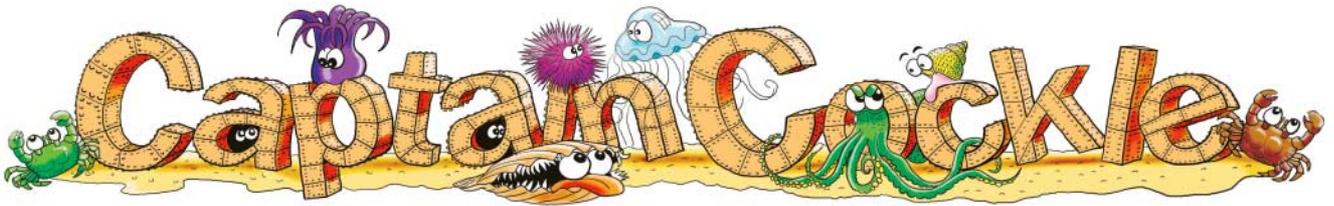


# Aquatic Life



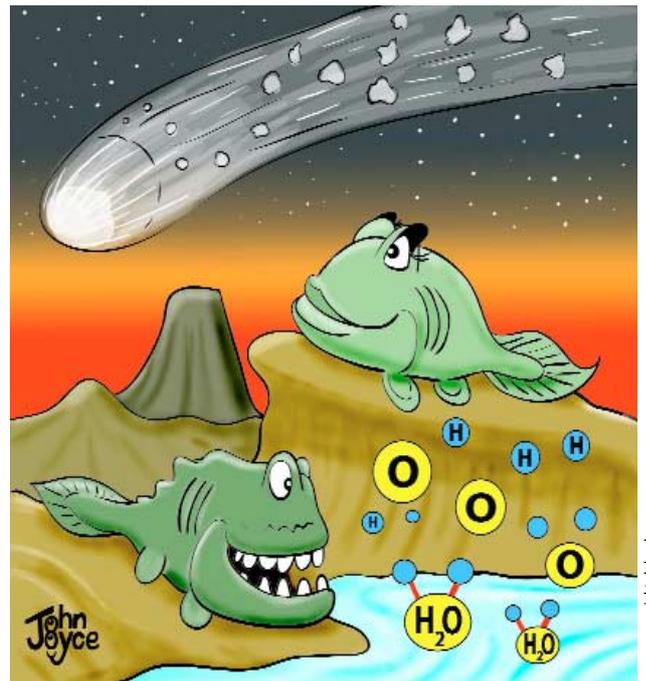
## Where did the Sea come from?

Some scientists believe that the water which now covers over 70% of our planet was formed here on Earth. This was thought to have happened when hydrogen (the small 'H' atoms in the cartoon on the right) in Earth's primal atmosphere reacted with the larger oxygen atoms (represented by the yellow 'O' atoms) found in oxides in our planet's crust to form molecules of water ( $H_2O$ ). According to this theory, water vapour then burst up through the crust of the Earth through volcanoes, cooled to a liquid and ran to the lowest point it could reach, forming lakes, oceans and sea. As it went, it took dissolved minerals from the rocks over which it flowed, which included the salts that make seawater salty (see below).

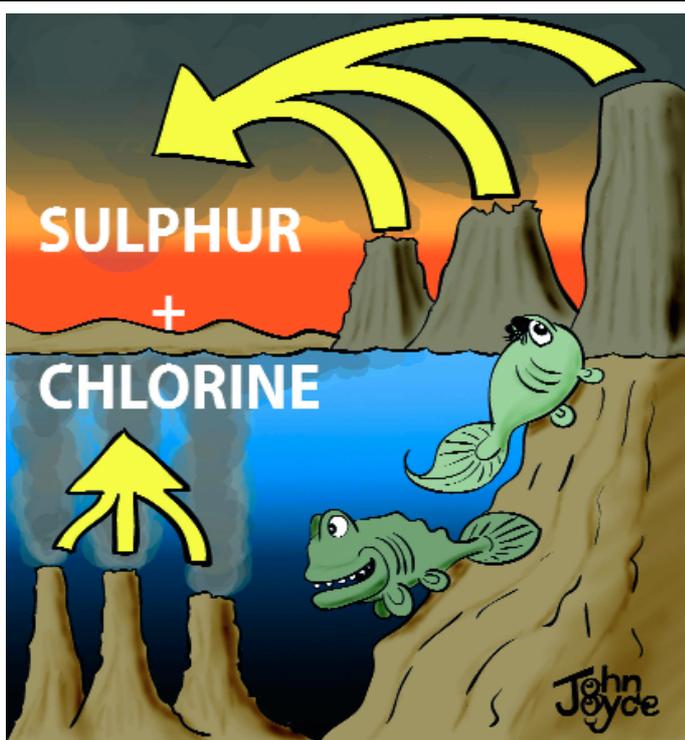
Other scientists are convinced that water was brought to this planet from outer space by water-rich asteroids and comets hitting its surface around 3.8 billion years ago in the form of ice. This is because the water molecules found on earth contain a special type of hydrogen atom called 'Deuterium' in the same ratio as water detected frozen as ice on comets and asteroids.

by John Joyce

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## Why is the Sea Salty?

Over 200 years ago the French pioneer of modern chemistry Antoine Lavoisier suggested that the salt in seawater was 'the rinsings of Earth' and had been washed there from the land by way of rain, streams and rivers.

Modern scientists know that this is only part of the answer, since the salts in seawater contain high levels of sulphur and chlorine, which could not have come from simple weathering and must have come from volcanoes which spew out gases containing both chlorine and sulphur.

These volcanoes occur not only on land, but deep under the ocean where the great 'tectonic plates' of solid rock that cover our planet meet. Seawater flows down between these plates, is heated under pressure to well above boiling point and spews back out into the ocean, taking rich amounts of minerals such as sulphur and chlorine with it.

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