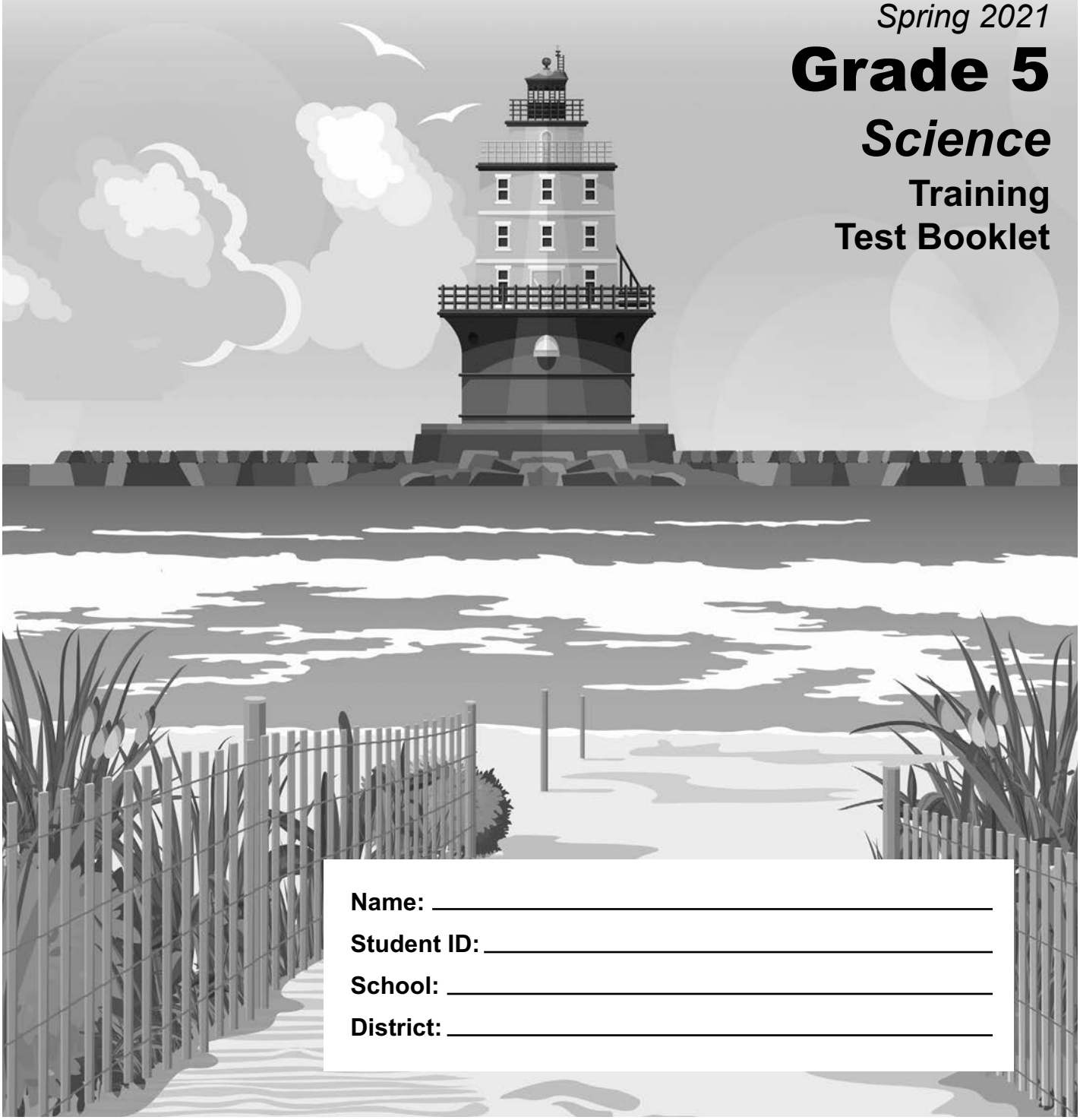
Delaware
DeSSA
Delaware System of Student Assessments

Spring 2021

Grade 5

Science

Training
Test Booklet



Name: _____

Student ID: _____

School: _____

District: _____

Science

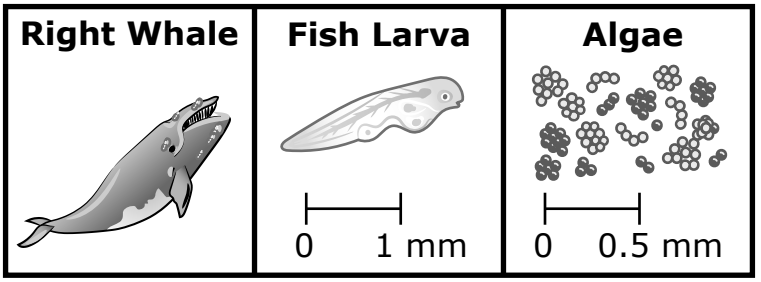
This practice test contains samples of various question types that will appear on the Spring test. Read each question carefully and follow the directions.

Use Source 1a, Source 1b, Source 1c, and Source 1d to answer the following questions.

Source 1a. Ocean Ecosystem

A group of scientists is studying organisms in an ocean ecosystem. They show you three pictures of the organisms they see.

Figure 1: Organisms in an Ocean Ecosystem



- Right whales grow to be about 15 meters (m) long. That is about the length of a tractor-trailer.
- Fish larvae are young fish that just hatched from an egg. They are only a few millimeters (mm) in length, which is smaller than a sesame seed.
- Algae are plants that live in the ocean. They are smaller than the period at the end of this sentence.

The scientists watch the right whales eating the fish larvae. They also watch the tiny fish larvae eating algae. More fish larvae are found in areas of the ocean that have more algae.

1. Use the information in Source 1a to help you answer this question.

Which **three** statements explain what happens when right whales eat the fish larvae as the whales swim in the ocean?

A. Whales get matter they need in order to grow.

B. Whales get energy they need in order to swim.

C. Energy is transferred from the whales to the fish larvae as the whales eat.

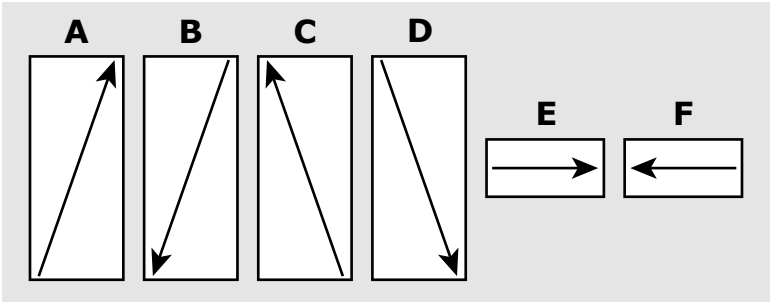
D. Energy and matter are transferred from the fish larvae to the whales as the whales eat.

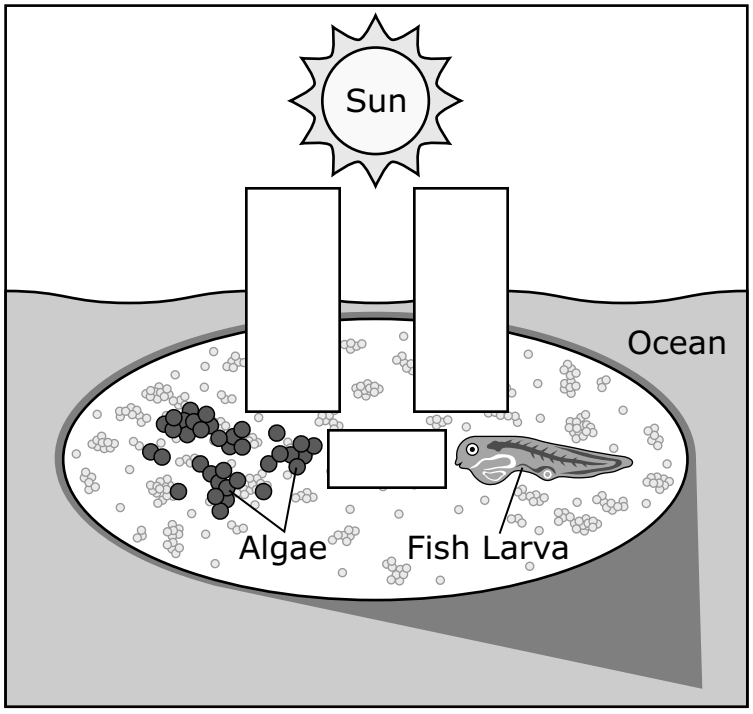
E. Matter is transferred from the water to the whales and the fish larvae as the whales eat.

2. Use the information in Source 1a to help you answer this question.

The scientists want you to model the flow of energy through the ecosystem as fish larvae eat the algae. This diagram shows the Sun, fish larvae, algae, and three empty boxes. Only **two** of the empty boxes are needed to model the flow of energy.

Identify the **two** empty boxes that need arrows to model the flow of energy. Write the letter of the arrow that should be placed into **each** empty box you identified. Each arrow should point in the direction that energy flows. Write only **one** letter in each box. Not all letters will be used.



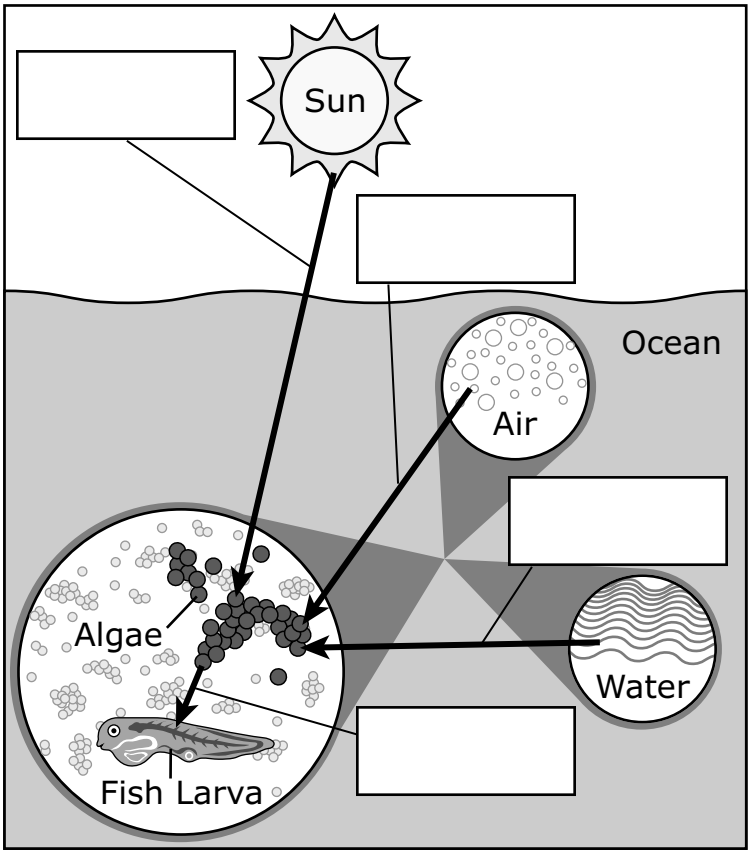


3. Use the information in Source 1a to help you answer this question.

The scientists add both air and water to the diagram. They add arrows to show the directions in which matter and energy flow among the different parts in the diagram.

Write the letter of the correct label into **each** box to show if the arrow represents only the flow of energy, only the flow of matter, or the flow of both energy and matter.

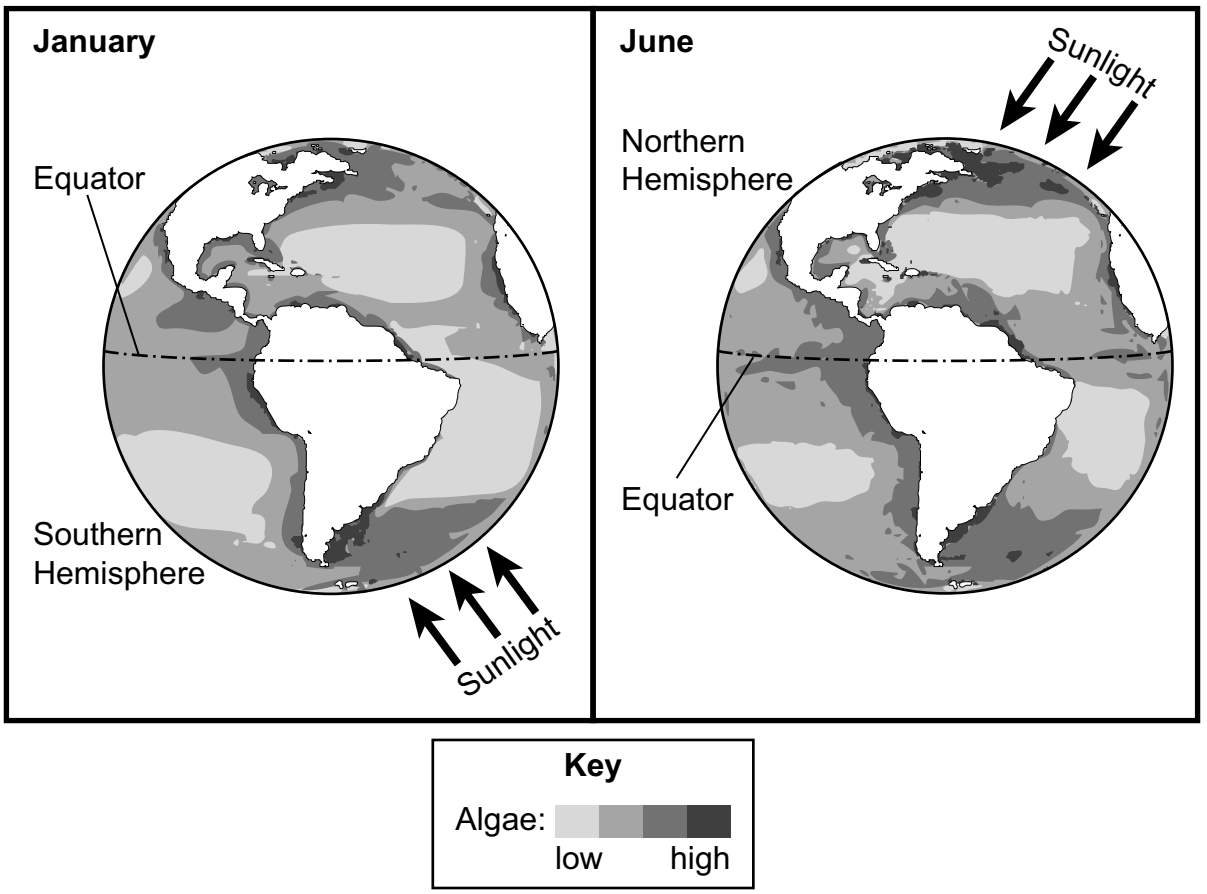
A	B	C
Energy Only	Matter Only	Both Energy and Matter



Source 1b. Seasonal Changes

Figure 2 shows how the amount of algae in the ocean changes from January to June. The arrows show where sunlight is more direct during each season. Areas where the sunlight is more direct receive more sunlight. In January, the sunlight is more direct in the Southern Hemisphere. In June, the sunlight is more direct in the Northern Hemisphere.

Figure 2. Global Seasonal Changes in Energy and Matter



GO ON ▶

4. Use the information in Source 1b to help you answer this question.

Which statement explains what **Figure 2** shows about algae?

A. Algae move toward the Northern Hemisphere throughout the year.

B. Algae move away from places where there is too much energy from the Sun.

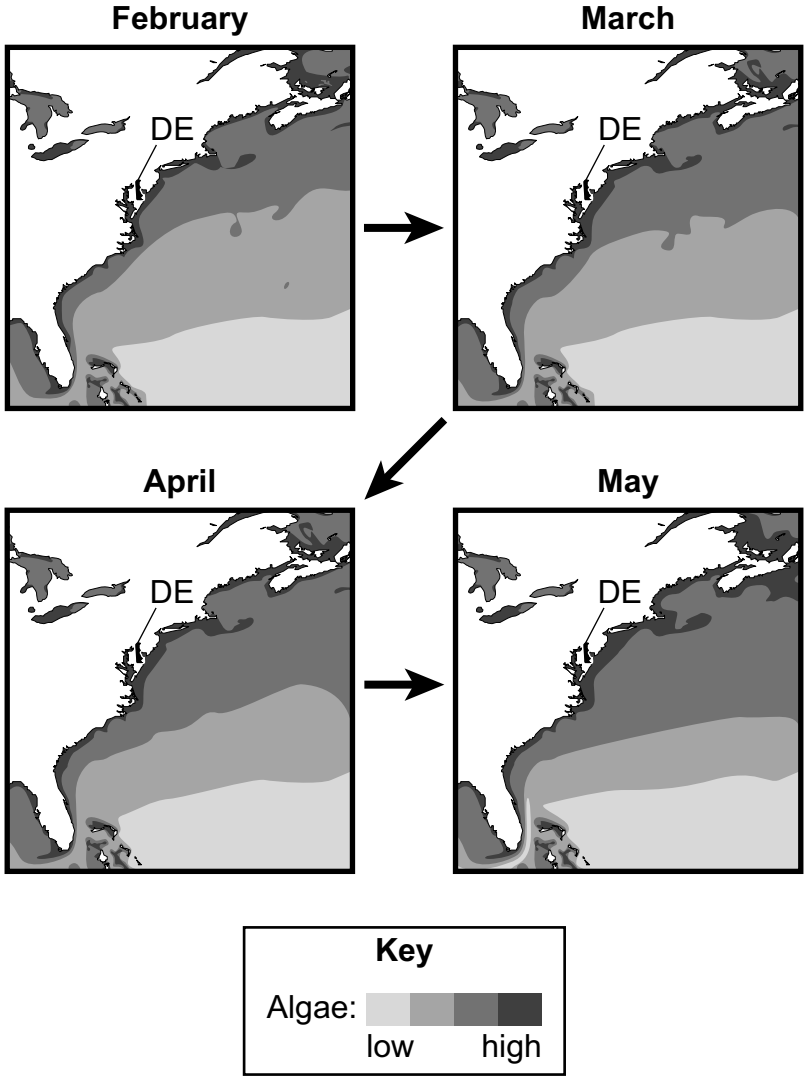
C. Algae grow in both hemispheres at the same rate throughout the year.

D. Algae grow better in places where they have more energy from the Sun.

Source 1c. Algae

The scientists made the maps in **Figure 3** to show how the amount of algae in the North Atlantic Ocean changes from February to March to April and to May. The location of Delaware is shown on each map.

Figure 3. Algae in the North Atlantic Ocean



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5. Use the information in Source 1c to help you answer this question.

Part A

Based on the information in **Figure 3**, when will the scientists **most likely** find whales near Delaware?

A. February

B. March

C. April

D. May

Part B

Which **three** statements explain the answer to **Part A**?

A. Less sunlight is available near Delaware during that month.

B. More energy is available for algae near Delaware during that month.

C. More matter is stored in algae near Delaware during that month.

D. Less energy is stored in algae near Delaware during that month.

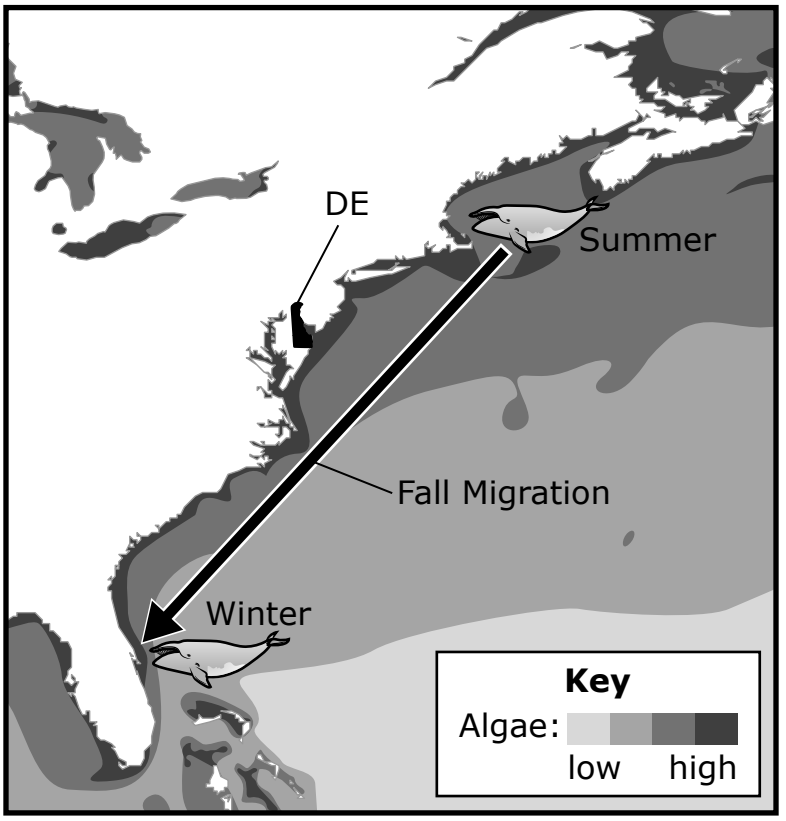
E. More matter is available for whales near Delaware during that month.

Source 1d. Fall Migration

Right whales migrate along the coast as the amount of energy and matter in an area changes.

Figure 4 shows the location of the whales during the summer, their path as they migrate south in the fall, and their location during the winter. The whales are much bigger when they leave their summer location than when they first arrived in that location. Their bigger size helps the whales migrate during the fall.

Figure 4. Fall Migration



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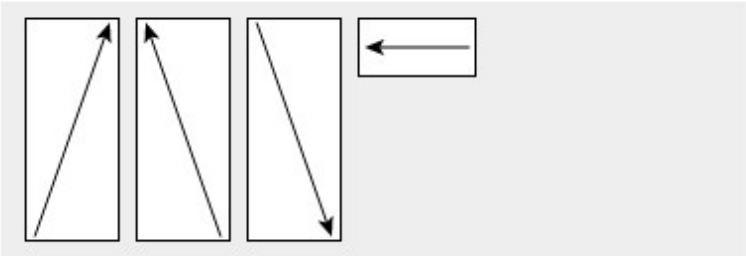
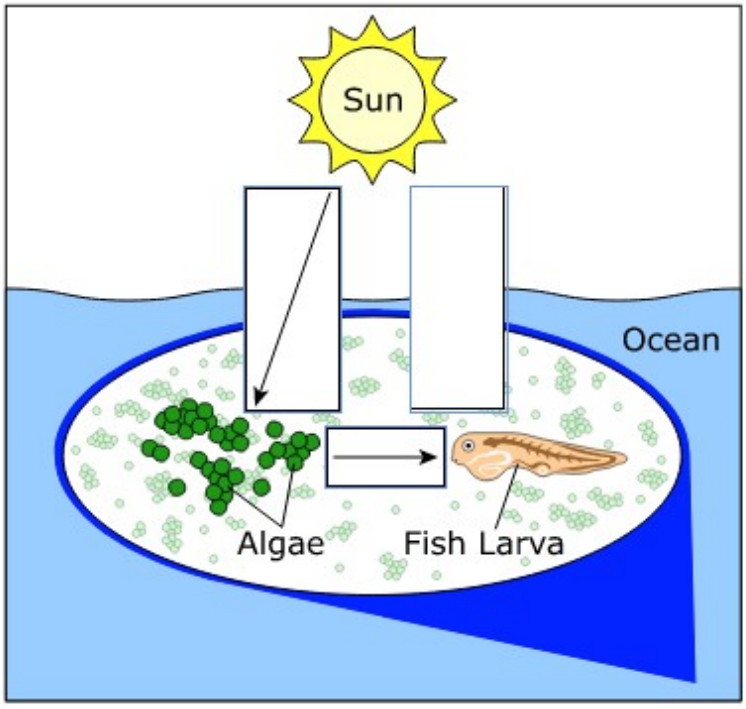
6. Use the information in Source 1c and Source 1d to help you answer this question.

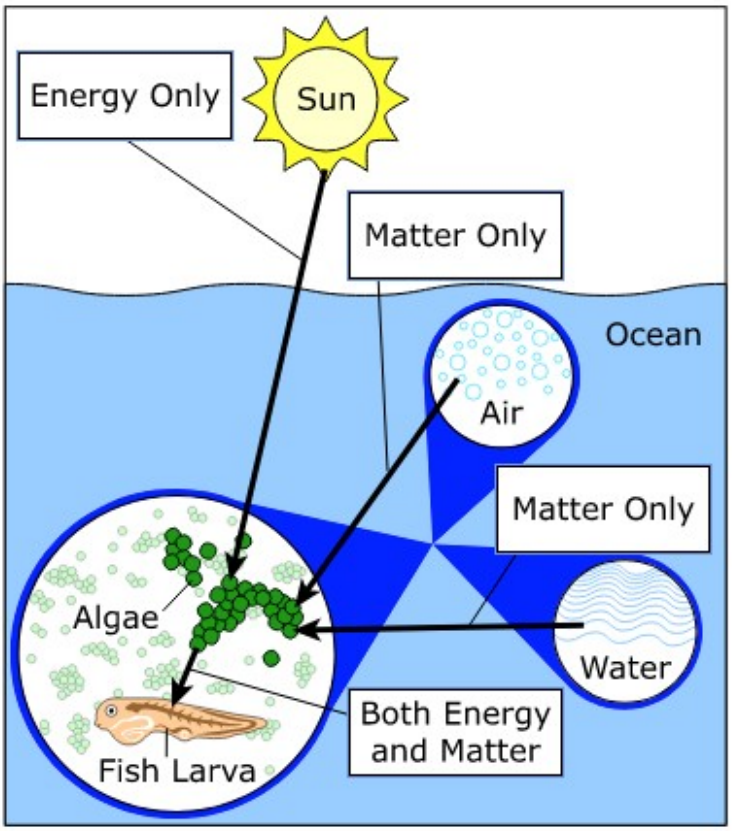
Construct an explanation of why the whales are much bigger at the end of summer than when they first arrived. Support your explanation with evidence collected from **Figure 3** and **Figure 4**.

STOP

Delaware System of Student Assessments (DeSSA)

Science Grade 5 Practice Test

Question Number	Answer	PE
1	A, B, D	5-PS3-1
2	 	5-PS3-1

Question Number	Answer	PE
3	Energy Only Matter Only Both Energy and Matter 	5-PS3-1
4	D	5-PS3-1
5	Part A: D Part B: B, C, E	5-PS3-1

<table>
<tr><th>Question Number</th><th>Answer</th><th>PE</th></tr>
<tr><td>6</td><td>
<table>
<tr><th colspan="2">Scoring Information</th></tr>
<tr><th>Score</th><th>Description</th></tr>
<tr><td>4</td><td>This response correctly uses knowledge of energy and matter to construct an explanation of why the whales are much bigger at the end of the summer than when they first arrived and provides evidence from the Figure 3 and Figure 4 to support the explanation.</td></tr>
<tr><td>3</td><td>This response correctly uses knowledge of energy OR matter to construct an explanation of why the whales are much bigger at the end of the summer than when they first arrived and provides evidence from the Figure 3 AND Figure 4 to support the explanation.
OR
This response correctly uses knowledge of energy AND matter to construct an explanation of why the whales are much bigger at the end of the summer than when they first arrived and provides evidence from the Figure 3 OR Figure 4 to support the explanation.</td></tr>
<tr><td>2</td><td>This response correctly uses knowledge of energy AND matter to construct an explanation of why the whales are much bigger at the end of the summer than when they first arrived.
OR
This response correctly uses knowledge of energy OR matter to construct an explanation of why the whales are much bigger at the end of the summer than when they first arrived and provides evidence from the Figure 3 OR Figure 4 to support the explanation.</td></tr>
<tr><td>1</td><td>This response correctly uses knowledge of energy OR matter to construct an explanation of why the whales are much bigger at the end of the summer than when they first arrived.</td></tr>
<tr><td>0</td><td>This response is incorrect or irrelevant.</td></tr>
</table>
</td><td>5-PS3-1</td></tr>
</table>

Question Number	Answer	PE

Sample Responses

4	The whales are larger at the end of summer because they spend the summer eating. The matter and energy in food is an energy source that the whales use to help them grow. My evidence in Figure 3 is that there is more sunlight where the whales live in the summer, which algae use to grow. My evidence in Figure 4 is that the map of May shows that there is a lot of algae where the whales are in summer. Since the whales are bigger at the end of summer, this means that whales ate a lot of algae and used the extra energy and matter to help their bodies grow.
3	The whales are larger at the end of summer because they spend the summer eating. The matter and energy in food is an energy source that the whales use to help them grow. My evidence is that the map of May shows that there is a lot of algae where the whales are in summer. Since the whales are bigger at the end of summer, this means that whales ate a lot of algae and used the extra energy and matter to help their bodies grow.
2	The whales are larger at the end of summer because they spend the summer eating. My evidence is that the map of May shows that there is lots of algae where the whales are in summer. Since they are bigger at the end of summer, this means that whales ate a lot of algae and used the matter to help their bodies grow.
1	The whales are larger at the end of summer because they were eating all summer and the matter in their food helps them grow.

Scoring Notes

- 2 points maximum for using knowledge of energy and matter to construct an explanation of why the whales are much bigger at the end of the summer than when they first arrived.
  - Score 2 points: Explanation that includes **both** energy and matter.

  OR

  - Score 1 point: Explanation that includes energy **or** matter.

- 2 points maximum for supporting the explanation with evidence in **Figure 3** and **Figure 4**.
  - Score 2 points: Evidence from **both** figures.

  OR

  - Score 1 point: Evidence from **either** figure.