ASCENDING BALL
Will the time it takes for a Ping-Pong ball to rise to the top of a cylinder of water be different if the water in the cylinder is still or if it is swirling around?

Answer
The lightweight Ping-Pong ball will rise very quickly in still water. But when the water is agitated, the buoyancy of the ball is drastically reduced. The movement of the liquid produces higher pressures that make the displacement of the water by the ball more difficult.