**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](https://phet.colorado.edu/en/simulation/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](http://phet.colorado.edu/en/simulation/density) simulation has several Gold Star activities (meaning that the activities follow [PhET’s Guided Inquiry Strategies Guide](https://phet.colorado.edu/en/for-teachers/activity-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*](https://phet.colorado.edu/en/simulation/under-pressure)**Introduction:**

Interviews showed that students could use the simulation with little guidance. Check the [Tips for Under Pressure for Teachers](http://phet.colorado.edu/files/teachers-guide/under-pressure-guide.pdf) from the PhET team for specific ideas about the tools. You may want to read the [Tips for Fluid Pressure and Flow](http://phet.colorado.edu/files/teachers-guide/fluid-pressure-and-flow-guide.pdf) 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 questionsto use to check student understanding.

**Follow-up sims:** Other ideas are to use [**Buoyancy**](http://phet.colorado.edu/en/simulation/buoyancy) [**Activity by Trish Loeblein**](https://phet.colorado.edu/en/contributions/view/3408)and/or [**Fluid Pressure and Flow**](https://phet.colorado.edu/en/simulation/fluid-pressure-and-flow) Activity by Trish Loeblein.