

Lesson plan for [Under Pressure](#) (or first tab of [Fluid Pressure and Flow](#))
<http://phet.colorado.edu>

Learning Goals: Students will be able to:

1. Investigate how pressure changes in air and water.
2. Discover how you can change pressure.
3. Predict pressure in a variety of situations

Background:

This is meant to be an introduction to fluid pressure. This sim is also the first tab of [Fluid Pressure and Flow](#). One reason to use the simplified version of the sim is to help students focus on the basic principles of static fluids before exploring fluids in motion. I wrote this assuming that students had experience and knowledge about gravity and density. The [Density](#) simulation has several Gold Star activities (meaning that the activities follow [PhET's Guided Inquiry Strategies Guide](#)) that could be done before to give students a real-world sense for fluid and solid relative density. The sensors are very sensitive, so I expect some variations in answers.

[Under Pressure](#) Introduction:

Interviews showed that students could use the simulation with little guidance. Check the [Tips for Under Pressure for Teachers](#) from the PhET team for specific ideas about the tools. You may want to read the [Tips for Fluid Pressure and Flow](#) as well.

Pre-Lesson: I am expecting that my students will have had some experience with floating objects in water and also have a good grasp of density, so I do not plan to do any type of demo.

Lesson: I plan to use this as a homework prior to lecture and problem practice. It also could be used as an in-class activity with the students working in small groups.

Post-Lesson: There are clicker questions to use to check student understanding.

Follow-up sims: Other ideas are to use [Buoyancy Activity by Trish Loeblein](#) and/or [Fluid Pressure and Flow](#) Activity by Trish Loeblein.