Buzzer Question # 1

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Physical

**Question:** Which body of water has the highest salinity?

**Answer W:** Mediterranean Sea

**Answer X:** Red Sea

**Answer Y:** Baltic Sea

**Answer Z:** Black Sea

Correct Answer: X: Red Sea
Buzzer Question # 2

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Physical

**Question:**  
What is the approximate time interval between successive high tides in an area with a diurnal tidal cycle?

**Correct Answer:** accept any answer between 23 and 25 hours
Buzzer Question # 3

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Geography

**Question:**  
The deepest place on Earth is in the Marianas Trench. Where is this located?

**Answer W:**  
South of the Aleutian Chain

**Answer X:**  
Northeast of New Zealand

**Answer Y:**  
Southeast of Guam

**Answer Z:**  
East of Puerto Rico

**Correct Answer:** Y: Southeast of Guam
Buzzer Question # 4

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Geography

**Question:**  
Nautical charts denote depths in units of fathoms. About how many meters are equal to 100 fathoms?

**Correct Answer:** accept any number between 180 and 200 meters
**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Chemical

Question:
Seawater in the vicinity of a major phytoplankton bloom is characterized by...

**Answer W:** low CO$_2$ and high nutrient content.

**Answer X:** low O$_2$ and high nutrient content.

**Answer Y:** high O$_2$ and low nutrient content.

**Answer Z:** high CO$_2$ and low nutrient content.

Correct Answer: Y: high O$_2$ and low nutrient content.
Buzzer Question # 6

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Geological

**Question:** Why are most atolls in the Pacific Ocean?

**Correct Answer:** Atolls are formed when a coral reef forms around a volcanic island and the island then sinks or is eroded so that the original volcanic island is below sea level. Coral reefs only form in tropical waters and most volcanic islands are found in the Pacific Ocean.
Buzzer Question # 7

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Geology

**Question:** Which feature is at the greatest depth in the ocean?

**Answer W:** Abyssal plain  
**Answer X:** Continental shelf  
**Answer Y:** Submarine canyon  
**Answer Z:** Continental rise

**Correct Answer:** W: Abyssal Plain
Buzzer Question # 8

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Physical

**Question:**  
What is it called when nutrients deep in the ocean are brought to the surface by water currents?

**Correct Answer:** Upwelling
Which property of seawater is changing rapidly in the halocline?

Answer W: Salinity

Answer X: Temperature

Answer Y: Density

Answer Z: Color

Correct Answer: W: Salinity
Buzzer Question # 10

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Geological

**Question:**  
What is the deepest part of the Atlantic Ocean?

**Correct Answer:** The Puerto Rico Trench
Buzzer Question # 11

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Geology

**Question:** What is a flat-topped, submerged seamount or mountain called?

**Answer W:** Massif

**Answer X:** Gyot (ghee-oh)

**Answer Y:** Plateau

**Answer Z:** Cordillera

Correct Answer: X: Gyot (ghee-oh)
Buzzer Question # 12

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Geography

**Question:**
Its surface temperature can reach over 36 degrees Celsius, making which ocean the warmest?

**Correct Answer:** Indian Ocean
Buzzer Question #13

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Physical

**Question:** What is the generating force and the restoring force of sea swell?

**Answer W:** The generating force is wind and the restoring force is surface tension.

**Answer X:** The generating force is wind and the restoring force is gravity.

**Answer Y:** The generating force is a sudden movement of the sea floor, and the restoring force is gravity.

**Answer Z:** The generating force is low atmospheric pressure, and the restoring force is gravity.

**Correct Answer:** X: The generating force is wind and the restoring force is gravity.
Buzzer Question # 14

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Physical

**Question:**  
Why does Great Britain have a relatively mild climate?

**Correct Answer:** The warm Gulf Stream moderates the climate.
Buzzer Question # 15

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Geology

**Question:** A fjord is an example of a coastline that was mainly shaped by what?

**Answer W:** Erosion by glaciers

**Answer X:** Erosion by rivers

**Answer Y:** Movements of the earth's crust due to plate tectonics

**Answer Z:** Erosion and deposition of sediment by waves

**Correct Answer:** W: Erosion by glaciers
Buzzer Question # 16

**Question Type:** Bonus
**Question Format:** Short Answer
**Category:** Physical

**Question:**
What is the average salinity of the ocean?

**Correct Answer:** accept any answer between 32 and 37
Buzzer Question # 17

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Geology

**Question:**
How are coral reefs formed?

**Answer W:**
Movements of the Earth's crust due to plate tectonics

**Answer X:**
Tiny plants related to diatoms that deposit the mineral silica

**Answer Y:**
Tiny animals related to sea anemones that deposit the mineral calcium carbonate

**Answer Z:**
Tiny animals related to amphipods that deposit hard skeletons made of chitin

**Correct Answer:** Y: Tiny animals related to sea anemones that deposit the mineral calcium carbonate
Buzzer Question # 18

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Biology

**Question:**
What is the term for the deepest environment of the ocean?

**Correct Answer:** hadal zone or hadalpelagic zone
Buzzer Question # 19

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Physical

**Question:** Why does the Coriolis Effect influence the motion of winds and ocean currents?

**Answer W:** The Earth revolves around the sun

**Answer X:** The Earth rotates on its axis

**Answer Y:** The moon revolves around the Earth

**Answer Z:** The Earth’s crustal plates are constantly in motion

**Correct Answer:** X: The Earth rotates on its axis
Buzzer Question # 20

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Chemistry

**Question:**
As oceans absorb carbon dioxide from the air, what acid is produced?

**Correct Answer:** Carbonic acid
Buzzer Question # 21

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Biology

**Question:**
There was a very productive fishery for anchovies along the coast of Peru because:

**Answer W:** Phytoplankton production is high there because there is no grazing by copepods.

**Answer X:** Phytoplankton production is high there because wind-driven upwelling brings nutrients from deeper water to the surface.

**Answer Y:** Phytoplankton production is high because there is almost no wind and little mixing of the water.

**Answer Z:** Phytoplankton production is high because of El Niño.

Correct Answer: **X:** Phytoplankton production is high there because wind-driven upwelling brings nutrients from deeper water to the surface.
Buzzer Question # 22

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Biology

**Question:** Which organisms form the base of the food chain at hydrothermal vents due to their ability to convert carbon and nutrients into organic matter in the absence of sunlight?

**Correct Answer:** Chemosynthetic Bacteria
Buzzer Question # 23

Question Type: toss-up
Question Format: Multiple Choice
Category: Geological

Question: Where are you most likely to find a fresh water lens?

Answer W: At the mouth of a river

Answer X: Suspended below salt water

Answer Y: Beneath a sandy oceanic island

Answer Z: In an estuary

Correct Answer: Y: Beneath a sandy oceanic island
Buzzer Question # 24

Question Type: Bonus
Question Format: Short Answer
Category: Geography

Question:
What area of the ocean was Columbus referring to when he wrote about a sea full of vegetation resembling pine branches so dense he thought it was shallow and the ships would run aground?

Correct Answer: Sargasso Sea
Buzzer Question # 25

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Geology

**Question:** What is the main mineral in a coral reef?

**Answer W:** Halite

**Answer X:** Calcite

**Answer Y:** Gypsum

**Answer Z:** Feldspar

**Correct Answer:** X: Calcite
Buzzer Question # 26

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Chemistry

**Question:**  
Name two sources of molecular oxygen on the surface of the ocean.

**Correct Answer:**  
1. Transport of oxygen from the atmosphere to the ocean surface across the air-sea interface.  
2. Photosynthesis in the photic zone.
What is transported through the ocean in turbidity currents?

Answer W: nutrients

Answer X: oxygen

Answer Y: salts

Answer Z: sediments

Correct Answer: Z: sediments
Buzzer Question # 28

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Physical

**Question:**  
What major ocean current flows near Bermuda?

**Correct Answer:** Gulf Stream
Buzzer Question # 29

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Geology

Question: What is a tombolo composed of?

**Answer W:** Lava

**Answer X:** Sand

**Answer Y:** Limestone

**Answer Z:** Granite

Correct Answer: X: Sand
Buzzer Question # 30

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Geology

**Question:**
What is the term for a ridge of sand, silt or gravel in a river channel or along a coastline?

**Correct Answer:** Bar (or sand bar or gravel bar)
Buzzer Question # 31

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Technology

**Question:** What was the primary purpose of the Glomar Challenger Expedition?

**Answer W:** To evaluate ocean currents

**Answer X:** To conduct deep sea drilling

**Answer Y:** To measure ocean surface salinity

**Answer Z:** To collect samples of deep sea marine life

**Correct Answer:** X: To conduct deep sea drilling
Buzzer Question # 32

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Chemical

**Question:**
Some ships are equipped to vacuum them off the bottom. Others pull a continuously moving series of dredge buckets along the ocean floor to scoop them up. Another system sends remote-controlled collectors to get them from the ocean bottom. What is being mined?

**Correct Answer:** Manganese nodules
Buzzer Question # 33

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Physical

**Question:** What are the characteristics of neap tides?

**Answer W:**
High tides are at their lowest and low tides are at their highest.

**Answer X:**
High tides are at their highest and low tides are at their lowest.

**Answer Y:**
Both high tides and low tides are at their lowest.

**Answer Z:**
Both high tides and low tides are at their highest.

**Correct Answer:** W: High tides are at their lowest and low tides are at their highest.
Buzzer Question # 34

**Question Type:** Bonus
**Question Format:** Short Answer
**Category:** Geography

**Question:**
What waterway separates the Mediterranean Sea from the Atlantic Ocean?

**Correct Answer:**
Strait of Gibraltar
Buzzer Question # 35

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Chemistry

**Question:** Chlorinity of sea water is related to the total amount of what substance dissolved in the water?

**Answer W:** oxygen  
**Answer X:** organic matter  
**Answer Y:** salts  
**Answer Z:** pollution

**Correct Answer:** Y: salts
Buzzer Question # 36

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Physical

**Question:** North and south of the equator are two westward moving ocean currents that derive their energy primarily from what winds that blow from the northeast and the southeast?

**Correct Answer:** Trade winds
Buzzer Question # 37

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Geography

**Question:** Which body of water does NOT border Asia?

**Answer W:** Arctic Ocean

**Answer X:** Indian Ocean

**Answer Y:** Yellow Sea

**Answer Z:** North Sea

**Correct Answer:** Z: North Sea
Buzzer Question # 38

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Physical

**Question:**
What is the name for a narrow seaward flow of water caused by waves breaking in the surf zone and piling up against the coast?

**Correct Answer:** Rip current (also accept rip tide)
Buzzer Question # 39

**Question Type:** toss-up  
**Question Format:** Multiple Choice  
**Category:** Physical

**Question:**  
At what temperature does fresh water have its maximum density?

**Answer W:**  
0 degrees C.

**Answer X:**  
4 degrees C

**Answer Y:**  
32 degrees C

**Answer Z:**  
100 degrees C

Correct Answer: X: 4 degrees C
Buzzer Question # 40

**Question Type:** Bonus  
**Question Format:** Short Answer  
**Category:** Physical

**Question:**  
Name three events that can generate a tsunami.

**Correct Answer:** Any three of the following:  
earthquake  
landslide  
volcanic eruption  
meteorite impact