Even self-contained ecosystems such as terrariums and bio-domes need a constant input of

|  |  |  |
| --- | --- | --- |
|  |  | energy. |
|  |  | waste. |
|  |  | fertilizer. |
|  |  | oxygen. |

Farmers make fertilizer out of ground up bones, crushed rock, and bird poop. Bird poop is used mainly to add \_\_\_\_\_\_ to the soil.

|  |  |  |
| --- | --- | --- |
|  |  | carbon |
|  |  | oxygen |
|  |  | phosphorous |
|  |  | nitrogen |

Food webs are more realistic than food chains because they show

|  |  |  |
| --- | --- | --- |
|  |  | how one species can be both a secondary and a primary consumer. |
|  |  | . how one species lives off another. |
|  |  | how toxins accumulate as we look up trophic levels. |
|  |  | how all consumers depend on producers. |

Freshwater and saltwater biomes meet to provide a rich environment for oysters and crabs and for the reproduction of many fish. This rich aquatic environment is the

|  |  |  |
| --- | --- | --- |
|  |  | intertidal zone. |
|  |  | coral reef. |
|  |  | estuary. |
|  |  | benthic biome. |

How do animals at the top of the food chain accumulate such high levels of toxic material?

|  |  |  |
| --- | --- | --- |
|  |  | None of the above choices are correct. |
|  |  | Small animals accumulate toxic material from the many plants they eat. |
|  |  | All of the above choices are correct. |
|  |  | Large animals accumulate toxic material from the many small animals they eat. |
|  |  | Plants that contain toxic material are eaten by many small animals. |

How do broad-leaf trees conserve water in the winter?

|  |  |  |
| --- | --- | --- |
|  |  | They lose their leaves. |
|  |  | They change color. |
|  |  | Their leaves become needles. |
|  |  | They drink less. |

How does pollution by nitrogen and phosphorous pollution from sewage and fertilizers deplete oxygen from a lake?

|  |  |  |
| --- | --- | --- |
|  |  | They don’t; they actually increase the oxygen content of the lake. |
|  |  | by chemical reaction with oxygen |
|  |  | by forming a chemical blanket on the surface |
|  |  | by stimulating the growth of algae that die and are decomposed |

How much energy is passed from one trophic level to the next?

|  |  |  |
| --- | --- | --- |
|  |  | 60-80% |
|  |  | 20-40% |
|  |  | 5-20% |
|  |  | 40-60% |
|  |  | 80-100% |

Hundred of millions of rabbits are spread over Australia eating the grass needed by native animals, causing soil erosion, and causing livestock to break their legs. This all started when a ranch brought in \_\_\_\_\_ pairs of rabbits and released them for hunting.

|  |  |  |
| --- | --- | --- |
|  |  | 2 |
|  |  | 12,000 |
|  |  | 120 |
|  |  | 12 |

In any trophic level, what is the most energy used for?

|  |  |  |
| --- | --- | --- |
|  |  | production of biomass |
|  |  | cellular metabolism |
|  |  | reproduction |
|  |  | growth |

In the Hubbard Brook Experiment in which clear-cutting the forest and applying herbicides to prevent plant growth, rain and water runoff leached what chemical from the soil resulting in decreased fertility of the soil and in water unsafe to drink?

|  |  |  |
| --- | --- | --- |
|  |  | nitrogen |
|  |  | potassium |
|  |  | phosphorous |
|  |  | calcium |

In which environment would you expect to find the most dissolved oxygen available to support fish?

|  |  |  |
| --- | --- | --- |
|  |  | Between Greenland and Iceland |
|  |  | In a tropical swamp |
|  |  | Between Hawaii and Guam |
|  |  | Near the equator |

Mosquitos cannot live in the tundra because of

|  |  |  |
| --- | --- | --- |
|  |  | Oh, but the tundra has swarms of mosquitos! |
|  |  | the lack of rainfall. |
|  |  | cold winters. |
|  |  | not enough blood to suck. |

Most of the Earth’s total primary production of organic chemicals occurs in the

|  |  |  |
| --- | --- | --- |
|  |  | grasslands. |
|  |  | deserts. |
|  |  | rain forests. |
|  |  | oceans. |

Nitrogen fixation

|  |  |  |
| --- | --- | --- |
|  |  | causes nitrogen to stick to surfaces. |
|  |  | adds neutrons to nitrogen atoms. |
|  |  | combines gaseous nitrogen with hydrogen and oxygen. |
|  |  | repairs broken nitrogen atoms. |
|  |  | is a psychological problem for nitrogenous groupies. |

Over the oceans

|  |  |  |
| --- | --- | --- |
|  |  | there is more rain than evaporation. |
|  |  | there is the same amount rain and evaporation. |
|  |  | there is more evaporation than rain. |

Plant litter, dead animals, and animal waste is called

|  |  |  |
| --- | --- | --- |
|  |  | pathogenic |
|  |  | detritus |
|  |  | abiotic reservoir |
|  |  | biotic reservoir |

Silent spring was a very important book alerting the public to terrible effects of the overuse of pesticides like DDT which was killing not only insects but was killing off birds and was appearing in human breast milk. It was written by

|  |  |  |
| --- | --- | --- |
|  |  | Rachael Carson. |
|  |  | Rosalind Franklin. |
|  |  | Beatrice Potter. |
|  |  | Barbara McClintock. |
|  |  | Madame Curé. |

Some poison flowers produce a substance to protect themselves from Heliconius caterpillars. What is that substance?

|  |  |  |
| --- | --- | --- |
|  |  | sugar |
|  |  | strychnine |
|  |  | mescaline |
|  |  | nicotine |
|  |  | morphine |

Species diversity is greatest when

|  |  |  |
| --- | --- | --- |
|  |  | relative abundance of species is greatest. |
|  |  | relative abundance of species is least. |
|  |  | relative abundance of species is equal. |

Species whose main defense is a noxious taste or a painful sting tend to be

|  |  |  |
| --- | --- | --- |
|  |  | large. |
|  |  | camouflaged. |
|  |  | colorful. |
|  |  | hidden. |

Stable ecosystems

|  |  |  |
| --- | --- | --- |
|  |  | often depend on continuous local disturbances. |
|  |  | cannot stand any disturbances. |
|  |  | contain many horses. |
|  |  | can survive the loss of a keystone species. |
|  |  |  |

The Hubbard Brook Experiment demonstrated that acid rain removed what from the soil? It had to be added back to allow plant growth.

|  |  |  |
| --- | --- | --- |
|  |  | nitrogen |
|  |  | potassium |
|  |  | phosphorous |
|  |  | calcium |

The Sahara desert is getting bigger because of

|  |  |  |
| --- | --- | --- |
|  |  | All of these choices are correct. |
|  |  | more people being at its edge. |
|  |  | None of these choices is correct. |
|  |  | dry-land farming. |
|  |  | overgrazing. |

The activities of people have caused and are causing

|  |  |  |
| --- | --- | --- |
|  |  | All of the above choices are correct. |
|  |  | chemical pollution of water, soil, and air. |
|  |  | massive soil erosion. |
|  |  | changes in local and global climates. |
|  |  | None of the above choices is correct. |

The amount of solar energy converted to organic compounds is called

|  |  |  |
| --- | --- | --- |
|  |  | realized radiant potential. |
|  |  | insolation. |
|  |  | primary production. |
|  |  | radiant potential. |

The breakdown of organic material into inorganic material is called

|  |  |  |
| --- | --- | --- |
|  |  | detritus feeding. |
|  |  | digestion. |
|  |  | composting. |
|  |  | decomposition. |

The dominant plant-eating animals in the savanna are

|  |  |  |
| --- | --- | --- |
|  |  | horses. |
|  |  | zebra. |
|  |  | cattle. |
|  |  | kangaroos. |
|  |  | buffalo. |
|  |  | giraffe. |
|  |  | antelope. |
|  |  | insects. |

The extensive grassland with scattered trees is a/an

|  |  |  |
| --- | --- | --- |
|  |  | chaparral. |
|  |  | tundra. |
|  |  | savanna. |
|  |  | taiga. |

The floor of a tropical rain forest is typically

|  |  |  |
| --- | --- | --- |
|  |  | dark with nutrient-rich soil. |
|  |  | light with nutrient-poor soil. |
|  |  | dark with nutrient-poor soil. |
|  |  | light with nutrient-rich soil. |