Buoyancy: The “Anti-Gravity” Force

It is much easier to do a handstand in the water than it is to do it on land. The water exerts an upward force that helps support you when you do a handstand. Buoyancy refers to the ability of a fluid to support an object floating in or on the fluid. The particles of the fluid exert a force in a direction opposite to the force of gravity. The upward force pulls down, toward the centre of Earth. Buoyant force, the upward force on objects submerged in or floating on fluids – pushes up, away from Earth. Like all other forces, buoyant force is measured in Newtons (N).

Floating occurs when an object does not fall in air or sink in water, but remains suspended in the fluid. People cannot walk on water, but many people can swim, and they can also float in boats. Hot-air balloons can float at one altitude for a long time, thus the buoyant force of air causes the hot air balloon to float.