

Guidelines for Selecting Informal Science Education Resources

The best activities are those that use computers, the Internet, *and* offline activities to teach a single concept. This combination keeps the participants interested and gives them time to learn a concept and to practice it in a variety of ways. The Informal Science Education Leaders should develop a library of software titles, a library of resource materials, and a library of supplies for hands-on activities.

Examples of activities include:

- hands-on science and math activities,
- field trips,
- videos and educational television shows,
- educational games,
- science magazines, and
- career role models.

Resources can be found by:

- searching the Internet,
- using the teachers' or leaders' guide that comes with most software titles,
- visiting the local library, visiting bookstores, and using classroom textbooks,
- visiting museums, botanical gardens, zoos, and planetariums,
- looking through educational catalogs such as Delta Education, Creative Publications, and Carolina Biological Supply,
- reading the science section of the local newspaper, and
- taping children's science shows, such as Cyberchase, Bill Nye the Science Guy, or The Magic School Bus.

As suggested in the *CTCNet Start-Up Manual* (CTCNet, Cambridge, MA, 1996), look for educational resources - software, hands-on activities, CDs, online resources, etc. — that:

- provide participants with the opportunity to work together to find solutions to problems,
- have more than just one answer,
- encourage participants to use other sources to explore CTC topics,
- provide accurate ideas and information from reliable sources,
- are interactive and allow users to do more than just press return or make a choice between presented options,
- appeal to an audience that is diverse in ages and interests,
- offer constructive feedback and online help,
- encourage creativity and originality,
- have attractive graphics and good presentation that complement the content,
- are non-violent, free of gender or ethnic stereotypes, and are representative of the user population, and
- are fun to use and give users a sense of accomplishment.

No single software title, hands-on activity, or Internet resource will meet all of the guidelines listed above, but choose resources that include as many of the positive qualities as possible.

Choosing the Right Educational Resources

General Criteria for Evaluating Educational Resources

While no single product may meet all of the criteria summarized below, those that succeed in maximizing the positives and avoiding all the negatives are the better choices.

Look for educational resources (software, CDs, online resources) that:

- Are interactive.
- Enable users to do things more efficiently.
- Are multi-purpose, versatile, and open-ended.
- Appeal to a wide range of ages and interests.
- Are easy to use (not necessarily easy to learn).
- Offer constructive feedback (both positive and negative).
- Encourage creative, individualized, original input.
- Enhance content through electronic presentation.
- Contain content based on reputable sources.
- Are graphically engaging yet strong on content.
- Provide audio help and/or instructions, or, where on-screen, help is clear and useful.
- Employ tasteful and attractive graphics that are non-violent.
- Are free of gender or ethnic stereotypes.
- Are representative of user population.
- Provide a tangible product.
- Are fun to use and gives users a sense of accomplishment.

Avoid educational resources that:

- Limit user interaction to pressing return or making a choice between presented options.
- Require simultaneous depression of several keys in order to accomplish a routine or frequently used function.
- Have large amounts of text on the screen.
- Do not allow the user to control sound levels, timing, or other intrusive features.
- Present content in a violent, racist, sexist, or condescending fashion.
- Duplicate experience that is just as easily or more easily presented in non-technologybased methods.
- Are little more than an automated workbook.
- Repeat exaggerated or lengthy graphics displays that have little to do with the advertised “content.”

Suggested Suppliers of Hands-On Science & Mathematics Materials

There are many good sources of hands-on materials for use with science and mathematics activities. In fact, most materials can be found at a local grocery, drug, or hardware store. Also, places like Costco, BJ's and Sam's Club, are excellent for buying items such as Cheerios, coffee filters, Ziploc bags, cups, and other household items in bulk.

For other materials, however, it is helpful to know of a good supplier who provides materials at a reasonable cost. As we have purchased materials for workshops, schools, and youth-serving organizations, we have found a few suppliers that merit a special notation, either because they offer a hard-to-find product, a good price, or both. Special mention goes to Burt Harrison and Company/Science Depot as the best place for Electricity Supplies, magnets, and physical science supplies, but also being able to find other items, such as tangrams, and get excellent prices. They are willing to look and bid on any items you need. We have also found Creative Publications to be a great resource for mathematics manipulatives and tangrams.

Certainly this list of suppliers is not exhaustive, nor do we imply that these suppliers are the only good ones to use. We can only say that we have received good service and/or a good price and have been very pleased with the service.

**1.) The Wright Group
(Formerly Creative Publications)**

19201 120th Av. NE
Suite 100
Bothell, WA 98011
800.624.0822

**2.) Burt Harrison & Co.,
Inc. /Science Depot**

PUB 732
Weston, MA 02 193-0732
800.628.4724

**3.) Pearson Learning
Dale Seymour Publications**

PUB 2500
Lebanon, IN 46052
800.321.3106

4.) Sargent-Welch

PUB 2500
Buffalo Grove, IL 60089-5229
800.727.4368 phone
800.282.9560 fax
www.sargentwelch.com

5.) Delta Education, Inc.

PUB 3000
Nashua, NH 0306 1-3000
800.442.5444 phone
800.282.9560 fax
www.delta-education.com

6.) Carolina Biological Supply Co.

2700 York Road
Burlington, NC 27215
800.334.5551
www.carolina.com

7.) Nasco Science

901 Janesville Ave
PUB 901
Fort Atkinson, WI 53538-090 1
800.558.9595
www.eNasco.com