

Finding Harder-to-Locate Materials for the Density Unit

Here are suggestions for finding some of the more difficult to find materials for the density unit. Other materials are needed for the lessons but most are easy to find at science supply stores and/or at the local supermarket. You may also find substitutions for the materials here that work and still communicate the lesson ideas.

Lesson 1:

Aluminum and copper cylinders – These are the most difficult items to find for the unit. Ideally, the cylinders should be large enough so that the difference in mass is dramatic and surprises students. As long as the two cylinders are the same mass, slight variations in size or shape from those specified in the unit are fine. We have purchased them from a number of suppliers. The one that had the most reasonable price and made the straightest most precise cuts was a company called Metal Source, Admiral Metals in Woburn, MA. The price varies slightly as the price of metals shifts so call for pricing. They will ship for a flat rate.

Phone: 800-845-4277

Contact: Ed Perry

Address: Admiral Metals
11 Forbes Road
Woburn, MA 01801

Individual white boards- These are sold at office supply stores such as Staples. They can be purchased in boxes of 10. This is an investment that you will be able to use for many different science units.

Lesson 2:

Two Models of the Cylinders- Each with same sized balls as the other, but with different colored ones between the two containers. Some teachers have used wooden balls and marbles, others have made a set of balls out of quick drying modeling clay so that they are the same size as marbles. You can use two glass containers (like the kind that marinated mushrooms come in) or two plastic containers (like the kind that glitter is sold in at craft stores).

Lesson 3:

Samples of Pure Substances- These are best gotten from a science supply store.

Lesson 5:

Styrofoam Cylinder- These can be purchased in craft stores.

Lesson 9:

Balls with a Spring In-Between- Teachers have made these using small soft plastic balls (available in toy stores or Five and Ten Stores) and a piece of spiral from a spiral notebook. The spiral can be shortened to the right size using a wire cutter or by bending it back and forth a few times until it snaps (taking care not to distort the coil shape).

Lesson 12:

Brass Ball and Ring Set- These typically must be ordered from a science supply store and are available from the big science equipment suppliers such as Carolina and Arbor Scientific for approximately \$10. Review comments on the Edmund Scientific site suggest that the set that they were selling for less had handles that were plastic and that the affordances between the ball and ring were not sufficient for the activity to work.

Lesson 15:

Galileo's Thermometer- These can be found in gift shops, on-line (Amazon has them), or from a science supply store (Carolina and Arbor Scientific have them). The prices vary considerably for different sizes and features so be sure to shop around for the best price for the product choice.