

Content Option 2: The Ocean in the News

1. **What Is a Whale Native to the North Pacific Doing off New England? Climate Change Could Be the Key**
<https://www.usnews.com/news/best-states/maine/articles/2024-03-05/what-is-a-whale-native-to-the-north-pacific-doing-off-new-england-climate-change-could-be-the-key>
 - a. relate the article to the Ocean Literacy Essential Principles & Fundamental Concepts
 - i. This article addresses the essential ocean principle numbers 1, 3, and 5. The article discusses how a Gray Whale most likely came to the Atlantic by the Northwest Passage which connects the Pacific to the Atlantic through the Arctic Ocean but it is usually blocked by ice but in recent summers has thawed and open for travel. This lack of ice during the summer shows how weather and climate are effecting our oceans. In the last 15 years there has been 5 sightings of a gray whale in the Atlantic Ocean showing that there is enough food and diversity of life to sustain a whale's diet.

Principle #1: The Earth has one big ocean with many features.

Principle #3: The ocean is a major influence on weather and climate.

Principle #5: The ocean supports a great diversity of life and ecosystems.
 - b. explain how being ocean literate could help members of the public better understand the issue that is being reported
 - i. Being ocean literate would help public understand that the oceans are connected and ocean life can swim/migrate through the areas. Gray Whales were in the Atlantic Ocean in the 18th century and potentially it is a big cycle of weather and climate that allowed for the Gray Whales to return. The oceans diversity of life is healthy for all ocean life and ecosystems.
2. **NASA Climate Satellite Blasts off to Survey Oceans and Atmosphere of a Warming Earth**
<https://www.usnews.com/news/best-states/florida/articles/2024-02-08/nasa-climate-satellite-blasts-off-to-survey-oceans-and-atmosphere-of-a-warming-earth>
 - a. relate the article to the Ocean Literacy Essential Principles & Fundamental Concepts
 - i. This article addressed the essential ocean principle numbers 3, 5, and 7. The Pace satellite will be in a rare polar orbit studying the oceans and atmosphere. They are hoping the observations can help scientists improve hurricane and other severe weather forecasts, measure Earth's changing temperatures, and better predict harmful algae blooms. The Pace satellite will be able to "see" in 200 colors to identify the types of algae and other sea life where as prior satellites would "see" 7-8 colors.

Principle #3: The ocean is a major influence on weather and climate.

Principle #5: The ocean supports a great diversity of life and ecosystems.

Principle #7: The ocean is largely unexplored.
 - b. explain how being ocean literate could help members of the public better understand the issue that is being reported
 - i. Being ocean literate will help the members of the public understand how the ocean is connected with major weather events like hurricanes. This article suggests that we can improve sever weather forecasts with Pace satellite data. The increase of color will be amazing to understand the great diversity of ocean life and ecosystems. With the launch of Pace I am excited to see what exploration comes from our unexplored places!
3. **Eavesdropping on fish could help us keep better tabs on underwater worlds**
<https://www.sciencenews.org/article/fish-ocean-animals-environment-communication-behavior>
 - a. relate the article to the Ocean Literacy Essential Principles & Fundamental Concepts
 - i. This article addressed the essential ocean principle numbers 1, 5, and 6. I have known about whale songs since I was little but only in the last few days have I learned that fish

make noise also. This article discussed there are 34,000 species of bony fish that live in the oceans and of these there have been about 1,000 species to make sounds. Fish sounds are starting to be categorized and assigned to fish species. This has added another tool for tracking fish in the vast ocean areas and documenting fish in new locations as they are inhabiting new locations with changing climate. The idea that fish make sound was recorded during WWII while trying to find enemy submarines!

Principle #1: The Earth has one big ocean with many features.

Principle #5: The ocean supports a great diversity of life and ecosystems.

Principle #6: The ocean and humans are inextricably interconnected.

- b. explain how being ocean literate could help members of the public better understand the issue that is being reported
 - i. Being ocean literate would help this articles understanding to the ocean is not just a place. The ocean is full of intelligent life living in a complex ecosystem. Fish are communicating, WOW! Through this communication we can track their migration routes and other patterns throughout the oceans.

4. **Deep Sea Explorer Don Walsh, Part of 2-Man Crew to First Reach Deepest Point of Ocean, Dies at 92**
<https://www.usnews.com/news/best-states/oregon/articles/2023-11-20/deep-sea-explorer-don-walsh-part-of-2-man-crew-to-first-reach-deepest-point-of-ocean-dies-at-92>
 - a. relate the article to the Ocean Literacy Essential Principles & Fundamental Concepts
 - i. This article addressed the essential ocean principle numbers 1, 5, and 7. In 1960 humans found themselves at the bottom of the ocean, a place no one had been, the Challenger Deep. (Interestingly the same year as human's landed on the Moon!) Seven miles below the surface and about 3 ½ hours later they learned life existed at the bottom. We continue to explore the ocean to make new discoverers.
Principle #1: The Earth has one big ocean with many features.
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Principle #7: The ocean is largely unexplored.
 - b. explain how being ocean literate could help members of the public better understand the issue that is being reported
 - i. This article is a great remembrance of Don Walsh an explorer of the past who paved the way and excited underwater exploration. Sixty-four years later the ocean is still largely unexplored and at all depths ocean life is still being discovered. There are still areas to explore and it all start with this great man volunteering to operate an underwater vehicle without even knowing what the mission was, Walsh just wanted an opportunity to pioneer.

5. **Deep-sea expedition captures stunning images of creatures in Pacific mining zone**
<https://www.cnn.com/2024/04/02/world/new-species-pacific-deep-sea-mining-zone-scn/index.html>
 - a. relate the article to the Ocean Literacy Essential Principles & Fundamental Concepts
 - i. This article addressed the essential ocean principle numbers 3, 5, and 7. The Ocean is a place of remarkable diversity of life, ecosystems, and rare metals. Drilling sites have been identified for deep-sea mining of critical metals that are used in the making of solar panels, electric car batteries, and other green material. This expedition 5,000 meters beneath the surface photographed deep sea life and took samples for potential future mining sites. Many of these species have the longest life span of any creature and will most like not be able to recover if mining continues to grow in area. This environment has remained virtually unchanged for tens of millions of years and mining could disrupt the carbon stored in the ocean increasing the climate crisis.

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- b. explain how being ocean literate could help members of the public better understand the issue that is being reported
 - i. Being an ocean literate member of the public would help instill the importance of ocean life. This area has remained stable and full of life for millions of years. Humans are disrupting the area for mining that is critically for green technology development. The question presented for an ocean literate person would be at what cost does the mining benefits outweighs the potential negative effects of the environment.

6. **Researchers Discover Five New Hydrothermal Vents in Pacific Ocean**

https://www.sci.news/othersciences/geoscience/east-pacific-rise-hydrothermal-vents-12799.html#google_vignette

- a. relate the article to the Ocean Literacy Essential Principles & Fundamental Concepts
 - i. This article addressed the essential ocean principle numbers 1, 5, and 7. The fact that we are still discovering new deep-sea hydrothermal vent sites expresses how largely unexplored the ocean is. Scientists know the area is very active with the tectonic plates splitting apart at 4.3 inches per year creating a constantly changing environment. Life has been discovered around hydrothermal vents which create very extreme environmental living conditions. These extreme conditions lead scientists to discuss the possibilities of life on other planets.
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 - Principle #7: The ocean is largely unexplored.
- b. explain how being ocean literate could help members of the public better understand the issue that is being reported
 - i. Being ocean literate would help the public understand how vast the ocean is and the many different features there are. These features are also changing at a relatively fast rate. As we continue to explore the ocean we will find more features and environments for life to exist.