Researcher Learning Activities

Investigate the coral reefs of Belize in more depth

12. What threatens the health of the Belize Coral Reef System (part 2)

Requirements: table salt, 2 clear glasses, a tablespoon, tap water, 2 raw eggs
Researcher team: as a class, or in a team of 3-5 explorers
Curriculum: Science
Time: 20 minutes

Corals are sensitive to pollution and sediments. Sedimentation comes from soil erosion or from the decomposition of plants and animals. Sediment can cause the water to become cloudy, blocking out the sun. Wastewater discharged into the ocean near the reef can contain too many nutrients that cause seaweeds to overgrow the reef.

Corals need saltwater to survive and require a certain balance in the ratio of salt to water. Saltwater is more dense than freshwater. As weather patterns change due to global warming, freshwater added at the surface dilutes the seawater so reduces the salinity and so makes the water less dense.

Explorer Learning Activities

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You are going to show that saltwater is more dense than freshwater.

- Fill the 2 glasses with tap water.
- Add about 6 tablespoons of salt in one glass and stir it well with a tablespoon until the salt has completely dissolved in the water.
- Place one egg in each of the glasses and observe which one of the eggs floats in the container and which one sinks.

The egg that is placed in tap water sinks to the bottom of the glass. This is because a raw egg has a greater density than tap water. When you add salt to the water, you increase the density. That is to say, the salt packs into the same volume of water. With enough salt added to the water, the density of the water is greater than the egg, allowing the egg to float.

More Information/ Teacher Notes

Corals generally live in water temperatures of 20–32° C. They have tolerance to a very narrow temperature range. Oceans absorb more than 90% of the excess heat caused by global warming so sea temperatures are rising.

Record ocean temperatures cause stronger storms, kill fish, threaten coral reefs, boost the growth of harmful algae and in the long-term, they cause sea levels to rise. Rising sea levels mean that sunlight might not reach the corals.