

Name: _____

Date: _____

Complete the passage by filling in the blank with the most appropriate sentence.

1. Ecology is a branch of biology and studies the abundance, biomass, and distribution of organisms in the context of the environment. It encompasses life processes, interactions, adaptations, and the movement of materials and energy through living communities. Ecosystems are dynamically interacting systems of organisms, their communities, and the non-living components of their environment. Processes such as primary production, nutrient cycling, and niche construction regulate the flux of energy and matter through an environment. ---- Through these interacting processes and feedback mechanisms, ecosystems sustain life-supporting functions and provide services including biomass production, climate regulation, water filtration, soil formation, and flood protection.

- A)** Ecosystems have biophysical feedback mechanisms that moderate processes acting on living and non-living components of the planet.
- B)** These laboratory instruments allow ecologists to measure every environmental variable before describing how communities exchange matter and energy.
- C)** Every ecosystem consists entirely of living organisms, because non-living environmental components lie outside the proper scope of ecological research.
- D)** The term ecology was coined in 1866 by German scientist Ernst Haeckel and later adopted by American botanists.
- E)** Advances in molecular genetics have revealed a hidden richness of microbial diversity within oceans and the human body.

2. Telehealth uses electronic information and telecommunication technologies to support long-distance clinical care, health-related education, administration, and public health. It encompasses a broad range of technologies and services for delivering care and education remotely. Telehealth is sometimes discussed interchangeably with telemedicine, although the latter term is more common. ---- This distinction also covers non-clinical applications such as administration and provider education, which extend beyond diagnosis and monitoring. Definitions are not fully uniform: the United States Department of Health and Human Services separates remote clinical services from non-clinical ones, while the World Health Organization uses telemedicine for all aspects of health care, including preventive care.

- A)** These automated surgical platforms enable specialists to operate across great distances, provided that participating hospitals maintain identical equipment, trained staff, and uninterrupted high-speed connections.
- B)** The Health Resources and Services Administration distinguishes telehealth from telemedicine in scope, defining telemedicine as remote clinical services while telehealth includes preventive, promotive, and curative care delivery.
- C)** All major health organizations define telehealth and telemedicine identically, limiting both terms exclusively to remote diagnosis, treatment, and monitoring by a physician.
- D)** Early videotelephony systems exchanged still images every few seconds over conventional telephone lines before real-time audio-video communication became technologically practical.
- E)** Remote monitoring can produce outcomes comparable to traditional encounters, increase patient satisfaction, and lower costs when chronic diseases are managed with suitable devices.