

Ecology Numerical and Historical Facts

Ecology · Answer Key · 25 Questions

1. In what year did Arthur Tansley first coin the term 'ecosystem' in his seminal paper?

- A) 1935**
- B) 1942
- C) 1928
- D) 1950

2. Ernst Haeckel, who coined the term 'ecology' in 1866, derived it from which Greek word meaning 'house' or 'dwelling'?

- A) Oikos**
- B) Bios
- C) Logos
- D) Ge

3. Approximately what percentage of the Earth's total water supply is considered fresh water available for human use?

- A) Less than 1%**
- B) 5%
- C) 12%
- D) 20%

4. The Montreal Protocol, an international treaty designed to protect the ozone layer, was opened for signature in which year?

- A) 1987**
- B) 1975
- C) 1992
- D) 1980

5. What is the approximate percentage of energy transferred from one trophic level to the next in a typical food chain, known as the 10% rule?

- A) 10%**
- B) 25%
- C) 5%
- D) 50%

6. Rachel Carson's book 'Silent Spring', which catalyzed the modern environmental movement, was published in which year?

A) 1962

B) 1955

C) 1970

D) 1968

7. As of the 2020 IUCN Red List assessment, roughly how many species are documented as being at risk of extinction?

A) 30,000+

B) 10,000+

C) 50,000+

D) 5,000+

8. The Kyoto Protocol, a treaty that committed state parties to reduce greenhouse gas emissions, was adopted in what year?

A) 1997

B) 1992

C) 2005

D) 2010

9. How many global 'biodiversity hotspots' have been identified by Conservation International?

A) 36

B) 12

C) 50

D) 25

10. The atmospheric concentration of carbon dioxide first exceeded 400 parts per million (ppm) in which year according to the Mauna Loa Observatory?

A) 2013

B) 1990

C) 2005

D) 2020

11. What is the pH level threshold generally used to define 'acid rain' in natural precipitation?

A) Below 5.6

B) Below 7.0

C) Below 4.0

D) Below 6.5

12. The Endangered Species Act was signed into law in the United States by President Richard Nixon in what year?

- A) 1973**
- B) 1965
- C) 1980
- D) 1970

13. What is the standard name for the numerical measure of species diversity within a single habitat, often represented by Simpson's index?

- A) Alpha diversity**
- B) Beta diversity
- C) Gamma diversity
- D) Delta diversity

14. The 'Great Pacific Garbage Patch' covers an estimated area of approximately how many million square kilometers?

- A) 1.6**
- B) 0.5
- C) 3.2
- D) 5.0

15. In population ecology, the letter 'K' in the logistic growth equation ($dN/dt = rN(1-N/K)$) represents what specific value?

- A) Carrying capacity**
- B) Intrinsic growth rate
- C) Population density
- D) Death rate

16. How many mass extinction events are recognized in the Earth's geological history?

- A) 5**
- B) 3
- C) 7
- D) 10

17. The 'Keeling Curve' is a graph that plots the ongoing change in the concentration of which gas in Earth's atmosphere?

- A) Carbon dioxide**
- B) Methane
- C) Nitrous oxide
- D) Oxygen

18. What is the maximum number of trophic levels typically found in a standard terrestrial food chain due to energy loss?

- A) 4-5**
- B) 2-3
- C) 8-10
- D) 15+

19. The first Earth Day was celebrated on April 22 of which year?

- A) 1970**
- B) 1965
- C) 1975
- D) 1980

20. How much of the Earth's surface is currently covered by tropical rainforests?

- A) Less than 7%**
- B) 25%
- C) 15%
- D) 20%

21. Garrett Hardin published his famous essay 'The Tragedy of the Commons' in which year?

- A) 1968**
- B) 1960
- C) 1975
- D) 1982

22. What is the average residence time of a water molecule in the atmosphere?

- A) 9-10 days**
- B) 30 days
- C) 1 year
- D) 6 months

23. The 'Red List' of threatened species is maintained by which international organization?

- A) IUCN**
- B) WWF
- C) UNEP
- D) Greenpeace

24. Approximately how many species are estimated to be discovered and described by scientists globally to date?

A) 1.2 to 2 million

B) 500,000

C) 10 million

D) 50 million

25. The 'Biosphere 2' project, an earth system science research facility, began its first closed-system experiment in which year?

A) 1991

B) 1985

C) 1995

D) 2000