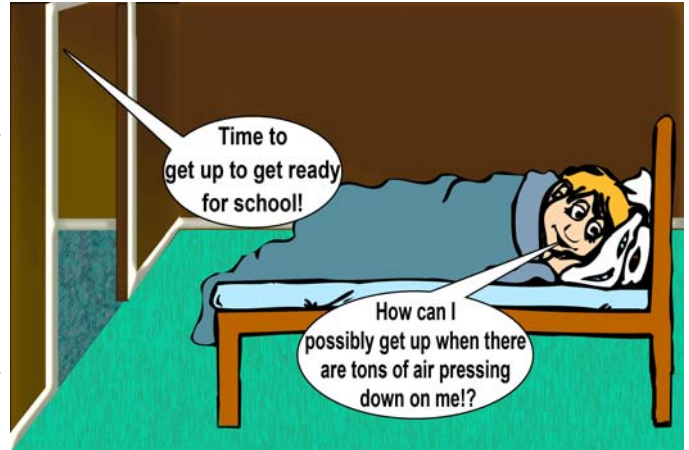


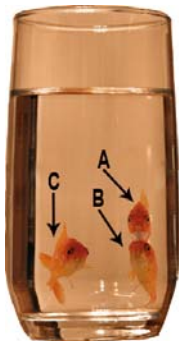
Pressure in a Fluid

A fluid is anything that flows. This refers to either gases or liquids. Because fluids flow, it is possible to move around inside them and be surrounded by them. We are surrounded by air, and fish are surrounded by water. The air that surrounds us and the water that surrounds fish have weight. The higher a column of fluid extends, the more it weighs and the greater the pressure it exerts. The deeper you go in a fluid, the more the fluid above you weighs, and the greater the pressure is. Pressure in a fluid is exerted in all directions at right angles to the surface it is exerted on. The weight of the blanket of air surrounding earth produces air pressure. At earth's surface, the air exerts a force of over 10 N over every square centimeter. The higher you go in the blanket of air, the lower the pressure is. Air pressure is measured with a barometer.



Answer the questions below based on your reading above and on your understanding of physics.

1. The picture to the right shows three goldfish in a glass of water. On which of these fish is the water pressure greatest, and on which of these fish is the water pressure the lowest? Explain. _____



2. In what direction is water pressure pressing on the fish in the glass pictured above? _____

3. How does the air pressure in a valley compare to the air pressure on a mountain top? _____

4. Standard air pressure on earth is 101.3 kPa (over 10 N/cm²)

- a. How does the air pressure on a large surface compare to the air pressure on a small surface? _____

- b. How does the force exerted by air on a large surface compare to the force exerted by air on a small surface? _____