

1 Which word(s) describes an interaction between two living organisms?

1. Competition 2. Predation

A Word 1 only  
B Word 2 only  
C Words 1 and 2  
D None of the above

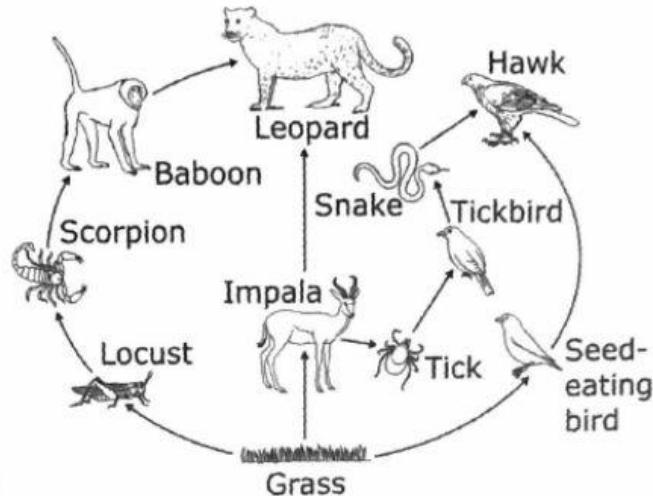
2 A student presses a shell into clay to model an imprint fossil. Finding an imprint of a shell would provide evidence that the shelled-organism once lived —

F in a desert environment  
G during the ice age  
H during a drought  
J in a marine environment

3 Learned behaviors are developed through memory or experience, but instincts are behaviors that come naturally to an organism because they are —

A important  
B taught  
C memorized  
D inherited

4 Students create models of food webs to show how energy is transferred.



Which of the questions below could NOT be answered using the food web model shown?

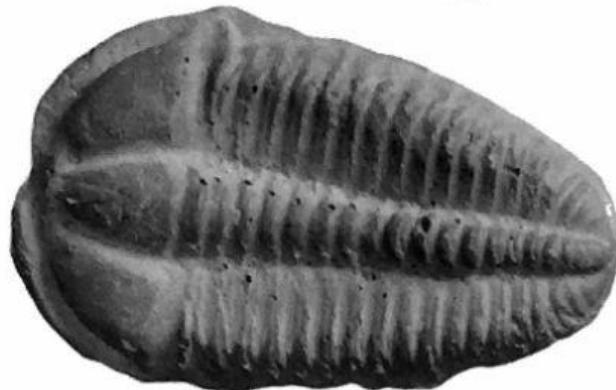
5.2(B)

F What would happen if there was an overpopulation of locusts?  
G How do baboons get energy?  
H How many snakes can a hawk eat in one day?  
J What would happen if the producers were removed from the food web?

5 Zookeepers make sure the animals at the zoo are safe and healthy. For instance, an elephant must be trained to walk onto a scale to be weighed or to lift its foot in the air to be examined. An elephant lifting its foot in the air to be checked is an example of — 5.3(C)

A an instinct  
B an inherited trait  
C a learned behavior  
D a structure

6 This trilobite fossil was found in a dry region called the Permian Basin in West Texas. The fossil is very similar to a horseshoe crab currently living in the Gulf of Mexico.



What is the most likely reason that the trilobite fossil was found in the Permian Basin? 5.2(D)

- F The Permian Basin used to be covered by a body of saltwater.
- G The Permian Basin used to be underneath a freshwater pond.
- H The Permian Basin trilobites were adapted to dry land.
- J The Permian Basin trilobites migrated from the Gulf of Mexico.

7 Which is an example of a decomposer?

- A Worm
- B Tree
- C Tiger
- D Dog

8 Which of the following is best for observing a radish plant as it undergoes changes in its life cycle? 5.4(A)

- F Planetarium
- G Diorama
- H Aquarium
- J Terrarium

9 Students place a hula hoop outside on the ground and observe the populations and communities found inside the circle of the hoop. They leave the hoop outside and come back every day for a week to investigate the environment. Each day, they record the results in a notebook. Why is it important to observe the same area for a week? 5.2(E)

- A Checking the environment over several days allows students to collect more accurate information about the organisms living there.
- B The hula hoop is moved each day, so students must keep repeating the investigation.
- C By checking the environment all week, students collect enough information to fill the data tables given to them by the teacher.
- D Observations of environments are always conducted over a one-week time period by scientists.

10 A class orders a Lady Beetle Luxury Habitat to observe the life cycle of a lady beetle.

Lady Beetle Luxury Habitat includes:

- Lady beetle habitat
- Live lady beetle larvae mail-in certificate
- Lady beetle care information
- Eyedropper to water your lady beetles

When the lady beetle habitat arrives, it will come complete with — 5.2(D)

F water for the lady beetles  
G adult lady beetles  
H an eyedropper  
J all of the above

11 Students use research to compare the structures of a platypus and a duck. Which research statement is evidence that both organisms can swim? 5.3(A)

A A duck is a bird, and a platypus is a mammal.  
B A duck foot has no nerves or vessels.  
C A duck and a platypus have webbed feet.  
D A platypus has a bill like a duck.

12 The animals and plants in the desert depend on one another. Which statement does NOT describe how the cacti interact with the animals in the desert?

F Cacti provide shelter for certain animals living in the desert.  
G Cacti provide food, including cactus fruit, for the animals living in the desert.  
H Cacti provide water in their fleshy stems for the animals living in the desert.  
J Cacti provide shade for other cacti and plants living in the desert.

13 Smooth-edged leaves are usually found in areas with warm temperatures, while tooth-edged leaves are found in areas with colder temperatures. A scientist finds a fossil of a leaf with tooth-like edges in the middle of the rain forest.



Which conclusion can be made based on the leaf edges of the fossil? 5.2(F)

A The area where the rain forest is located used to have a much warmer climate.  
B The area where the rain forest is located used to have more rainfall.  
C The area where the rain forest is located used to have a much colder climate.  
D The area where the rain forest is located used to have less rainfall.

14 Students find the following items outside when observing the schoolyard ecosystem: grass, soil, flowers, ants, grasshoppers, rocks, and centipedes. Based on the information collected, students know — 5.2(D)

- F the ecosystem observed is only made of living things
- G the ecosystem observed contains living and nonliving components
- H the ecosystem observed has more grasshoppers than ants
- J the ecosystem observed does not have enough plants for the grasshoppers to survive

16 All the following are changes to ecosystems. Which is NOT an example of a change caused by humans?

- F Building roads and highways
- G Cutting down trees in the rain forest
- H Building new houses
- J Overpopulation of moose

17 Which environment would best support a population of Arctic wolves? 5.2(D)

	Average Yearly Rainfall (cm)	Average Daily Temperature (°C)
Desert	1.5–28	20–25
Tundra	15–25	7–34
Prairie	65–152	10–18
Rain forest	125–660	20–31

A Desert

B Tundra

C Prairie

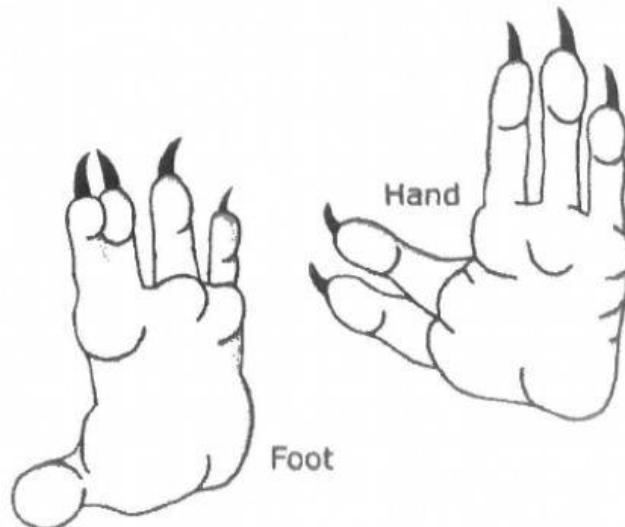
D Rain forest

15 Which trait does the student share with the father? 5.2(G)

Family Member	Earlobe	Toe	Tongue Roll
Student	Free	Longer second toe	Can roll tongue
Mother	Free	Longer big toe	Can roll tongue
Father	Attached	Longer second toe	Cannot roll tongue

- A Free earlobe
- B Longer second toe
- C Can roll tongue
- D Not here

18 Below is a hand and a foot model of an animal.



Where would an animal that has feet and hands like the picture above most likely live? 5.2(D)

- F In water
- G In a cave
- H In the ocean
- J In a tree

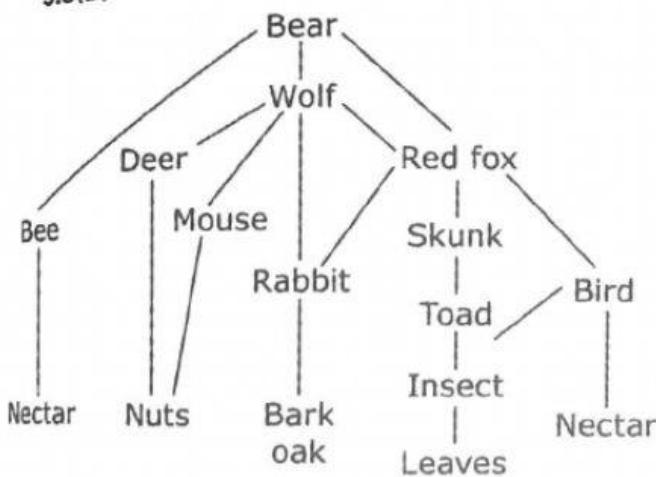
19 Which of the following is an example of an inherited trait?

- A Playing basketball
- B Hair between knuckles
- C Riding a bicycle
- D Hairstyle

20 Animals that live in the tundra have special features, such as short ears and thick coats, that help them survive the extreme temperatures and conditions. This body structure helps —

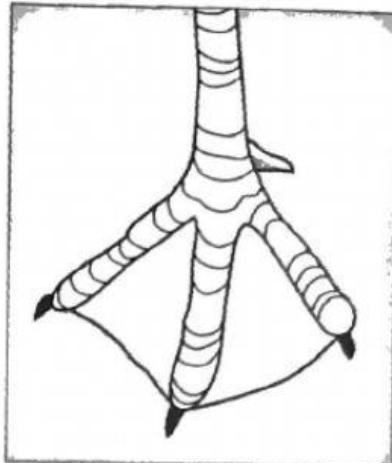
- F minimize exposure to frigid air
- G maximize exposure to tropical air
- H minimize exposure to humidity
- J maximize exposure to diseases

21 How can students improve the food web model? 5.3(B)



- A Include more producers, such as bushes and trees
- B Replace the leaves in the food web with a wheat plant
- C Remove the lines, and replace with arrows to show the direction energy is being transferred
- D Add another consumer that eats mice, and remove the wolf from the model

22 The function of this structure is to —



- F capture prey
- G perch on limbs
- H swim in water
- J climb on trees

23 Which student correctly classified producers, consumers, and decomposers? 5.2(G)

Student	Producers	Consumers	Decomposers
1	<ul style="list-style-type: none"> <li>• Tree</li> <li>• Tomato plant</li> <li>• Grass</li> </ul>	<ul style="list-style-type: none"> <li>• Tiger</li> <li>• Human</li> <li>• Dog</li> </ul>	<ul style="list-style-type: none"> <li>• Bacteria</li> <li>• Worm</li> <li>• Fungus</li> </ul>
2	<ul style="list-style-type: none"> <li>• Grass</li> <li>• Fungus</li> <li>• Tomato plant</li> </ul>	<ul style="list-style-type: none"> <li>• Human</li> <li>• Dog</li> <li>• Tiger</li> </ul>	<ul style="list-style-type: none"> <li>• Tree</li> <li>• Worm</li> <li>• Bacteria</li> </ul>
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- A Student 1
- B Student 2
- C Student 3
- D Student 4

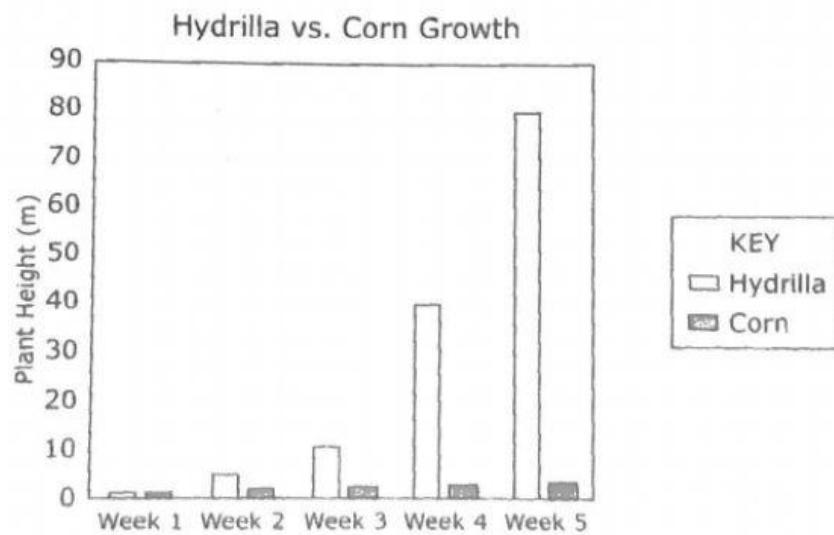
24 Animals, insects, and plants all have unique life cycles. Which part is important for continuing the life cycle?

- F Population
- G Reproduction
- H Precipitation
- J Adaptation

25 Which is an example of how living organisms interact with nonliving components of their ecosystem?

- A Bears living in caves
- B Lions eating zebras
- C Humans having pets
- D Cows eating grass

28 Hydrilla is an invasive species that can be found in Texas lakes. Corn plants are a crop grown in Texas farmlands. The graph below compares the growth rates of hydrilla and corn plants.



Which of these would most likely happen if hydrilla is introduced into a new lake? 5.2(G)

- F Corn populations would decrease.
- G Other aquatic plants would compete with hydrilla for resources.
- H Hydrilla populations would decrease.
- J Corn populations would compete with hydrilla for resources.

26 The coldest ecosystem that has permanently frozen subsoil called permafrost is the —

- F Taiga
- H temperate forest
- G equator
- J tundra

27 What is a likely effect of a forest ecosystem that has been changed by the building of homes?

- A Animals gaining more space for homes
- B Population of trees increasing
- C Oceans becoming contaminated
- D Animals moving to different locations