

20,000 Leagues Under the Sea

20,000 Leagues Under the Sea

by Bruce Craig Miller
Based on the novel by Jules Verne

Audience: up to 8th grade students

Virginia Standards of Learning:

English: K.1a, K.1b, K.1c, K.1d, K.2a, K.2c, K.2d, K.2e, K.2g, K.3c, K.3h, K.4b, 1.1a, 1.1c, 1.1d, 1.1e, 1.2a, 1.2b, 1.2d, 1.3a, 1.3b, 1.3c, 1.2e, 1.4a, 2.1b, 2.1c, 2.1d, 2.2a, 2.2b, 2.2c, 2.2e, 2.3d, 3.1a, 3.1c, 3.2a, 3.2b, 3.2d, 4.1, 4.1c, 4.1d, 4.1f, 4.2, 4.2d, 4.3, 4.3a, 4.3b, 4.4a, 4.4d, 4.4e, 5.1, 5.1a, 5.1c, 5.2a, 5.2c, 5.2d, 5.3

Science: K.1h, K.1j, K.4a, K.4b, K.4c, K.4d, K.4e, K.5a, K.5b, K.5c, K.6a, K.6b, K.9a, K.9b, K.10a, K.10b, 1.1c, 1.1d, 1.1e, 1.1f, 1.1j, 1.1a, 1.1c, 1.1b, 1.5a, 1.6a, 1.7b, 1.7c, 1.8a, 1.8b, 1.8c, 2.1a, 2.1b, 2.1c, 2.1g, 2.1j, 2.3a, 2.5a, 2.5b, 2.6a, 2.6c, 3.1a, 3.1b, 3.1d, 3.1g, 3.1j, 3.1k, 3.6a, 3.6c, 3.6d, 3.8a, 3.9a, 3.9b, 3.9c, 3.9d, 3.9e, 4.1a, 4.1l, 4.2a, 4.2d, 4.3b, 4.6a, 4.8a, 4.8b, 4.8c, 4.8d, 5.6a, 5.6b, 5.6c, 5.7g.

Additional Resources:

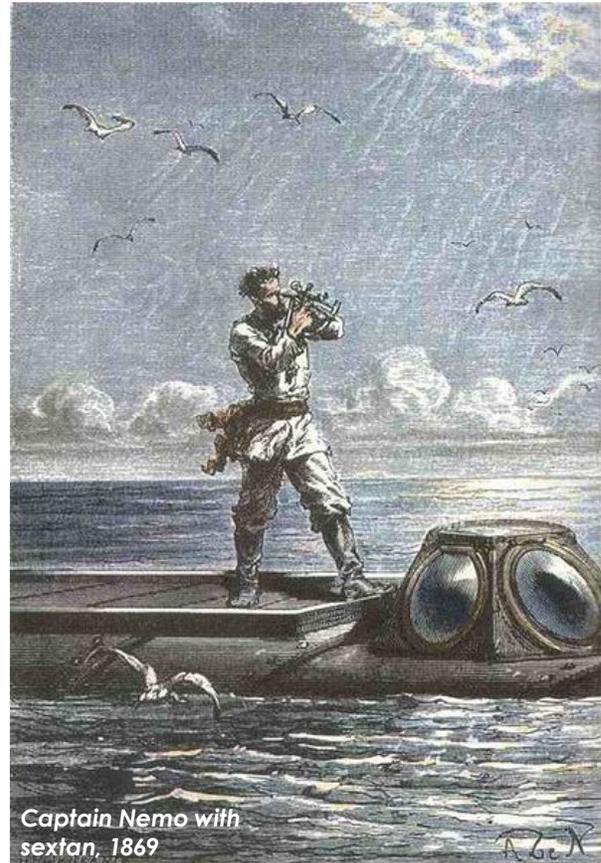
National Aeronautics and Space Administration (NASA): Oceanography
<http://science.nasa.gov/earth-science/oceanography/learning-resources/>

National Geographic: 8 Jules Verne Inventions that Came True (Pictures)
<http://news.nationalgeographic.com/news/2011/02/pictures/110208-jules-verne-google-doodle-183rd-birthday-anniversary/>

National Oceanic and Atmospheric Administration (NOAA): Oceans
<http://www.noaa.gov/ocean.html>

NOAA: Educational Games (K-12)
<http://oceanservice.noaa.gov/education/games.html>

PBS NOVA Teacher's Guides: Oceanography
http://www.pbs.org/wgbh/nova/education/resources/subj_08_00.html



Captain Nemo with saxton, 1869

This riveting adventure beneath the high seas is the perfect way to captivate minds, support the science and geography curricula and introduce young readers to one of the most popular landmarks of world literature.

This lighthearted version of Jules Verne's famous story will transport students into Captain Nemo's strange and wondrous world aboard his submarine, the *Nautilus*. Join the captain, along with Professor Elaine Aronnax, and harpooner Ned Land as they explore the undersea world in this electrifying adaptation of a 19th century classic.

Understanding Genre: Science Fiction

Science fiction is a genre of fiction dealing with imagined, futuristic, scientific or technological advances, as well as futuristic settings. Science fiction sometimes portrays space or time travel and life on other planets. Unlike fantasy, the imaginary elements in science fiction are possible within the context of the story.

Mapping the Ocean Floor

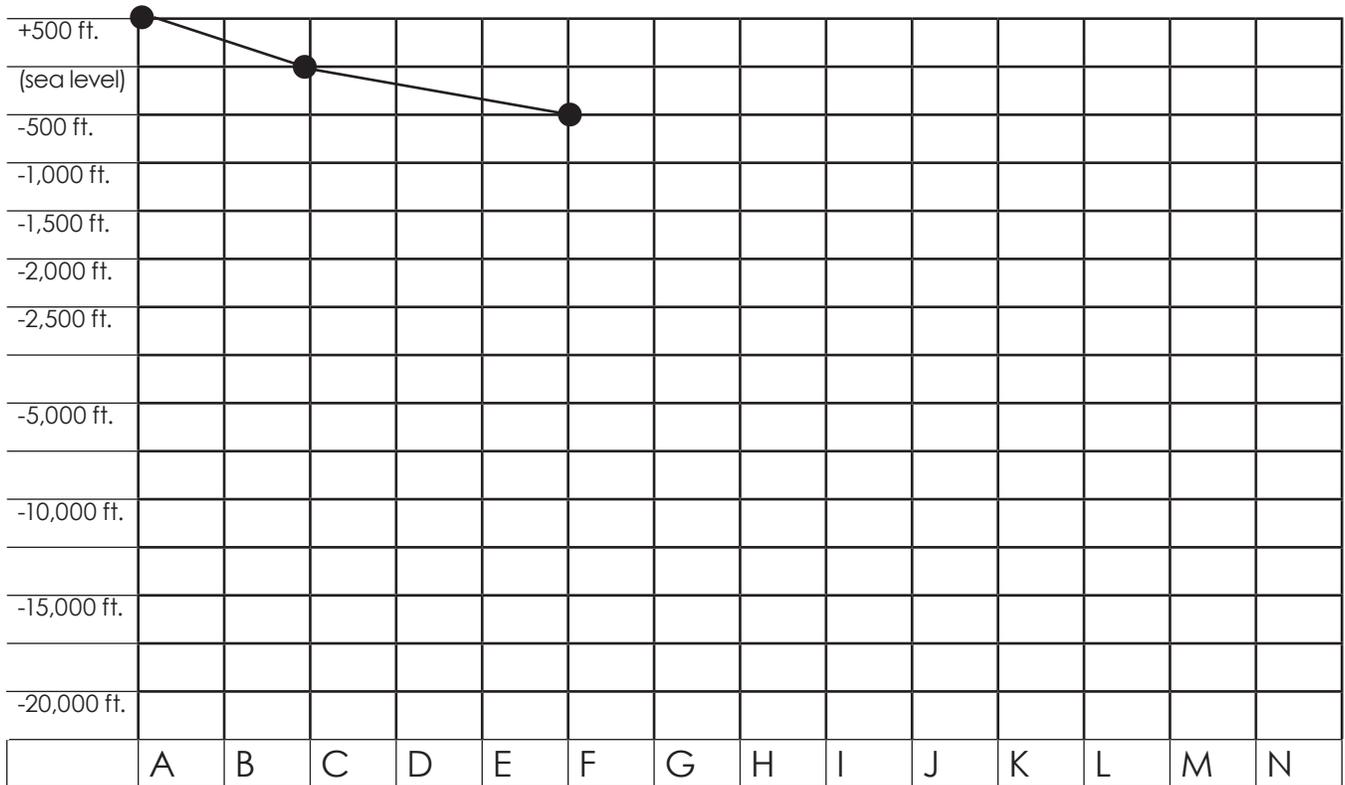
"The depths of the ocean are as unknown to us today as the surface of the moon." - Elaine Aronax

In *20,000 Leagues Under the Sea*, Captain Nemo and his crew aboard the *Nautilus* were able to explore parts of the ocean that - to this day - most will never see. However, technology has long allowed people to measure and explore the characteristics of the ocean floor. Use the data points below to plot the **coordinates** (x,y) on a graph. The first three have been done for you. Connect the dots and label the landforms listed in the box. You may add color to make your oceanic chart more interesting.

- (A, +500 ft.)
- (C, sea level)
- (F, -500 ft.)
- (G, -1,000 ft.)
- (H, -1,500 ft.)
- (I, -2,000 ft.)
- (J, -20,000 ft.)
- (L, -2,000 ft.)
- (M, +500 ft.)
- (N, -500 ft.)

Features of the Ocean Floor

- trench
- continental shelf
- continental slope
- island
- abyssal plains
- continental rise
- sea mount



It's Not Science Fiction!



Explore the sea floor and the many ways humans have mapped it through the years. For younger students, visit <http://oceanservice.noaa.gov/education/seafloor-mapping/welcome.html> to solve an interactive "mystery" of the sea. Older students can learn about how the National Oceanic and Atmospheric Administration (NOAA) uses hydrographic surveys to learn about the ocean floor: <http://oceanservice.noaa.gov/navigation/hydro/>

Sequencing a Story



Easy Activity:

1. Illustrate each event from the story on the “book pages” to the right.



Medium Activity:

2. Cut and sequence the pages to create a book.



Challenge Activity:

3. Number the pages in your book.
4. Add a book cover with an illustration.
5. Staple the book pages together.



Hero or Villain?

Discuss:

Was Captain Nemo a good guy (a hero), or a bad guy (a villain)?

Describe:

What three words would you use to describe Captain Nemo?

<input type="checkbox"/>	<input type="checkbox"/>
<p>The Nautilus attacks the Abraham Lincoln.</p>	<p>Elaine, Ned, and Conseil escape from Captain Nemo.</p>
<input type="checkbox"/>	<input type="checkbox"/>
<p>Elaine, Ned, and Conseil get on board the Nautilus.</p>	<p>The Abraham Lincoln sets sail on a mission for the United States.</p>
<input type="checkbox"/>	<input type="checkbox"/>
<p>The Nautilus gets stuck on a coral reef.</p>	<p>Elaine, Ned, and Conseil meet Captain Nemo.</p>

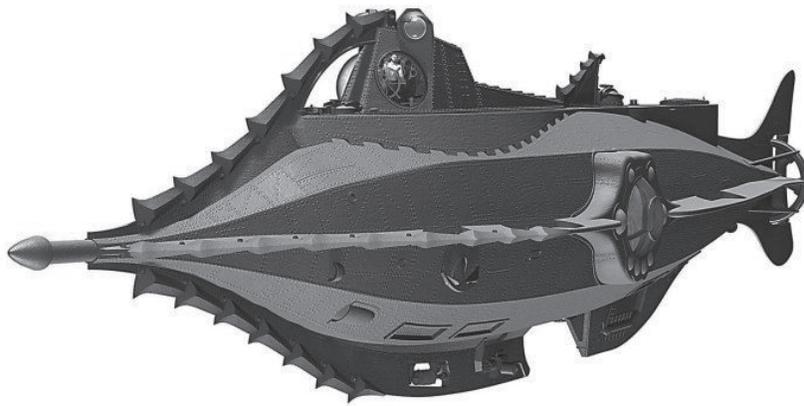
20,000 Adjectives Under the Sea

Well, we won't make you work with 20,000 adjectives - just 20. This list of adjectives is taken from the play, *20,000 Leagues Under the Sea*. List a synonym (a word that means the same thing) for each adjective on the list, then choose one of the three activities to complete.

Adjective

An adjective is a word that describes a noun or pronoun, to make it more specific. The noun "submarine" could be described with the adjectives "mighty" or "evasive." Adjectives make your writing more clear and interesting.

aboriginal	brilliant	civilized
continuous	destructive	evil
exceptional	ferocious	gigantic
hearty	humanitarian	immense
inconvenient	intense	magnificent
minimal	miraculous	prosperous
pure	unjust	



Similes of the Sea

A simile is a figure of speech that makes a comparison using an adjective and a noun. For example, "as crazy as a fox" is a simile. "Crazy" is the adjective, and "fox" is the noun.

Choose 10 of the adjectives from the list above. For each, create a simile phrase.

In the Footsteps of Jules Verne

Jules Verne was the author of many science fiction novels, including *20,000 Leagues Under the Sea*. His vivid imagination allowed him to entertain his readers with his fantastic tales. Choose 8 - 10 of the adjectives above to incorporate into your own science fiction story. Illustrate your story.

Using Your Own Adjectives: Describing a Coral Reef

In the play, Captain Nemo grounded the *Nautilus* in a coral reef. Coral reefs are teeming with life. Read "Corals and Coral Reefs" by The Ocean Portal Team, at the Smithsonian's National Museum of Natural History at <http://ocean.si.edu/corals-and-coral-reefs>. Write a description of a coral reef. How many adjectives can you use?

Motion in the Ocean: Waves and Currents

Most waves that we see are caused by wind traveling across the water's surface, pushing the water. Ocean waves are formed when energy moves through water. These hands-on activities will demonstrate wave action.

Energy on the Move

Materials:

Jump ropes (one for a demonstration, or multiple for pairs or groups of students)

Discussion:

What causes waves?
Do waves only occur in water?

Exploration:

Have two students each hold the end of a jump rope so that the rope is loose but not touching the ground. Ask one student to "make a wave" by putting energy into the rope.

Observation:

How did the rope move (side to side, or up and down)? How was the wave shaped?

Bobbing Right Along

Materials:

Pans for water
A cork for each pan
Cardboard (approx. 8.5 x 11)

Discussion:

How do waves affect objects on the ocean, such as a ship?

Exploration:

Give each group of students a pan with a cork and about 3 inches of water in it. Ask students to simulate wind by moving the cardboard back and forth to form waves on the water.

Observation:

What happens to the cork?
How does it move?

Invisible Waves

Materials:

Bowl of water (preferably clear)
A tuning fork

Discussion:

Did you know that sound travels in waves too? Can we visualize the vibrations that make up sound waves?

Exploration:

Strike the tuning fork. Observe. Strike it again. Touch and observe. Strike it a third time. Place the ends in water. Observe.

Observation:

What do you hear? What do you feel? What do you see? What happens when the tuning fork is placed in water?

Current Events

How are ocean currents like roller coasters? Find out how currents move in this 2-minute video from National Geographic. The page also includes fast facts, vocabulary, and more resources to explore ocean currents: <http://education.nationalgeographic.com/media/ocean-currents-and-climate/>

Older students may enjoy learning more about currents from NOAA's online educational resources: http://www.education.noaa.gov/Ocean_and_Coasts/Ocean_Currents.html

Extension: Distribute a reproducible world map for each pair of students. Ask students to use the web sites above, and other resources, to research Earth's ocean currents. Ask students to label these on the world map, using blue for cold currents and red for warm currents.

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Virginia Rep Presents...

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by Bruce Craig Miller
 Based on the novel by Jules Verne

Virginia Repertory Theatre
 Bruce C. Miller, Artistic Director
 Phil Whiteway, Managing Director

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Theater Etiquette



Clap, but know when to do so.

You should clap after a play, act, or song, or right before intermission. If you loved the show, you can give a "standing ovation" at the end. That's when you stand up while applauding.

It's quiet time (sort of).

If the play makes you laugh or cry, that is fine, but you can chat with your friends afterwards. Be respectful and quiet so the actors can focus on their roles. Being quiet allows the rest of the audience to concentrate on the play.

Behind the Curtains

Many people with different skills and talents work together to make a production such as *20,000 Leagues Under the Sea* come to life. Can you match these theater jobs with their descriptions?

set designer

a person who plays a role or character in stage plays, motion pictures, television broadcasts, etc.

playwright

a person who creates the look of each character by designing clothes and accessories the actors will wear in performance.

stage manager

this person's job is to pull together all the pieces and parts of a play – the script, actors, set, costumes, lighting and sound, and music to create a production.

actor

this job focuses on using light to create effects that match the mood of various scenes in a performance.

costume designer

this person is a writer of scripts for plays. The script tells a story through the actions and words of the characters.

lighting designer

this person creates the physical surroundings of a play, including any scenery, furniture, or props used throughout the play.

director

this person helps the director and helps organize the actors, designers, stage crew, and technicians throughout the production of a play.