

## Herbal Adventures

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Herbs...the green flecks in spaghetti sauce, the soothing late night teas, the dried mixtures that keep the bathroom air fresh. But did you know that many prescription medicines contain drugs derived from natural herbs? Or that many perfumes and other fragrances are made from the oils in herbs?

Herbs have been used for at least 5,000 years by all cultures for cooking, medicine, crafts, and cosmetics. Many herbs are easy to raise in the classroom. Herbs have such rich histories and so many uses that they can provide an enticing, multi-sensory theme for learning science concepts and skills, studying other cultures, and tying in subjects across the curriculum.

### Activities: What Makes an Herb an Herb?

Commonly, "herb" refers to any plant or plant part valued for its medicinal, savory, or aromatic qualities. In many cases, herbs' oils and compounds that cause healing, good flavors, or aromas, are merely adaptations that help the particular plant survive in its environment. Humans take advantage of these plant adaptations for our own uses much as we take advantage of flowers (adaptations for pollination) for their beauty.

Consider doing some activities to engage your students in identifying some of the characteristics that make an herb an herb. Some examples follow:

- \* Have students use their senses to compare six potted plants including, for instance, a spider plant, parsley, jade, rosemary, lettuce, and thyme. Then ask them to organize the plants into groups with similar attributes, and let other classmates guess how the groups were categorized.
- \* Have students taste six edible leaves-spinach, basil, lettuce, rosemary, thyme, and cabbage-and describe the tastes of each. Ask: Which ones might you eat a bowl of? Why or why not? How could you imagine using the others?
- \* Invite students to try to match aromas of fresh herbs with dried.
- \* Share with students the fact that herbs contain oils which create the odors and flavors we experience. After smelling several herbs, have students guess how such odors might help the plants survive in their environment? (Hint: the odors can both attract helpful insects and repel "pests.")

### Growing Classroom Herbs

Many herbs can be easily grown in a classroom light garden or windowsill, started from seeds, cuttings, or plants. Local nurseries, friends' gardens, and catalogs are good sources for herb seeds and plants. For detailed information on growing plants from seeds and cuttings, see *GrowLab: A Complete Guide to Gardening in the Classroom* in the KidsGardening store.

#### ...from seeds...

Plant herb seeds in the same soilless potting mix you use for other indoor plants, or plant them in a mixture of 1/3 sand, 1/3 peat moss, and 1/3 soil. Most herb seeds are small, and should be planted no more than 1/4" deep in moist soil or

sprinkled on the top of soil and covered lightly with potting mix. You can have children mix tiny seeds with a small amount of sand to make them easier to sprinkle over the soil. Mist the soil, and cover containers with plastic to keep seeds moist until they germinate. To give herb plants room to grow to maturity, thin seedlings to one per 4" container or 2 plants per 6" container.

#### **...from cuttings...**

Some herbs are quicker and easier to start from cuttings than from seeds. To take cuttings, snip healthy stems 3-4 inches from the growing tip. Remove leaves from the lower half of the cutting, and plant the cutting in a soilless mix. Water gently and cover the container with a plastic bag until new top growth appears.

#### **...from plants...**

Many herbs can be purchased from nurseries as young plants, or dug, particularly in the spring, from the new shoots emerging from mature plants outdoors.

### **Mothers' Day Herb Books**

Each fifth grader in Vermont teacher Pat Pierce's class got to adopt-an-herb to raise in their GrowLab. Students read seed package directions to discover how to plant and care for their herbs, made ongoing observations, and drawings, and researched history, folklore, medicinal, and culinary uses. "The kids were so personally attached to their herbs," said Pat. "They'd want to keep them on their desks, and were intrigued with the smells, textures, flavors." The students then went through a series of recipe books to find recipes with their particular herbs. Each student created a book which included drawings, observations, research reports, and a variety of recipes for his or her herb. The books and plants made informative, aromatic Mothers' Day gifts.

### **Herbs Across the Curriculum**

There are endless opportunities to tie language arts, math, social studies, science skills, art, and more in with an herb unit. Reflect on some of the varied uses, past and present, for herbs and consider how you might incorporate them into engaging cross-disciplinary activities. Some examples follow:

- \* Explore the use of herbs in different cultures and cook an international meal.
- \* Create a class cookbook of your favorite herb recipes.
- \* Cook two batches of spaghetti sauce, one with and one without herbs. Compare the tastes.
- \* Make aromatic herbal "sachets" or catnip toys from dried herbs in fabric pouches.
- \* Research and practice some herbal dyeing in your classroom. Indoor garden herbs that are good for dyeing include: catnip, marigolds, marjoram, morning glories, parsley, rosemary, sage, and zinnias.
- \* Devise ways to capture and retain the smell of one of your fresh herbs.
- \* Investigate whether cats really go wild over catnip. Grow some of this mint, then design a fair test to see if cats prefer it to other members of the mint family like peppermint, spearmint, and basil.

- \* Design a "smell test" using aromatic herbs to compare the abilities of different people to discriminate among them.
- \* Find out about the culinary, cosmetic, and craft uses of herbs by people in a time period or culture you're studying. For example: Pilgrims, Pioneer Days, Native American Life, Ancient Greece, the Middle Ages, the Victorian Era, etc.
- \* Herbs have been used for thousands of years to perfume our bodies and homes. They're used to cleanse, protect, and invigorate our skin and hair. Have students try some of the following:
  - \* Survey soaps, shampoo, cosmetics, lotions in stores or in the house to identify herbal ingredients.
  - \* Make scented oils by soaking fresh blossoms or leaves of herbs such as mints, lavender, or rose in vegetable oil. Remove the herbs after 24 hours and replace with fresh herbs. Continue this each day for a week. You'll have a lightly scented oil for skin and bath.
  - \* Write to or visit a company that makes natural cosmetics to find out more about what herbs are being used today.
  - \* In the late 1800s, chemists began isolating the chemicals in plants used for thousands of years by people to promote healing. Although many of these active chemicals are now created synthetically, new substances are constantly being found in plants and herbal remedies still used in some cultures. They're also being discovered in places such as diverse tropical rainforests.
  - \* Create your own herbal recipes to cure common maladies, e.g., writers' cramp from too much homework.
  - \* If the opportunity arises, devise a "fair test" to compare the effects of the juices of the aloe plant on burns to those of a commercially-made lotion.
  - \* Interview a pharmacist to find out which medicines used today are made from plants.

## Cultural Ties

Elba Marrero's special education students in NYC discovered that one of their classroom plants, Rue, is used medicinally in their Hispanic culture. Combined with alcohol or oil, it is a liniment for aches and pains. "I can't tell you how exciting this has been for my kids," said Elba, "It's been a special way of making connections with their culture. We've also made herbal sachets which we've sold at school and sent home. Others' interest in their project has really boosted their self esteem. They have even been corresponding with and are receiving suggestions from an author of herb books."

### Indoor Herb Growing Chart

herb	days to germination	how to start it
Aloe		plants
Basil	5-10	seeds or plants
Caraway	14+	seeds
Catnip	4	seeds or plants
Chives	7	seeds or divide plants
Chamomile	7	seeds or plants
Coriander	9	seeds
Cress	7	seeds

Dill-----5-----seeds  
 Fennel-----6-----seeds  
 Garlic-----plant cloves as bulbs  
 Lavender-----plants  
 Lemon Balm-----7-----seeds or plants  
 Nasturtium-----5-----seed  
 Oregan-----30+-----cuttings, plants, seeds  
 Parsley-----20+-----seeds or plants (soak 12 hrs.  
 before planting)  
 Peppermint/Spearmint-----plants or runners  
 Rosemary-----20+-----seeds or plants  
 Rue-----7-----seeds or plants  
 Sage-----28+-----seeds or plants  
 Summer Savory-----5-----seeds  
 Tarragon-----plants  
 Thyme-----20+-----plants or seeds  
 To encourage bushier, fuller plants, pinch off new growth for smelling, tasting, or  
 using in experiments.