

HYDROSPHERE

EOG REVIEW

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- Why is fresh water in short supply on Earth?
- A. Most of it is frozen
- B. Most of it is polluted
- C. Most of it is in the atmosphere
- D. Most of it is trapped underground

A. About 69% Percent of our freshwater is trapped in ice caps and glaciers

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- Which is the most abundant freshwater resource in NC?
- A. Estuaries
- B. Icebergs
- C. Oceans
- D. Rivers

- D. Rivers

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- Of the 74% of Earth's surface that is covered in water, which contains the most water?
- A. lakes
- B. Rivers
- C. Oceans
- D. Streams

C. Oceans.

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- Which would most likely affect the amount of water in a lake used to supply drinking water to the nearby city?
- A. a factory releasing chemicals into the lake
- B. long-term water shortage in the area of the lake
- C. Use of the lake for recreational purposes
- D. Amount of sediment in the lake

- B – The question is talking about the **AMOUNT** of water available

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- Which statement best compares the amount of water present on Earth today with the amount present millions of years ago?
- A. There is slightly more water on Earth today.
- B. There is significantly less water on Earth today.
- C. There is significantly more water on Earth today.
- D. There is about the same amount of water on Earth today.

D.



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Which would be the best way for humans to conserve large amounts of water during a drought?

- A. Install high flow toilets
- B. Bathe only once a week
- C. Limit drinking water in restaurants
- D. Limit use of outdoor sprinkler systems

- D – Sprinklers use TONS of water. Cutting down on that will save the most water.

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- Where is most of Earth's available freshwater stored?
- A. Underground
- B. The atmosphere
- C. Lakes and rivers
- D. Ice caps and glaciers

- A.

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- Approximately what percentage of the hydrosphere is represented by the oceans on Earth?
- A. 30%
- B. 70%
- C. 87%
- D. 97%

- D. 97% (which is also salt water)

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- Which is most likely the largest contributor to a decrease in NC's water availability?
- A. Evaporation
- B. Global warming
- C. Increase in population
- D. Expansion of agricultural areas

- C- Anytime we have more people, we have less water.

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- Which best explains how estuaries support plant and animal life?
- A. The dry land removes pollutants
- B. The water provides energy for growth
- C. The habitat areas provide nutrients and shelter
- D. The cold temperatures decrease dissolved oxygen

- C

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Why are upwelling's in the ocean essential for some organisms to survive?

- A. Because many animals need low-tide conditions each day
- B. Because currents carry predators away from the surface
- C. Because the warm water kills bacteria before it can harm plankton
- D. Because needed nutrients and dissolved gases are brought into new areas.

- D. – Upwellings provide food.

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Scientists have found strange new life forms called “tube worms” on the deep ocean bottom. Which most likely provides energy for the tubeworms?

A. Algae

B. Small fish

C. Photosynthesis

D. Hydrothermal vents

- D- Bottom of the ocean, Hydrothermal vents – they are chemotrophs feeding off the chemicals coming out of the vents.

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What most directly affects dissolved oxygen in a body of water?

- A. pH
- B. Salinity
- C. Temperature
- D. Turbidity

- C- Temperature – the higher the temp the lower the dissolved oxygen, the lower the temp the higher the dissolved oxygen.

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Why do lakes, rivers, and streams most likely require more treatment than ground water?

- A. They are classified as surface water resources.
- B. They experience fewer governmental regulations.
- C. They are exposed to a greater variety of contaminants.
- D. They are constantly in motion.

C. There is more opportunity for pollution traveling through so many places and areas.

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Which best explains why estuaries are productive ecosystems?

- A They have high saltwater content.
- B. They have high levels of dissolved gases.
- C. They receive nutrients from both rivers and the ocean
- D. They receive chemicals from commercial and industrial runoff.

- C.

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A measure of the natural populations of algae, plants, fish, and other wildlife provides evidence of the health of a body of water. By which term are these measures known?

- A. pH Indicators
- B. Bio-indicators
- C. Abiotic factors
- D. Turbidity factors

- B is the only thing talking about the biotic (living things).

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How is the size of Raleigh's population related to the availability of water in the area?

A. As the population increases, water availability increases.

B. As the population increases, water availability decreases.

C. As the population decreases, water availability decreases.

D. As the population decreases, water availability remains the same.

- B = more people = less water

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Which organism would make a good bioindicator?

- A. An organism that is endangered
- B. An organism that is not tolerant of slight physical or chemical changes
- C. An organism that has reached its carrying capacity in the ecosystem
- D. An organism that is not sensitive to slight physical or chemical changes.

- B. Because it is the definition of bio indicator

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- Which would most affect the health of fish in a local pond?
- A. The daily release of hot water into the pond from a local factory.
- B. A storm temporarily stirring up water and sediments in the pond.
- C. The occasional erosion of sediments into the pond from a nearby field.
- D. A slight increase in the number of people who fish in the pond for food.

- A – It is the only factor that is happening everyday over a long period of time – Which will always cause more damage than a temporary change.

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How does upwelling in the ocean affect algae populations in the area?

- A. The algae population grows slowly and forces marine life to move out to sea.
- B. The current produced by the upwelling forces the algae population to relocate.
- C. The algae population becomes depleted as a result of colder water temperatures.
- D. The nutrients supplied as a result of the upwelling cause algae to become abundant.

- D – more nutrients, more growth of organisms

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A new golf course is built next to a river. Over the past several months, the nitrate levels of the water in the river have been increasing. Which best explains the cause of the increasing nitrate levels?

- A. Increased growth of algae
- B. Decreased biodiversity
- C. Runoff from fertilizer
- D. Low oxygen levels

- C. Golf course = grass

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- Which best explains why most prescription and over-the-counter drugs should not be disposed of in the sink or toilet?
- A. The drugs can clog drains.
- B. The drugs may not dissolve
- C. The drugs may enter the water cycle
- D. The drugs may become less effective.

- C – Medicines are harmful to put in our water and can be absorbed into the living things in the water.

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Which would most likely happen if too many nutrients entered an estuary?

- A. Nutrients would be used up by the fish and plants, keeping the estuary in balance.
- B. Algal blooms would lower dissolved oxygen levels , causing fish to suffocate.
- C. Algal blooms would decrease leaving few food resources for fish
- D. Nutrients would sink to the bottom, increasing soil deposition

- B – Nutrients can mean “fertilizers” – which causes all the stuff B says.

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How is the amount of oxygen in ocean water affected by temperature?

- A. The amount of oxygen in ocean water increases as temperature increases.
- B. The amount of oxygen in ocean water increases as temperature decreases
- C. The amount of oxygen in ocean water decreases as temperature decreases
- D. The amount of oxygen in ocean water is kept constant as temperature decreases.

- B – Temperature is directly connected to the amount of dissolved oxygen in the water.
- They are opposites.

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How does the use of a pH meter help monitor the hydrosphere?

- A. By indicating whether the water is too acidic or basic
- B. By indicating if there is too much sediment in the water
- C. By indicating whether microorganisms are living in the water.
- D. By indicating if there is enough dissolved oxygen in the water

A – that's what a pH meter does.

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Scientists have found strange new life forms called “tubeworms” on the deep ocean bottom. Which most likely provides energy for the tubeworms?

A. Algae

B. Small fish

C. Photosynthesis

D. Hydrothermal vents

- D.

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Where is the majority of Earth's freshwater located?

A. Ground water

B. Oceans

C. Lakes

D. Ice

- D- Ice

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The start of a river is known as what?

- A. Mouth
- B. Head waters
- C. Delta
- D. Estuary

- B

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- The overall health of a body of water can be most accurately determined by studying which property of the water?
- A. Volume of water
- B. Surface area of the water
- C. Types of sediment found in the water
- D. Amount of dissolved oxygen in the water

D – more dissolved oxygen = more things that can live in that aquatic ecosystem.

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What does pH measure?

- A. acidity/ alkalinity
- B. Dissolved oxygen
- C. Nutrient level
- D. Turbidity

A.

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Which describes the hydrosphere?

A. All of Earth's organisms and the environments in which they live

B. A layer of Earth's atmosphere made up primarily of concentrated ozone

C. All of the water in Earth's oceans, lakes, seas, rivers, and glaciers, plus the water in the atmosphere

- C.

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Which percentage represents the amount of freshwater on Earth?

- A. 3%
- B. 23%
- C. 97%
- D. 75%

- A- 3%
- 97% is salt water

33

Which aspect of fertilizer pollution would have the greatest negative impact on an aquatic ecosystem?

- A. Nitrates poison the water that fish breathe through their gills
- B. Microorganisms in the water absorb all the oxygen, suffocating animals
- C. Aquatic animals increase, adding producers to the food chain and feeding fish
- D. Algal blooms deplete the oxygen and block the sunlight from penetrating a body of water.

D – Its what happens when there are too many nitrates in the water.

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- Which best describes why melting icebergs to obtain freshwater can be harmful to our environment?
- A. It can increase the habitats of arctic animals
- B. It can be costly and complicated to transport the icebergs
- C. It can cause temperature change in water and climate change in a region.

- C- Temp change = duh
- Climate is caused by ocean currents bringing in warm or cold water to an area which will affect that areas evaporation rate, water in the air, and therefor precipitation.

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- Why are large numbers of ocean animals found in areas where upwelling occurs?
- A. Oxygen is increased by the movement of water.
- B. Oxygen is decreased by the movement of water
- C. Nutrients are increased by the movement of water.
- D. Nutrients are decreased by the movement of water.

- C- Upwellings = more food due to the movement of cold water from the bottom of the ocean toward the surface

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- If a newly discovered fish species is found to live in a mildly acidic water, which is the best estimate of the pH range for the water?
- A. 0-2
- B. 5-6
- C. 7-8
- D. 13-14

- B -5-6 is slightly acidic
- 7= Neutral
- 8 is starting to become more basic

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Which groundwater contaminant contained in fertilizers and pesticides comes from farms?

- A. Bacteria
- B. Mercury
- C. Nitrates
- D. Sodium

- C- Nitrates

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Why is high turbidity hazardous to aquatic life?

- A. High turbidity can cause low pH
- B. High turbidity can create high competition for food among organisms
- C. High turbidity can clog fish gills with floating sediment.
- D. High turbidity can increase the amount of sunlight reaching the bottom of a pond, lake, or stream

C

A, B, and D have nothing to do with turbidity

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Which substance is used in a sewage treatment system to kill harmful bacteria?

- A. Ammonia
- B. Chlorine
- C. Sand
- D. Soap

- B -Chlorine is the main chemical used to kill bacteria in water treatment plants.

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- What does a pH of 7 most likely indicate about the water quality?
- A. The water is a strong base
- B. The water is highly acidic
- C. The water is toxic to drink
- D. The water is safe to drink

- D. $-7 = \text{NEUTRAL}$
- The closer to 0 the stronger the acid.
- The closer to 14 the stronger the base.