

Forces, Fluids, and Density

Earth is covered and immersed in water and air, which are both fluids. Fluids are liquids or gases, substances that are able to flow and take the shape of their containers. They are a big part of your life.

Your body depends on fluids like blood, water, and air. The fluids in your circulatory, respiratory, and digestive systems have many things in common. Properties of fluids help explain what happens in these systems.

The properties of liquids can also help explain how objects rise and fall in fluids and how some fluid-filled devices work, like your heart and the brakes in a car. First Nations peoples designed canoes and kayaks based on their ideas about floating and sinking. These designs continue to be the basis of innovative new technologies.

In this unit, you will discover many different properties of fluids. You will investigate the relationships among some of these properties and have a chance to apply what you learn to building devices that use fluids in a variety of ways.



A knowledge of fluids is important for many reasons—from the oil industry to recreational activities.

BIG IDEAS

- 1.0** All fluids demonstrate the property of viscosity, or the internal friction that causes a fluid to resist flowing.
- 2.0** Density is another important property of fluids.
- 3.0** Fluids exert a buoyant force on objects that causes some objects to float.
- 4.0** Understanding the properties of fluids helps in the design and construction of useful devices.

