
Shopping Suggestions

The activities in *Big Explosions and Strong Gravity* are designed to utilize readily accessible materials – most items can be purchased at a supermarket, mass merchandiser, or craft store. A few items are exclusively available through specialized suppliers, and this section provides detailed information about purchasing. This should be taken as suggestion only, and by no means as an exhaustive list.

Elements and You

This session uses examples of pure elements to guide student discussion about what an element is and what the differences between elements are. The simplest way to do this is to buy one of the science density kits that are out there and include cubes or cylinders of the same size made out of different metals (or alternately of the same mass and therefore different size, but having one of these remain constant will help with the comparison). Try to limit yourself to kits that use primarily elemental materials (not wood, plastic, etc.).

- ♣ Uniscience Laboratories (<http://www.uniscience.com/>) has several options that will work, with only the inclusion of brass as a non-element (look under Mechanics and then Cubes and Cylinders).

- ◆ Metal Cubes

- 10 mm sides
 - 3510-01: Set of 6
 - 3510-11: Aluminum
 - 3510-13: Copper
 - 3510-14: Iron
 - 3510-15: Lead
 - 3510-16: Zinc
- 20 mm sides
 - 3510-02: Set of 6
 - 3510-21: Aluminum
 - 3510-23: Copper
 - 3510-24: Iron
 - 3510-25: Lead
 - 3510-26: Zinc
- 25 mm sides
 - 3510-03: Set of 6
- 32 mm sides
 - 3510-04: Set of 6
 - 3520-01: Aluminum (with hook)
 - 3520-03: Iron (with hook)
 - 3520-04: Lead (with hook)
 - 3520-05: Copper (with hook)
 - 3520-06: Zinc (with hook)

- ◆ Cylinders

- 3525-01: Set of six 10 x 30 mm cylinders
- 3525-02: Set of six 10 x 40 mm cylinders

- ♣ Educational Innovations (<http://www.teachersource.com/>)
 - ◆ DEN-220: Set of 6 (aluminum, brass, copper, iron, lead, and zinc) 25 mm cubes
- ♣ Science Kit and Boreal Laboratories (<http://sciencekit.com/>) has a set of equal mass (but not equal size) cubes in copper, aluminum, zinc, iron and brass.
 - ◆ Item #: WW4800900

Rainbow Analysis

This session requires diffraction grating, a thin plastic film. This can be purchased from various science supply stores online. A couple options are listed below, and a quick internet search will likely turn up others. Purchase at least 1 square inch per spectroscope.

- ♣ Educational Innovations, Inc.
362 Main Avenue
Norwalk, CT 06851
Phone: 203-229-0730
Fax: 203-229-0740
<http://www.teachersource.com>

Items:

- ◆ PG-400: Single Axis Diffraction Grating (6" x 24" sheet)

- ♣ Edmund Scientific
60 Pearce Ave.
Tonawanda, NY 14150
Phone: 1-800-728-6999
<http://www.scientificsonline.com>

Items:

- ◆ 3052116: Diffraction Grating Film (200' x 6" sheet)

- ♣ Rainbow Symphony Store
6860 Canby Ave. Suite 120
Reseda, CA 91335
Phone: 818-708-8400
Fax: 818-708-8470
<http://www.rainbowsymphonystore.com>

Items:

- ◆ 01505: Diffraction Grating Film Sheet – 500 lines per mm (6" x 12" sheet)

This session also uses Element Discharge Lamps. If you plan to use these, you will need to purchase both the lamp bases and the individual element bulbs. While there are many different options for element tubes, I have only included a few options below. You will want a few different examples to compare, if possible.

- ♣ Edmund Scientific (<http://www.scientificsonline.com/>)
 - ◆ Item #3071559: 115V Power Supply
 - ◆ Item #3060906: Hydrogen Spectrum Tube
 - ◆ Item #3060907: Helium Spectrum Tube
 - ◆ Item #3060912: Oxygen Spectrum Tube
 - ◆ Item #3060910: Neon Spectrum Tube
 - ◆ Item #3060914: Carbon Dioxide Spectrum Tube
 - ◆ Item #3060913: Water Vapor Spectrum Tube

Supernova Explosions

This activity uses a Hoberman sphere, which can be purchased various toy stores. They come in multiple colors and sizes. Information about one option for purchasing them online is included here.

- ♣ Toy and Game Warehouse (<http://www.toyandgamewarehouse.com/>)
 - ◆ HS115: Hoberman Sphere Spectrum
 - ◆ HS104: Hoberman Rainbow Sphere
 - ◆ M1301: Hoberman Mini Sphere Rainbow
 - ◆ HS124: Hoberman Sphere Rings
 - ◆ M1335: Hoberman Mini Sphere Rings
 - ◆ HS119: Hoberman Expanding Universe Glow Sphere
 - ◆ M1319: Hoberman Mini Expanding Universe Glow Sphere
 - ◆ HS105: Hoberman Firefly Glow Sphere
 - ◆ M1336: Hoberman Mini Firefly Glow Sphere

Periodic Tables

While there are many different places to get poster-sized periodic tables, we have been particularly fond of the following option because it shows examples of different elements in their place on the table. Please feel free to use whatever you might prefer.

- ♣ Edmund Scientific (<http://www.scientificsonline.com/>)
 - ◆ Item #3053432: Laminated Periodic Table
 - ◆ Item #3053431: Periodic Table on Sturdy Paper

Smaller periodic tables that can be used for handouts are also available from many different sources. You can print copies of the periodic table in this manual for free, but if you choose to purchase period tables, here are some options.

- ♣ Schoolmasters Science (<http://www.schoolmasters.com/>)
 - ◆ Item #15027: Pad of 100 Notebook Size Periodic Tables
- ♣ Science Kit and Boreal Laboratories (<http://sciencekit.com/>)
 - ◆ WW61057M00: Pad of 100 Notebook Size Periodic Tables