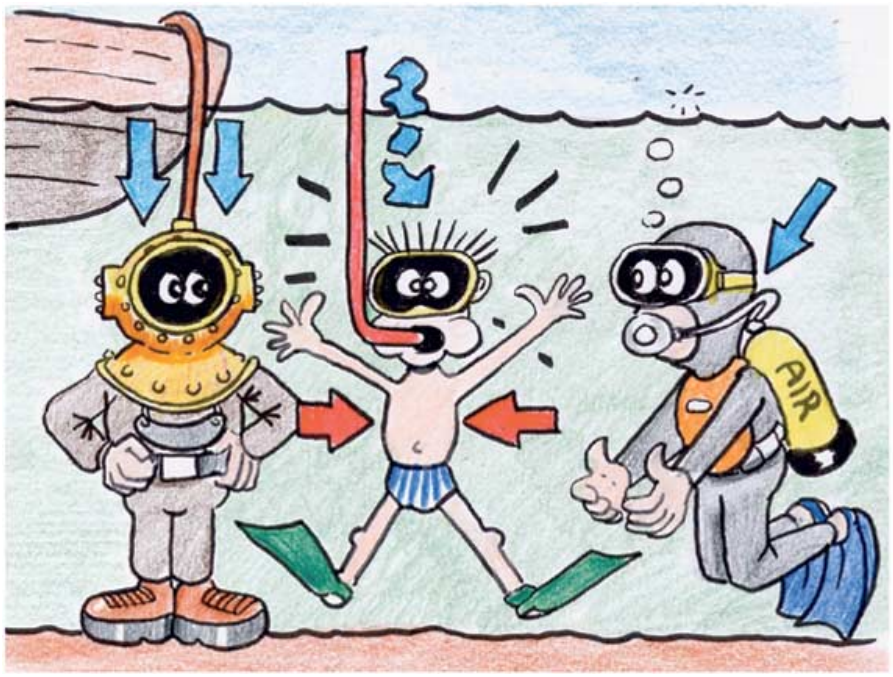
Putting yourself under PRESSURE

One of the first problems people faced in undersea exploration was water pressure, due to the weight of water pressing in on any body immersed in it. Even a few feet below the surface, water pressure will squeeze a diver's lungs so tightly that he cannot breathe air directly from the surface. This is why divers must be supplied with air equal in pressure to the surrounding water in order to breathe.

Up until the Second World War, this air was usually supplied under pressure from a pump on the surface directly into the diver's helmet. In 1943 however, the famous French underwater explorer Jacques Cousteau and his partner Emil Gagnan invented the "aqualung" or SCUBA – the Self Contained Underwater Breathing Apparatus – that supplied compressed air from a tank at the same pressure as the water outside.

This invention freed divers from cumbersome air tubes and led to the exploration of the underwater world.



Captain Cockle's Log

Welcome aboard shipmates! Together, we'll be taking a look at the world's greatest natural resource – the sea!

Words & pictures by John Joyce

For more adventures from Captain Cockle, visit his website at

www.captaincockle.com

See for yourself . . .

Wrap your hand in a plastic bag and pushing it into a bucket of water. Water pressure will "shrink wrap" the bag around your hand! Or, punch holes down the side of a soft-drink bottle and fill it with water. Water at the bottom is under more pressure from the weight of water above it and will flow out faster.

Deeper and Deeper . . .

The best shape to resist the enormous pressures of the deep sea is a simple sphere. In 1930 William Beebe dived to over 400 metres in a steel sphere 6 cm thick.

In 1963 the bathyscaphe "Trieste" - consisting of a steel sphere below a gasoline filled steel float – dived over eleven KILOMETRES to the deepest part of the ocean, the "Challenger Deep" of the Marianas Trench in the Pacific.