



# Mysteries of the Deep

Activity 3: Grades 5-8

## FRONTIERS Pop-Quiz

Enter correct quizzes in the FRONTIERS Contest [see below!](#)



**STUDENT :**

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**TEACHER :**

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- 1) What did the Hunley do on February 17, 1864?
  - a) carry out the first successful submarine attack in history
  - b) sink, taking the lives of eight crewmen
  - c) both of these
  - d) none of these
  
- 2) Why were Confederate forces particularly interested in building a submarine?
  
  
  
  
  
  
  
  
  
  
- 3) What was the Hunley's source of power?
  - a) handles cranked by hand
  - b) an electric motor
  - c) a steam engine
  - d) none of these

4) What two clues were discovered that relate to the sinking of the Hunley?  
What does each suggest?

5) What is the name of the Woods Hole-based submersible that's made more deep ocean discoveries than any other submersible?

- a) the Turtle
- b) the Alvin
- c) the Titanic
- d) the Ballard

6) List three factors Ballard, his crew and the submersibles must contend with at great depths.

7) What new material allowed engineers to build smaller submersibles by replacing the need for a huge floatation tank?

8) What did Ballard discover in 1977, 8,000 feet down on the Galapagos Rift?

9) What do the bacteria that live around hydrothermal vents use for energy?

- a) The tiny amount of sunlight that reaches them.
- b) Particles of food that filter down from the surface.
- c) Chemicals produced within the Earth's crust.
- d) All of these.

10) Water at the bottom of the ocean seeps into cracks in the Earth's crust, where it is heated in magma chambers, then expelled from hydrothermal vents. The entire volume of the Earth's oceans is processed this way every \_\_\_\_\_ years.

11) What search strategy did Ballard use to locate the Titanic and other wrecks?

12) What did the discovery of shipwrecks from 2- 3,000 years ago reveal?

- a) That ancient people were better sailors than we once thought.
- b) That the trade routes were different than we once thought.
- c) What their cargo might have been.
- d) Why ancient people went to sea.
- e) All of these.

NOTE: Only teachers may enter 100% correct quizzes into the FRONTIERS Contest. FRONTIERS will draw one entry randomly after each program. The selected student will receive a [Walkalong Glider](#), signed by [Tyler and Paul MacCready](#). Send all correct quizzes in one envelope, along with teacher's name, grade and course, school name and address, where the students watched the show (home or school), and the students' favorite segment. Mail to: FRONTIERS Quiz, Chedd-Angier Production Company, 70 Coolidge Hill Rd., Watertown, MA 02472.



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## **FRONTIERS Pop-Quiz**

1) What did the Hunley do on February 17, 1864?

- a) carry out the first successful submarine attack in history
- b) sink, taking the lives of eight crewmen
- c) both of these**
- d) none of these

2) Why were Confederate forces particularly interested in building a submarine?

**To break up the Union's naval blockade of Charleston Harbor, the South's vital link to European markets during the Civil War.**

3) What was the Hunley's source of power?

- a) handles cranked by hand**
- b) an electric motor
- c) a steam engine
- d) none of these

4) What two clues were discovered that relate to the sinking of the Hunley? What does each suggest?

**The larger materials deposited after the finer silt, suggesting hull was intact at time of sinking. The rubber seal around the hatch is not entirely compressed, suggesting it was not closed tightly.**

5) What is the name of the Woods Hole-based submersible that's made more deep ocean discoveries than any other submersible?

- a) the Turtle
- b) the Alvin**
- c) the Titanic
- d) the Ballard

6) List three factors Ballard, his crew and the submersibles must contend with at great depths.

**Cold, dark, pressure**

7) What new material allowed engineers to build smaller submersibles by replacing the need for a huge floatation tank?

**Syntactic foam**

8) What did Ballard discover in 1977, 8,000 feet down on the Galapagos Rift?

**Hydrothermal vents.**

9) What do the bacteria that live around hydrothermal vents use for energy?

- a) The tiny amount of sunlight that reaches them.
- b) Particles of food that filter down from the surface.
- c) Chemicals produced within the Earth's crust.**
- d) All of these.

10) Water at the bottom of the ocean seeps into cracks in the Earth's crust, where it is heated in magma chambers, then expelled from hydrothermal vents. The entire volume of the Earth's oceans is processed this way every \_\_\_\_\_ years.

**8- 10 million**

11) What search strategy did Ballard use to locate the Titanic and other wrecks?

**Sail perpendicular to the current and look for debris trails.**

12) What did the discovery of shipwrecks from 2- 3,000 years ago reveal?

- a) That ancient people were better sailors than we once thought.
- b) That the trade routes were different than we once thought.
- c) What their cargo might have been.
- d) Why ancient people went to sea.
- e) All of these.**