



Maine  
Department of  
Education

**GRADE**

**5**

Maine Science Assessment  
Released Items (2025)  
Teacher Version



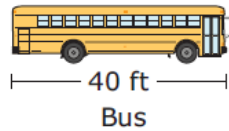
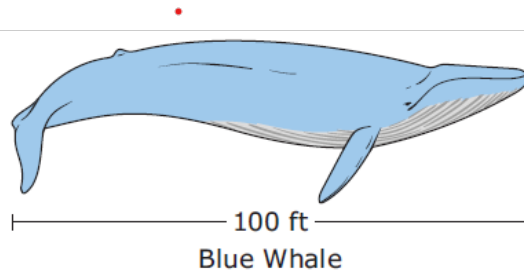
**New Meridian**

Included in this document are items and their associated stimuli that were operationally administered on the Maine Science Assessment. For each item, the correct answer is provided, along with the Next Generation Science Standards (NGSS) to which it aligns. This includes the disciplinary core idea (DCI), science and engineering practice (SEP), and cross-cutting concept (CCC). In some cases, one of these dimensions may not apply. The number of points the item is worth is provided, as well as the answer key.

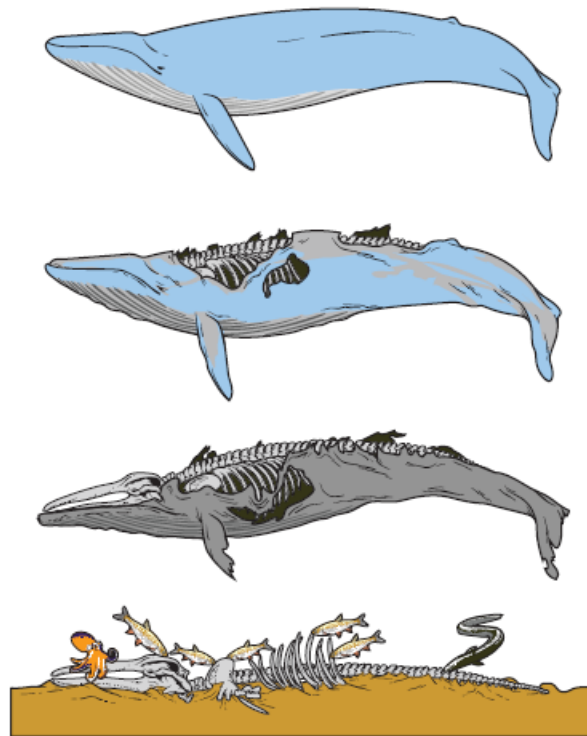
Use the information from Whale Fall to answer **questions 1-4**.

### Whale Fall

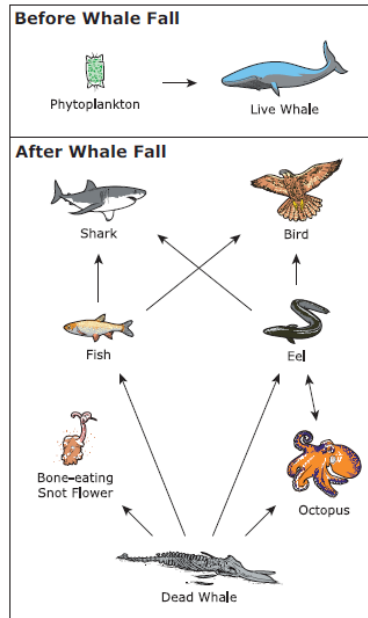
Cassidy works as a marine biologist. She is studying the effects the blue whale has on the ocean ecosystem.



She also wonders about the effects the blue whale's very large body may have on the marine ecosystem once the whale dies and sinks to the bottom of the ocean. This process is known as whale fall.

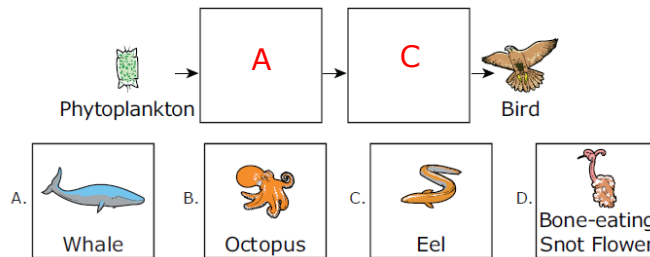


1. Cassidy wants to understand how the blue whale supports other organisms in its ocean ecosystem. She finds a food web which shows how energy and matter transfer to the organisms in an ecosystem.



How do phytoplankton contribute to the matter that birds can use to grow or repair their bodies in this ecosystem? Write the letter of the organisms in the boxes to complete the food chain.

1 point



**Standards Alignment**

Discipline: Life Science

NGSS Topic: Matter and Energy in Organisms and Ecosystems

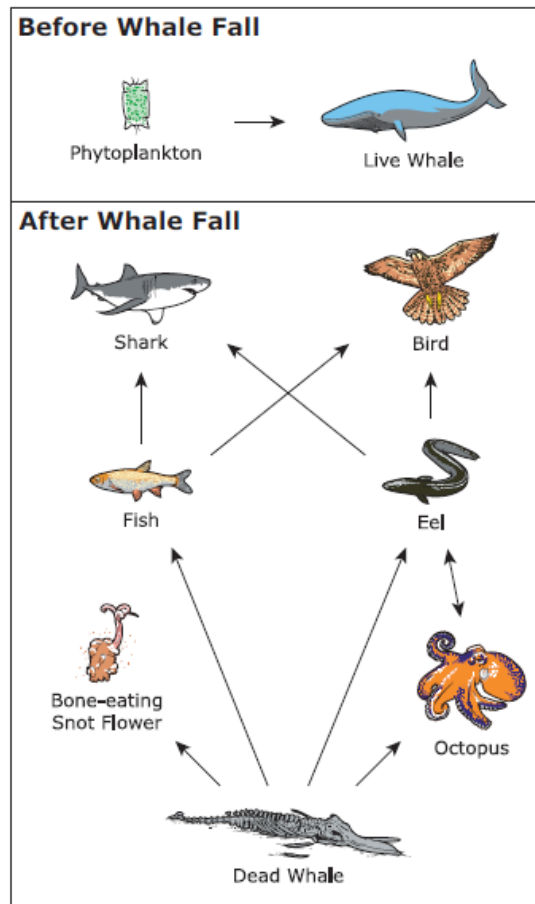
DCI: LS2.B Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases and water from the environment and release waste matter (gas, liquid, or solid) back into the environment.

SEP2: Developing and Using Models

CCC4: Systems and System Models

2. Which organisms are scavengers in the blue whale's ecosystem? Circle the organisms in the food web.

fish, eel,  
bone-eating snot flower,  
octopus  
all 4 selected for 1 point



### **Standards Alignment**

Discipline: Life Science

NGSS Topic: Matter and Energy in Organisms and Ecosystems

DCI: LS2.A The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plant parts and animals) and therefore operate as "decomposers." Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem.

SEP2: Developing and Using Models

CCC5: Energy and Matter: Flows, Cycles, and Conservation

3. Why are scavengers and decomposers important to the marine ecosystem?

- Scavengers and decomposers recycle matter back into the ecosystem.
- Scavengers and decomposers limit the fish population in the ecosystem.
- Scavengers and decomposers feed off of live blue whales as they swim in the ecosystem.
- Scavengers and decomposers eat the bone-eating snot flower worms found in the ecosystem.

1 point

### **Standards Alignment**

Discipline: Life Science

NGSS Topic: Matter and Energy in Organisms and Ecosystems

DCI: LS2.A The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plant parts and animals) and therefore operate as "decomposers." Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem.

SEP7: Engaging in Argument from Evidence

CCC5: Energy and Matter: Flows, Cycles, and Conservation



Whale Fall scoring rubric

Points	Qualities of the Student Response
2	<p>The response must identify that the blue whale’s dead body will decompose where there are few nutrient resources AND will serve as a food source for scavengers and decomposers that live there.</p> <p><b><u>Example Student Response:</u></b></p> <p>The blue whale’s dead body will decomposes and it will provide food for the animals that live there.</p>
1	<p>The response demonstrates a partial understanding of the prompt. The response must include only one of the following:</p> <ul style="list-style-type: none"><li>• identifies the blue whale will decompose</li><li>• the blue whale will decompose where there are few nutrients</li><li>• Identifies that the blue whale will serve as a food source for scavengers and decomposers that live at the bottom of the ocean</li></ul>
0	<p>The response demonstrates minimal understanding of the prompt. The response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.</p>