

Reporting
Category 4:
Organisms and
Environment

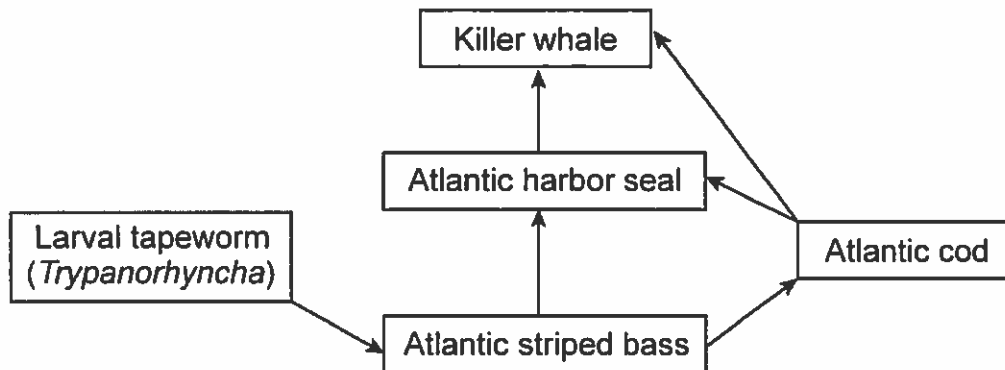
Reporting Category 4: 8th Grade Science Readiness Standards

Name _____

Date _____

Class/Grade _____

Directions: A diagram of a marine ecosystem is shown below. Use the diagram and your knowledge of science to answer any questions that follow.



1 Expectation: 8.11(A)

Atlantic striped bass and larval tapeworms that belong to the order *Trypanorhyncha* are in a parasite/host relationship. This is because —

- A larval tapeworms feed on the stomach tissue of Atlantic striped bass.
- B larval tapeworms eat predators of Atlantic striped bass.
- C larval tapeworms remove food particles from the skins of the Atlantic striped bass.
- D larval tapeworms are consumed as food by Atlantic striped bass.

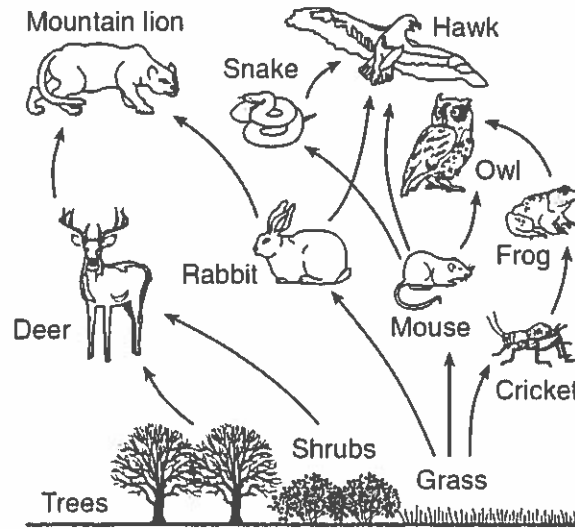
2 Expectation: 8.11(A)

The Atlantic harbor seal and the Atlantic cod are in a predator/prey relationship. This is because —

- F the Atlantic harbor seal hunts and eats the Atlantic cod.
- G the Atlantic harbor seal's skin is toxic to the Atlantic cod.
- H the Atlantic harbor seal attacks predators of the Atlantic cod.
- J the Atlantic harbor seal destroys the Atlantic cod's habitat.

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Directions: A diagram of interactions in a terrestrial ecosystem is shown below. Use the diagram and your knowledge of science to answer any questions that follow.



3 Expectation: 8.11(A)

Deer and shrubs are in a producer/consumer relationship. This is because —

- A deer compete with mountain lions for shrubs.
- B deer feed upon shrubs.
- C deer fertilize shrubs.
- D deer use shrubs for shelter.

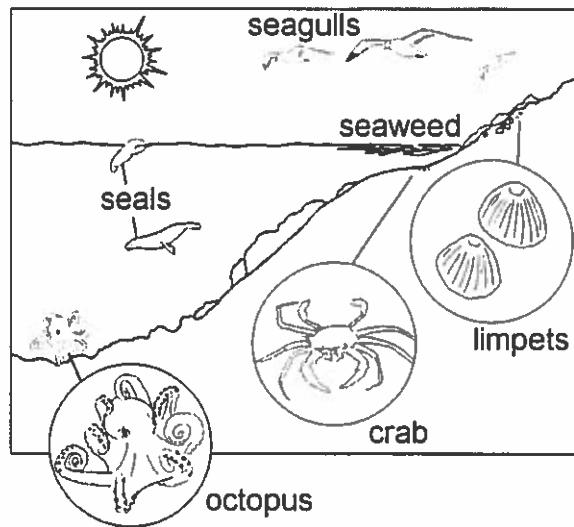
4 Expectation: 8.11(A)

Owls and mice are in a predator/prey relationship. This is because —

- F owls compete with mice for food.
- G owls protect mice from predators.
- H owls hunt and eat mice.
- J owls help mice find food.

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Directions: A diagram of a marine ecosystem is shown below. Use the diagram and your knowledge of science to answer any questions that follow.



5 Expectation: 8.11(B)

The crabs in this ecosystem depend on —

- A organisms that live at shallow depths.
- B fresh water from the surface of the ocean.
- C minerals in rocks on the ocean shore.
- D insects that live on the ocean floor.

6 Expectation: 8.11(B)

The seaweed in this ecosystem depends on —

- F receiving enough fresh water from rain to grow taller.
- G receiving enough heat from the sand to produce flowers.
- H receiving enough sunlight to engage in photosynthesis.
- J receiving enough nutrients from the soil to produce roots.

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7 Expectation: 8.11(C)

The last ice age occurred between 110,000 to 10,000 years ago. During that time, many animals developed traits that allowed them to migrate to new environments. The marine stickleback fish gained the ability to live in fresh water. What is another trait that the marine stickleback fish developed?

- A The ability to survive at colder temperatures
- B The ability to survive in captivity
- C The ability to survive at warmer temperatures
- D The ability to survive in waters with a high sewage content

8 Expectation: 8.11(B)

A river ecosystem is shown in the photograph below.



What must the grasses on the river bank compete for in order to survive?

- F Salt
- G Rocks
- H Water
- J Insects

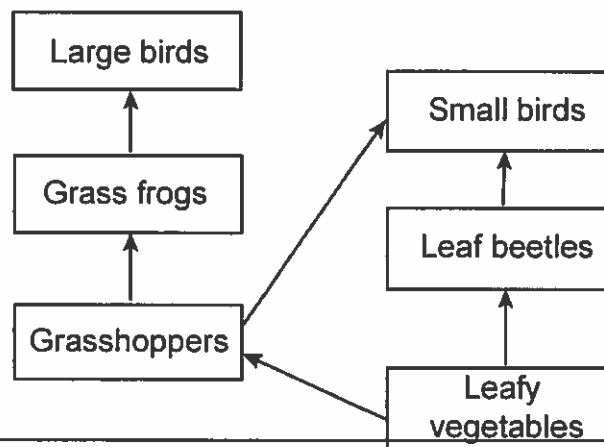
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9 Expectation: 8.11(B)

Many orchids that live in swamp ecosystems grow on the surfaces of other plants. They compete with their host plant as well as with other orchids for —

- A soil and insects.
- B water and nutrients.
- C space and fruit.
- D birds and small rodents.

Directions: A diagram of a terrestrial ecosystem is shown below. Use the diagram and your knowledge of science to answer any questions that follow.



10 Expectation: 8.11(A)

The leafy vegetables and grasshoppers are in a producer/consumer relationship. This is because —

- F the leafy vegetables are toxic to the grasshoppers.
- G the leafy vegetables poison the predators of the grasshoppers.
- H the leafy vegetables help the grasshoppers digest food.
- J the leafy vegetables provide flowers and leaves that are eaten by the grasshoppers.

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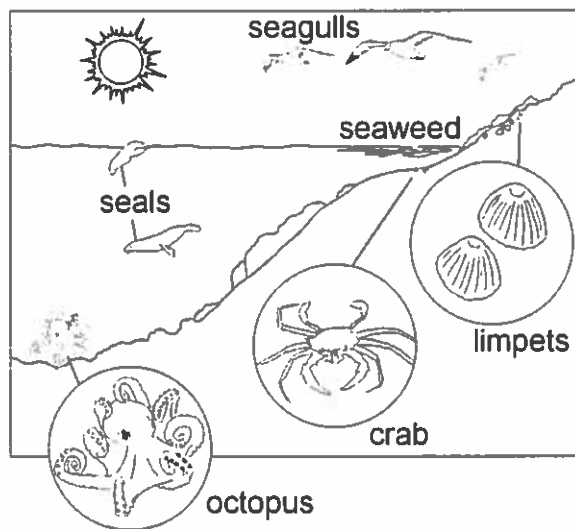
11 Expectation: 8.11(A)

The large birds and grass frogs are in a predator/prey relationship. This is because —

- A the large birds find and consume the grass frogs.
- B the large birds are hunted and eaten by the grass frogs.
- C the large birds are poisoned by the grass frogs.
- D the large birds eat the same plants as the grass frogs.

12 Expectation: 8.11(A)

A marine ecosystem is shown below.



Seagulls and limpets are in a predator/prey relationship. This is because —

- F seagulls lay their eggs inside limpets.
- G seagulls use sunlight to produce food for limpets.
- H seagulls are hunted and eaten by limpets.
- J seagulls gather and eat limpets.

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13 Expectation: 8.11(B)

During the summer, the larvae of Monarch butterflies can be found in meadows throughout most of the continental United States. These larvae depend on —

- A ants and mosquitoes for energy.
 - B sunlight for energy.
 - C the leaves of milkweed plants for energy.
 - D droppings of small rodents for energy.
-

14 Expectation: 8.11(C)

Indonesia and Malaysia's tropical rainforests are home to a unique family of trees, the water-loving Dipterocarpaceae. The high canopies of these trees are inhabited by an ape, the Silvery gibbon. What would happen if the majority of trees belonging to the Dipterocarpaceae family were cut down?

- F The Silvery gibbon would have to compete more aggressively for places to live.
 - G The Silvery gibbon would become ground-dwelling.
 - H The Silvery gibbon would have to compete less aggressively for places to live.
 - J The Silvery gibbon would migrate to a new part of the world.
-

15 Expectation: 8.11(C)

Many logging companies have clear-cut portions of Australia's temperate forests. This causes less leaf litter to form on the ground. The decrease in the amount of leaf litter causes there to be —

- A fewer insects, fungi, and bacteria on the forest floor.
- B more insects, fungi, and bacteria on the forest floor.
- C only fungi and bacteria on the forest floor.
- D only insects on the forest floor.

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16 Expectation: 8.11(B)

A desert ecosystem is depicted in the photograph below.



What must the grasses be able to do to survive?

- F** The grasses must be able to outcompete cacti and yucca plants for shelter from storms.
- G** The grasses must be able to outcompete cacti and yucca plants for minerals in mountain rocks.
- H** The grasses must be able to outcompete cacti and yucca plants for shade.
- J** The grasses must be able to outcompete cacti and yucca plants for water.

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17 Expectation: 8.11(C)

Between 1150 A.D. and 1460 A.D., Western Europe experienced a short ice age. Research suggests that throughout the forests of Western Europe, the number of warmth-loving trees, such as beech, decreased. Hardier trees such as oak and pine —

- A also disappeared from Western European forests.
 - B were replaced by fungi in Western European forests.
 - C came to dominate Western European forests.
 - D appeared only occasionally in Western European forests.
-

18 Expectation: 8.11(C)

Water pollution has severely impacted animals and plants in New York's Hudson River. The population of Atlantic tomcod fish in the river has survived by mutating to —

- F alert other species that they are exposed to industrial toxins.
 - G become more susceptible to industrial toxins.
 - H die as quickly as they are exposed to industrial toxins.
 - J become resistant to industrial toxins.
-

19 Expectation: 8.11(C)

In the Arctic, seals are one of the main sources of food for polar bears. As global warming melts polar ice, fewer seals can be found in the Arctic. As a result, polar bears will —

- A maintain a constant population.
- B decrease in number.
- C migrate to tropical regions.
- D increase in number.

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20 Expectation: 8.11(B)

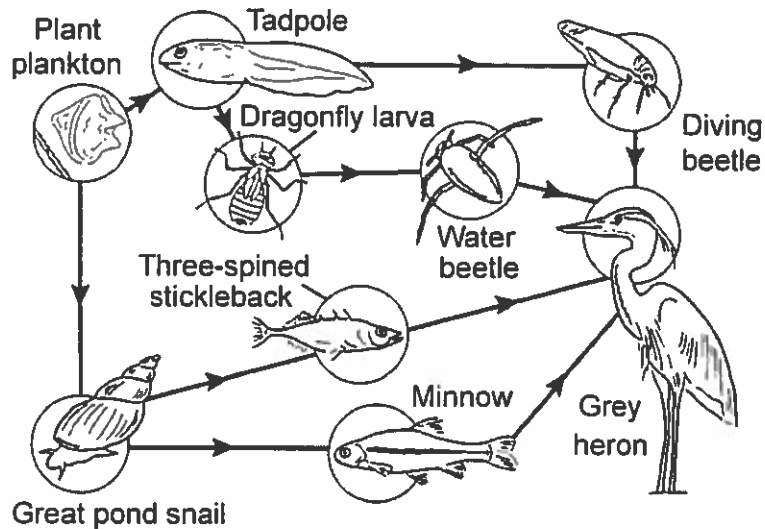
Joey enjoys going to the lake to fish with his grandfather. Last summer, he and his grandfather noticed hundreds of dead fish on the banks of the lake, and the water had a strange yellow shimmer to it. Which of the following is the best explanation for the fish dying?

- F** There was an algae bloom in the water that used up all the water's oxygen, and the fish died.
- G** Fishermen left them on the banks.
- H** They were old fish, and they did not have enough energy to survive the intense summer heat.
- J** The fish were unable to reproduce.

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21 Expectation: 8.11(A)

A diagram of interactions in a freshwater ecosystem is shown below.



Grey herons and three-spined stickleback fish are in a predator/prey relationship. This is because —

- A a three-spined stickleback fish will grow within a grey heron's stomach so it can consume part of the grey heron's food.
- B a grey heron will catch and consume a three-spined stickleback fish.
- C a grey heron will help a three-spined stickleback fish find and hunt minnows.
- D a three-spined stickleback fish will gather leaves for the grey heron to eat.

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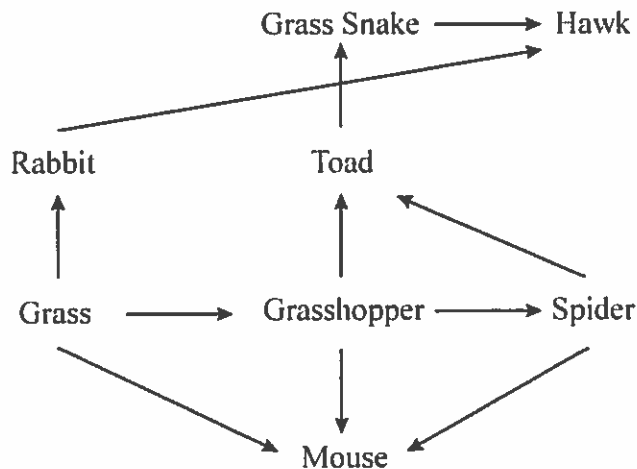
22 Expectation: 8.11(C)

Between 1150 A.D. and 1460 A.D., Western Europe experienced a short ice age. Before the ice age, saltwater cod could be found off the coast of Scotland. This species cannot withstand extremely cold temperatures. During the ice age, the saltwater cod migrated to —

- F** coastal waters that were further south.
- G** freshwater rivers in Scotland.
- H** coastal waters that were further north.
- J** freshwater lakes in Scotland.

23 Expectation: 8.11(A)

Which of the following would have the greatest ecological impact on the food web below?



- A** A farmer using traps to reduce the mouse population
- B** The removal of all the grasshoppers by using pesticides
- C** The building of a shopping mall where the grass once was
- D** A farmer killing off all the hawks

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24 Expectation: 8.11(B)

Mosses are typically found in shady forests. In order to survive, they compete with other organisms for —

- F the amount of rocks in soil in the forest.
- G the amount of fungi in the forest.
- H the amount of water in soil in the forest.
- J the amount of heat in the forest.

25 Expectation: 8.11(B)

Every fall, migratory songbirds fly through Texas on their way to South America. They depend on —

- A a soil composition in Texas that will provide them with nutrients.
- B a range of temperatures in Texas that will prevent them from freezing.
- C a quantity of sunlight in Texas that will allow them to produce food.
- D a quantity of water in Texas that will provide them an opportunity to clean their feathers.

26 Expectation: 8.11(C)

Brown shrimp lay eggs that grow in tidal marshes on the southern Texas coast, Brown shrimp will not lay eggs in water that is less than 45 feet deep. There was a drought one year that caused the water level in many marshes to drop to 40 feet deep. What most likely happened to Texas's population of brown shrimp?

- F Texas's population of brown shrimp increased.
- G Texas's population of brown shrimp remained constant.
- H Texas's population of brown shrimp decreased.
- J Texas's population of brown shrimp relocated to inland lakes.

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27 Expectation: 8.11(C)

Indonesia and Malaysia's tropical rainforests are home to a unique family of trees, the water-loving Dipterocarpaceae. The El Niño weather event can cause Indonesia and Malaysia to receive very little rain over the course of a year. What will happen to trees belonging to the Dipterocarpaceae family during an El Niño year?

- A** The trees belonging to the Dipterocarpaceae family will grow as well as they do in a year when El Niño does not occur.
- B** The trees belonging to the Dipterocarpaceae family will die or fail to grow well.
- C** The trees belonging to the Dipterocarpaceae family will relocate to other tropical islands.
- D** The trees belonging to the Dipterocarpaceae family will thrive.



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Name _____

Date _____

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DIRECTIONS FOR MARKING ANSWER SHEET

Use a #2 pencil only.

Do NOT use ink or ballpoint pens.

Make heavy black marks that fill the ovals completely.

Erase clearly any answer you wish to change.

Make no stray marks on the answer sheet.

- 1 (A) (B) (C) (D)
- 2 (F) (G) (H) (J)
- 3 (A) (B) (C) (D)
- 4 (F) (G) (H) (J)
- 5 (A) (B) (C) (D)
- 6 (F) (G) (H) (J)
- 7 (A) (B) (C) (D)

- 8 (F) (G) (H) (J)
- 9 (A) (B) (C) (D)
- 10 (F) (G) (H) (J)
- 11 (A) (B) (C) (D)
- 12 (F) (G) (H) (J)
- 13 (A) (B) (C) (D)
- 14 (F) (G) (H) (J)

- 15 (A) (B) (C) (D)
- 16 (F) (G) (H) (J)
- 17 (A) (B) (C) (D)
- 18 (F) (G) (H) (J)
- 19 (A) (B) (C) (D)
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- 21 (A) (B) (C) (D)

- 22 (F) (G) (H) (J)
- 23 (A) (B) (C) (D)
- 24 (F) (G) (H) (J)
- 25 (A) (B) (C) (D)
- 26 (F) (G) (H) (J)
- 27 (A) (B) (C) (D)

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Instructions to read aloud to your students.

When you decide what the answer to a question is, mark your answer on your answer sheet. To do so, find the row of circles with the same number as the question. Then darken in the circle with the same letter as the answer you chose. If you don't know the answer to a question, skip it. You may return to it later if you have time. If you finish the test early, you should go back and check over your work. Do **NOT** fold your answer sheet or make any stray marks.

When marking your answer sheet:

1. Make a heavy mark. The mark should be large enough to fill the circle, but it should not go outside too much. Do not waste time making very neat marks. It is more important to make very dark marks. Be sure to use a #2 pencil.
2. Be sure that your mark for every question is placed in the row with the same number as that question.
3. Make only ONE mark in a row. If you change your mind about an answer, erase your first mark as completely as you can.

1	●	Ⓐ	Ⓑ	Ⓒ
2	●	Ⓐ	Ⓑ	Ⓒ
3	Ⓐ	●	Ⓒ	Ⓓ
4	Ⓐ	Ⓑ	●	Ⓓ
5	●	Ⓐ	Ⓑ	Ⓒ
6	Ⓐ	Ⓑ	●	Ⓓ
7	●	Ⓐ	Ⓑ	Ⓒ

8	Ⓐ	Ⓑ	●	Ⓓ
9	Ⓐ	●	Ⓒ	Ⓓ
10	Ⓐ	Ⓑ	Ⓒ	●
11	●	Ⓐ	Ⓑ	Ⓒ
12	Ⓐ	Ⓑ	Ⓒ	●
13	Ⓐ	Ⓑ	●	Ⓓ
14	●	Ⓐ	Ⓑ	Ⓒ

15	●	Ⓐ	Ⓑ	Ⓒ
16	Ⓐ	Ⓑ	Ⓒ	●
17	Ⓐ	Ⓑ	●	Ⓓ
18	Ⓐ	Ⓑ	Ⓒ	●
19	Ⓐ	●	Ⓒ	Ⓓ
20	●	Ⓐ	Ⓑ	Ⓒ
21	Ⓐ	●	Ⓒ	Ⓓ

22	●	Ⓐ	Ⓑ	Ⓒ
23	Ⓐ	Ⓑ	●	Ⓓ
24	Ⓐ	Ⓑ	●	Ⓓ
25	Ⓐ	●	Ⓒ	Ⓓ
26	Ⓐ	Ⓑ	●	Ⓓ
27	Ⓐ	●	Ⓒ	Ⓓ

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Item Number	Reporting Category	Readiness or Supporting	Content Student Expectation	Process Student Expectation	Correct Answer
1	4	Readiness	8.11(A)		A
2	4	Readiness	8.11(A)		F
3	4	Readiness	8.11(A)		B
4	4	Readiness	8.11(A)		H
5	4	Readiness	8.11(B)		A
6	4	Readiness	8.11(B)		H
7	4	Readiness	8.11(C)		A
8	4	Readiness	8.11(B)		H
9	4	Readiness	8.11(B)		B
10	4	Readiness	8.11(A)		J
11	4	Readiness	8.11(A)		A
12	4	Readiness	8.11(A)		J
13	4	Readiness	8.11(B)		C
14	4	Readiness	8.11(C)		F
15	4	Readiness	8.11(C)		A
16	4	Readiness	8.11(B)		J
17	4	Readiness	8.11(C)		C
18	4	Readiness	8.11(C)		J
19	4	Readiness	8.11(C)		B
20	4	Readiness	8.11(B)		F
21	4	Readiness	8.11(A)		B
22	4	Readiness	8.11(C)		F
23	4	Readiness	8.11(A)		C
24	4	Readiness	8.11(B)		H
25	4	Readiness	8.11(B)		B
26	4	Readiness	8.11(C)		H
27	4	Readiness	8.11(C)		B