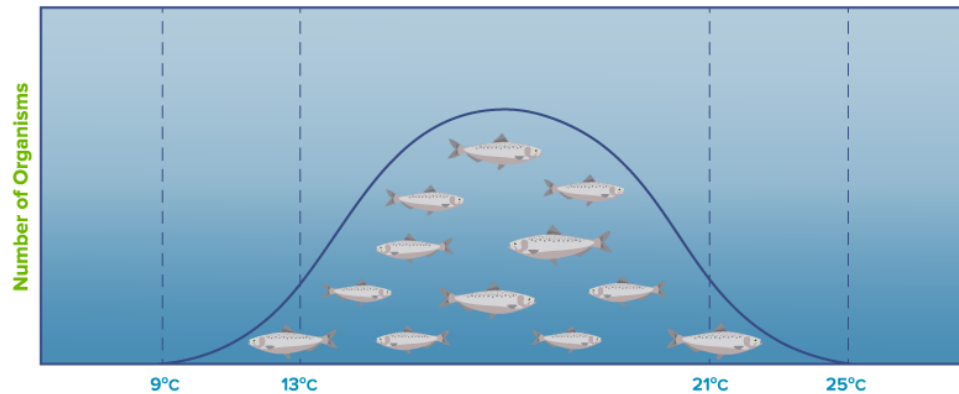


Answer Key with Questions

Grade 9

1)



Tolerance of Steelhead Trout

What does portion of the graph from 13°C to 21°C represent?

- A) zone of physiological stress
- B) zone of intolerance
- C) upper limit
- D) optimum range

Correct Answer

D) optimum range

Answer Key with Questions

Grade 9

2) Place the levels of organization in order from smallest to largest, with the smallest listed first.

- | | |
|--------------------------------|-----------------|
| A) biosphere | 1) _____ |
| B) population | 2) _____ |
| C) organism | 3) _____ |
| D) biological community | 4) _____ |
| E) biome | 5) _____ |
| F) ecosystem | 6) _____ |

Correct Answer

1. organism
2. population
3. biological community
4. ecosystem
5. biome
6. biosphere

3) Suppose two leaf-eating species of animals live in a habitat where there is a severe drought and many plants die as a result. Which term describes the kind of relationship the two species probably will have?

- A)** predator-prey
- B)** abiotic
- C)** symbiotic
- D)** competitive

Correct Answer

- D)** competitive

Answer Key with Questions

Grade 9

4) Choose the type of relationship that best defines the scenarios below.

	compe tition	paras itism	preda tion	commen salism
Red-tailed hawks and black racer snakes prey on the same species of rodents in the same habitat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One organism benefits, while another is unharmed during a long-term relationship between the two.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A tick becomes lodged on the skin of a hiker.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coyotes eat mice and rabbits.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Correct Answer

Red-tailed hawks and black racer snakes prey on the same species of rodents in the same habitat. \longleftrightarrow competition

One organism benefits, while another is unharmed during a long-term relationship between the two. \longleftrightarrow commensalism

A tick becomes lodged on the skin of a hiker. \longleftrightarrow parasitism

Coyotes eat mice and rabbits. \longleftrightarrow predation

Answer Key with Questions

Grade 9

5) How can detritivores be beneficial to the environment?

- A) provide food for autotrophs
- B) facilitate photosynthesis in plants
- C) allow predation to occur
- D) rid waste and dead matter

Correct Answer

D) rid waste and dead matter

6) What is released at each level of a pyramid of energy?

- A) plants
- B) decomposers
- C) animals
- D) heat

Correct Answer

D) heat

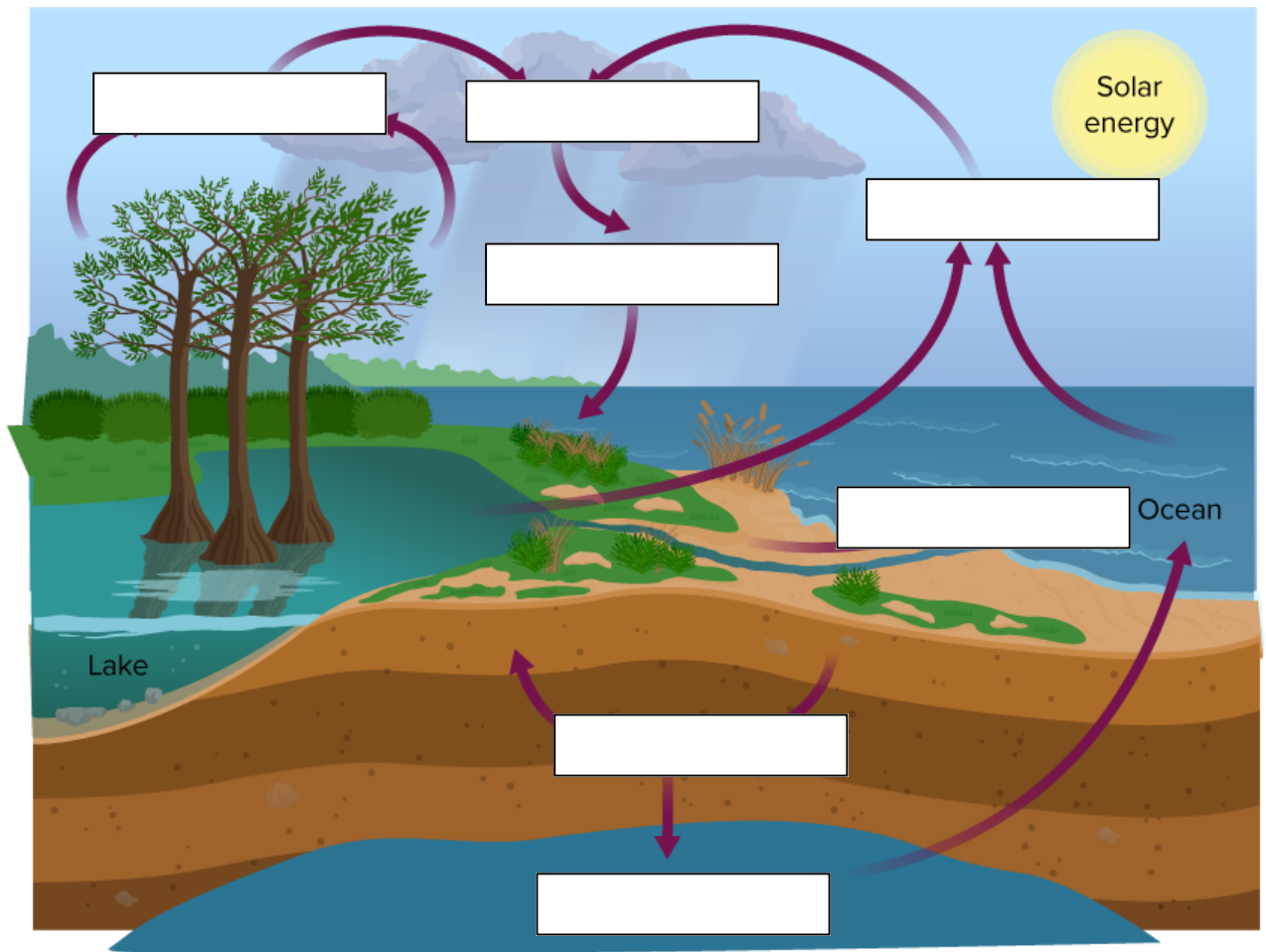
Answer Key with Questions

Grade 9

7) Label the processes in the water cycle.

Answer Key with Questions

Grade 9



A) precipitation

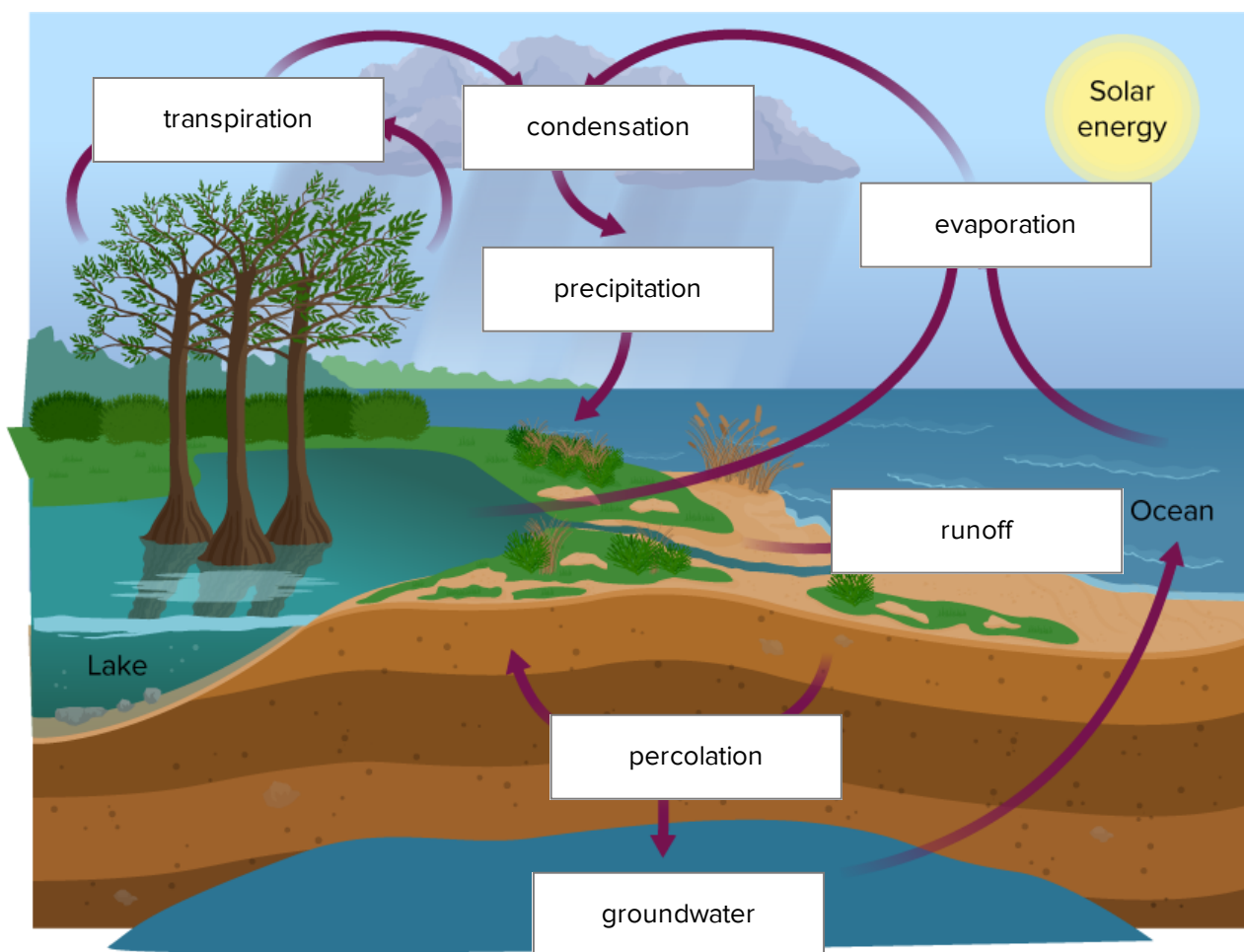
B) condensation

Answer Key with Questions

Grade 9

- C) groundwater
- D) runoff
- E) percolation
- F) evaporation
- G) transpiration

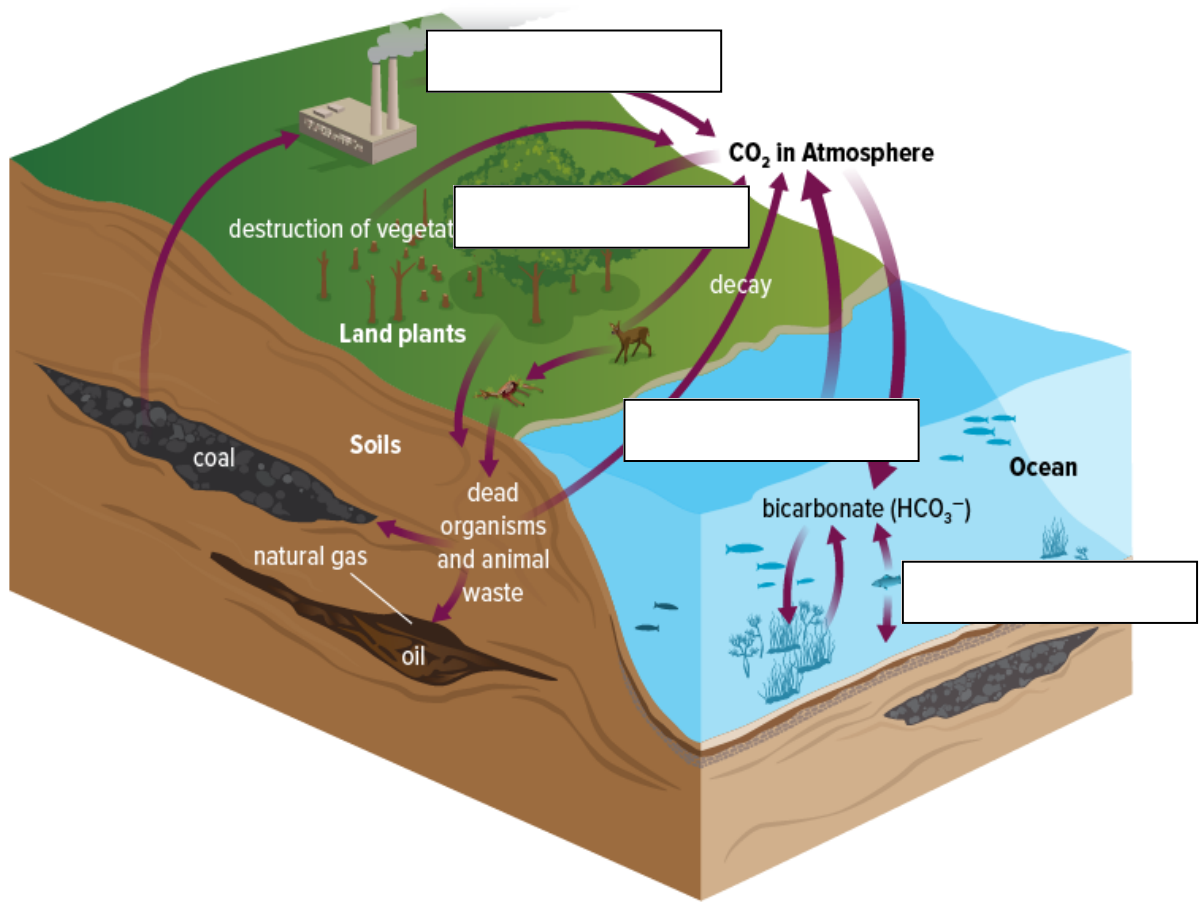
Correct Answer



Answer Key with Questions

Grade 9

8) Label the image of the carbon and oxygen cycle.

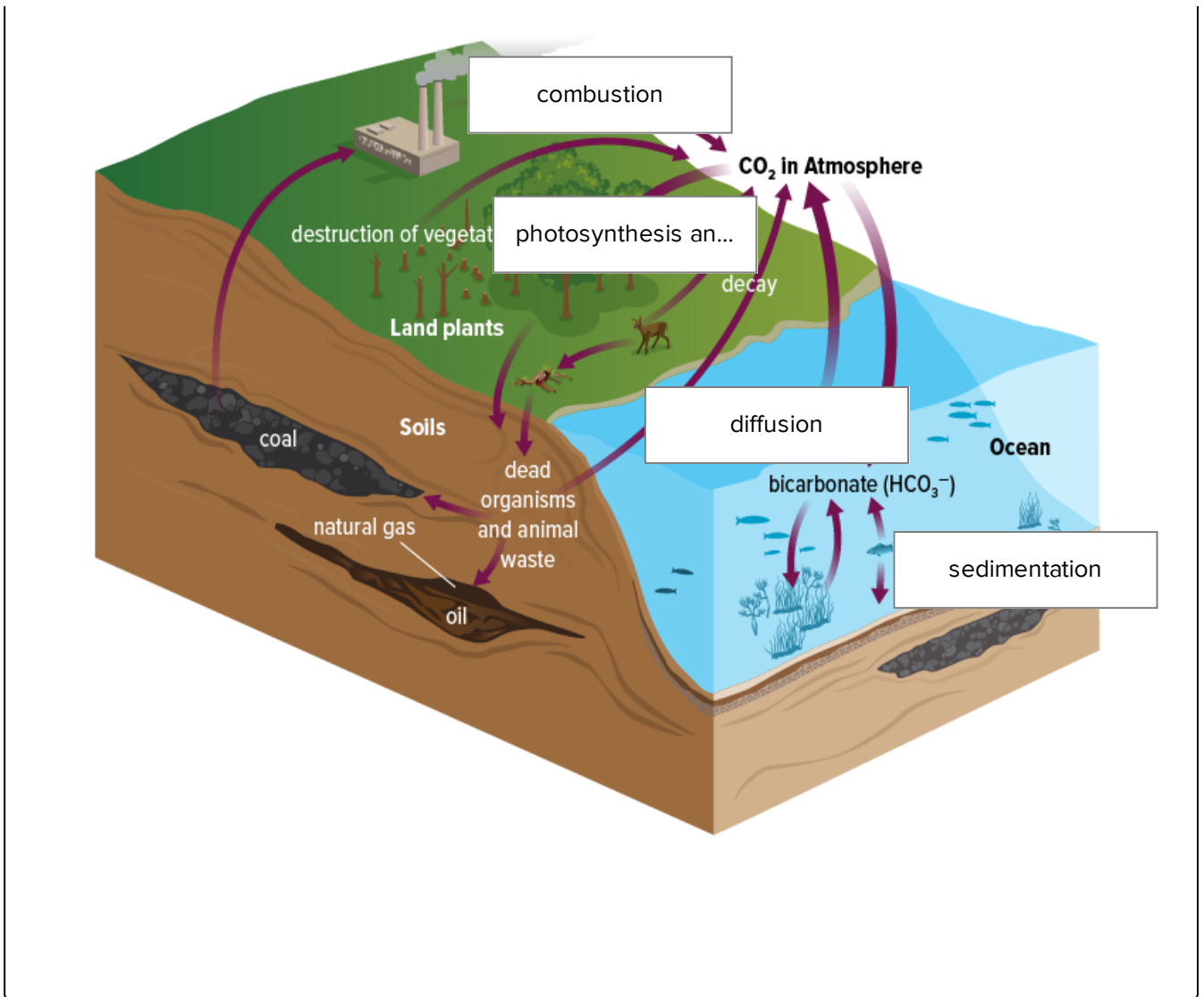


- A) photosynthesis and respiration
- B) combustion
- C) diffusion
- D) sedimentation

Correct Answer

Answer Key with Questions

Grade 9



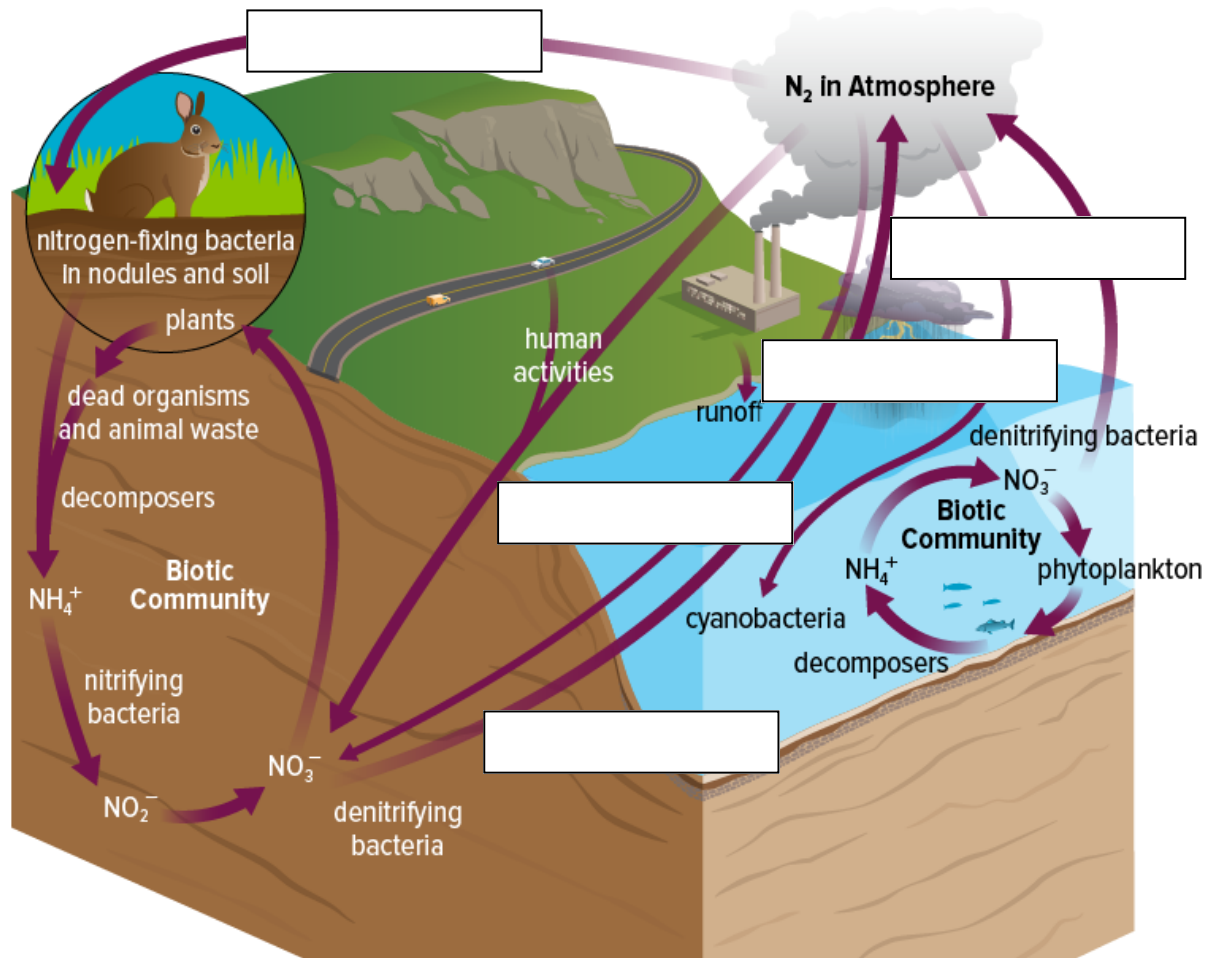
Answer Key with Questions

Grade 9

9) Label the processes in the nitrogen cycle.

Answer Key with Questions

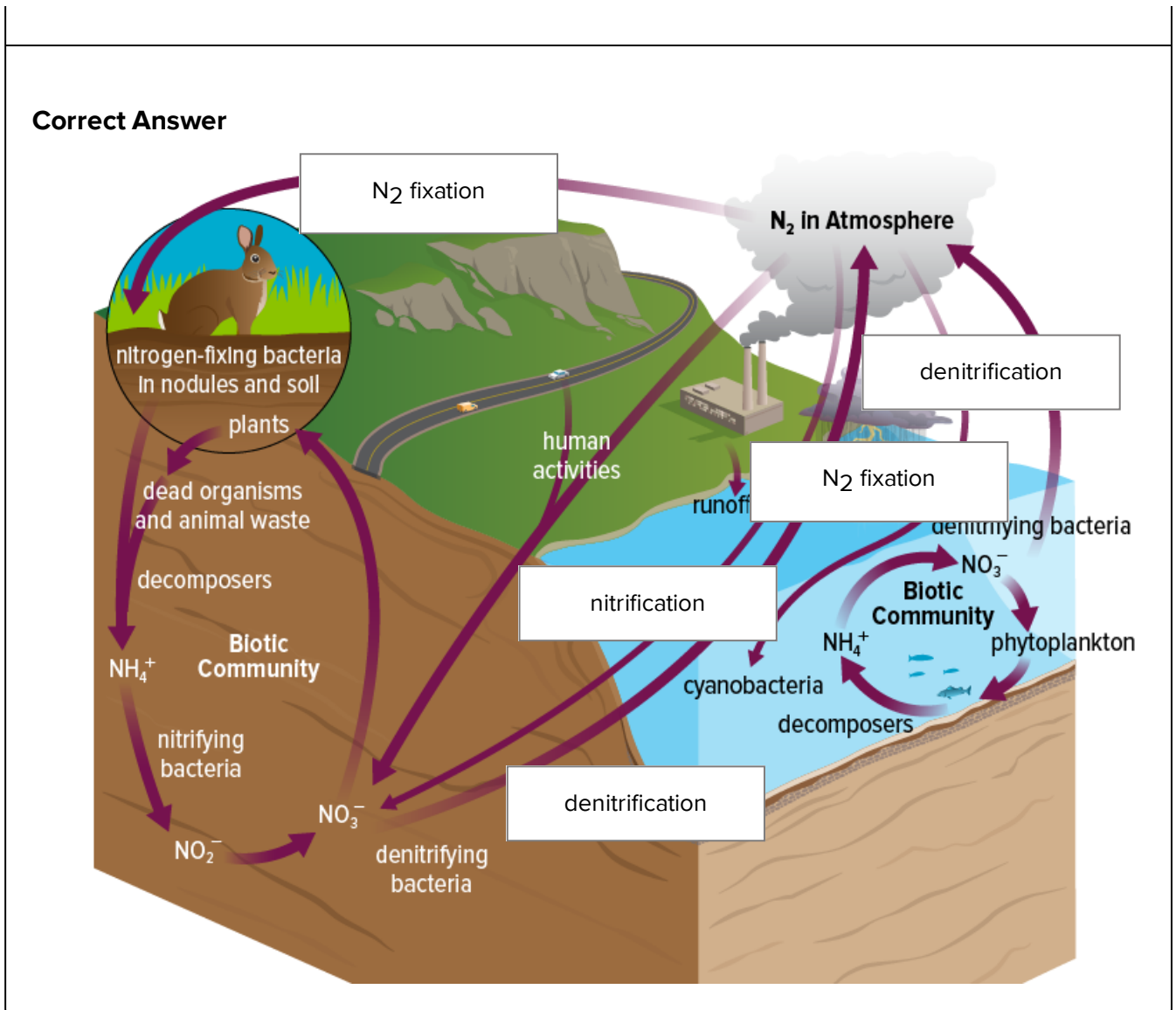
Grade 9



- A) N_2 fixation
- B) N_2 fixation
- C) denitrification
- D) denitrification
- E) nitrification

Answer Key with Questions

Grade 9



10) In the nitrogen cycle, nitrogen is continuously recycled. Which type of organisms break down nitrogen compounds in dead organisms and recycle them into the soil?

- A) green plants
- B) autotrophs
- C) herbivores
- D) bacteria

Correct Answer

D) bacteria

Answer Key with Questions

Grade 9

11) In which scientific study would an ecologist take part?

- A) observe how coral colonizes a sunken ship
- B) compare fossilized ant species in amber
- C) classify three new rain forest insect species
- D) assess the rabies risk of wild raccoons

Correct Answer

A) observe how coral colonizes a sunken ship

12) Ecologists often use modeling, instead of field studies, because it ____.

- A) allows them to control all of the variables involved
- B) is less expensive than working in the field
- C) lets them study many organisms at once
- D) helps them collect more samples

Correct Answer

A) allows them to control all of the variables involved

13) Which is an example of mutualism?

- A) a peacock courting and mating with a peahen
- B) crayfish and minnows resting under the same rock
- C) two snake species with similar markings advertising their toxic venom
- D) a fish protecting a shrimp, who builds a burrow for the pair to share

Correct Answer

D) a fish protecting a shrimp, who builds a burrow for the pair to share

Answer Key with Questions

Grade 9

14) Which is part of the biogeochemical cycle?

- A) carbon trapped on the ocean floor
- B) solar radiation traveling to Earth
- C) helium gas escaping into space
- D) lava flowing from an active volcano

Correct Answer

A) carbon trapped on the ocean floor

15) A doctorfish grazing on ocean algae is an example of a heterotroph that is an herbivore.

- True
- False

Correct Answer

True

16) Iron, water, and sugar are examples of matter that are nutrients.

- True
- False

Correct Answer

True

Answer Key with Questions

Grade 9

18) Which is an example of genetic diversity within a rain forest?

- A) wide variety of beetle species
- B) DNA of a single three-toed sloth
- C) all of the genes found within the ecosystem
- D) many variations of jaguar spots

Correct Answer

C) all of the genes found within the ecosystem

19) Which is an example of the aesthetic value of a healthy ecosystem?

- A) excess oxygen
- B) a wide variety of genes
- C) a beautiful waterfall
- D) fertile topsoil

Correct Answer

C) a beautiful waterfall

20) Which would be a direct effect caused by habitat fragmentation?

- A) waterfowl unable to breed due to a drained wetland
- B) harvested trees result in less leaf litter for rich soil
- C) box turtles separated by a road and unable to mate
- D) jaguars unable to find enough food in smaller forests

Correct Answer

C) box turtles separated by a road and unable to mate

Answer Key with Questions

Grade 9

21) The extinction of large prehistoric mammals is an example of _____
_____.

Correct Answer

Blank 1: background

Blank 2: extinction

22) The pesticide DDT accumulating in the tissues of osprey is an example of _____.

Correct Answer

Blank 1: biological magnification **or** biomagnification

23) A domestic house cat living and hunting in a meadow is an example of habitat fragmentation.

True

False

Correct Answer

False