiberglass or composite materials**

15. Which type of renewable energy involves capturing the heat released from the Earth's core?

- A) Ocean thermal energy conversion
- B) Biomass energy
- C) Geothermal energy**
- D) Solar thermal energy

16. What is a disadvantage of relying solely on solar power?

- A) It produces too much noise
- B) It only works when the sun is shining**
- C) It releases harmful gases
- D) It requires a lot of wind

17. What is the main benefit of using renewable energy sources for electricity generation?

- A) They are more expensive to build
- B) They produce fewer greenhouse gas emissions**
- C) They require more land
- D) They are only available at night

18. What is a 'dam' most commonly associated with in terms of renewable energy generation?

- A) Wind turbines
- B) Solar panels
- C) Geothermal power plants
- D) Hydropower**

19. Which renewable energy source directly utilizes the kinetic energy of moving air?

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

20. What allows solar panels to generate electricity from sunlight?

- A) Magnets within the panel
- B) Special materials that release electrons when light hits them**
- C) Tiny windmills on the surface
- D) Water stored inside