Mixing the Seed

Activity Overview
Students mix the seeds and filler, noting each species that is being added.

Objectives
Students will:

- Become familiar with plant species names, scientific and common
- Observe a variety of seed shapes and sizes
- Understand that an ecosystem must have a wide diversity of plants

Subjects Covered: Math and Language Arts

Grades: K through 8

Activity Time: 15-30 minutes

Season: Spring or Fall, when the seeds are going to be planted

Materials: Seed mix, filler (sawdust, vermiculite or sand), 2 large tubs (5-gallon buckets or 30-gallon trash cans)

State Standards
Math:

Demonstrate understanding of measurement (D.4.2)

Determine measurements by using basic relationships or estimations (D.4.5)

Identify & describe attributes in situations not directly or easily measurable (D.8.1)

Demonstrate understanding of measurement facts, principles, techniques (D.8.2)

Determine measurement indirectly (D.8.4)

Language Arts:

Orally communicate (C.4.1, C.8.1)

Background

You have the seed in hand, the site is prepared and the planting celebration date is set. What do you do with that seed? While you could quickly prepare the seed mix by yourself, this is a great opportunity to involve students of almost any age. It is an opportunity to get younger and older students working together and can be done as part of the celebration with the entire school or earlier in the day with a smaller core of students.

The seed needs to be thoroughly mixed and, if you are planning to hand broadcast, an inert medium must be added to the mix. The inert medium or "filler" can be sawdust (make sure the dust is only from untreated lumber), vermiculite (available from most garden stores), or sand. It should be slightly dampened so that the seed will stick to it.

While you need to mix in at least an equivalent volume of seed and inert material, there are no problems and several benefits to adding far more filler. The filler serves several functions. It transforms a small volume of seed into a large volume of seed mix, enabling the mix to be spread more evenly over the site. It also allows more students to be involved by planting a larger volume of mix. Why have each student plant a small cupfull of mix when they could plant two or three large cupfuls? Furthermore, if the seed mix is more "dilute," accidental spills or uneven distribution by individual students are less problematic. The filler also makes it easy to see where the mix has been spread, which is especially helpful when many students are planting on a single site.

Depending on the total volume, the seed and filler can be mixed in a white 5-gallon bucket (available from most supermarket deli counters), or for larger volumes, in a 30-gallon trash can. After the filler has been thoroughly mixed in, divide the mixture in half and put into two containers.

If you are planting any legume seeds, legume innoculant must be mixed into the seed mix. Innoculant can be purchased at garden stores or from prairie seed distributors.

Activity Description

Distribute the packages of prairie seeds among yourselves. Take turns as each person with a package of seeds comes up to the front and says the name of their species. Other things about the species can be said such as what the plant looks like, when it blooms or another interesting fact. If you wish, the name can be written on a piece of tagboard that will then contain the names of all species in the mix.

While saying the plant's name, pour the seed into the bucket that will contain the mix. Continue until all seeds have been added. Mix the seeds

carefully by hand until they look well-mixed. Add the filler and mix again, being careful to get the smaller seeds from the bottom well-distributed. Carefully divide the mixture into two equal portions. The seed mix is now ready! The next step is to sow the seed, which can be done with as many students as possible and in the context of a school planting celebration.

Extensions

- When creating the mix, it is a good time to consider how the plant looks when it is flowering. Photographs from prairie seed catalogs (back issues of which are often donated to schools if requested) or coloring sheets from wildflower coloring books could be mounted on a prairie poster or mural.
- When creating a seed mix, a few seeds can be set aside to germinate so the students can observe the appearance of seedlings of each species. This will help in identification of seedlings in the spring. A seedling identification guide could be created. For more information on seed germination procedures, see Earth Partnership for Schools activity 9-3, "What Does a Seed Need?"

Additional Resources

- Mirk, Walter. (1997). *An Introduction to the tall grass prairie of the upper Midwest.* The Prairie Enthusiasts, c/o Gary Eldred, 4192 Sleepy Hollow Trail, Boscobel, WI 53805.
- Newcomb, Lawrence. (1977). *Newcomb's Wildflower Guide.* Little, Brown & Co., Boston.
- Runkel, Sylvan T. and Roosa, Dean M. (1989). *Wildflowers of the tallgrass prairie- The Upper Midwest.* Iowa State University Press, Ames, Iowa.
- Smith, J. Robert with Beatrice S. Smith. 1980). *The prairie garden- 70 native plants you can grow in town or country.* The University of Wisconsin Press, Madison, WI.
- Stokes, Donald & Lillian. (1985). *A guide to enjoying wildflowers.* Little, Brown & Co., Boston.
- University of Wisconsin-Extension. (1998). *Prairie primer.* Cooperative Extension Pubs, Madison, WI.

Wildflower Coloring Books:

- Kennedy, Paul E. (1971). American wild flowers. Dover Press.
- Peterson, Roger Tory. (1982). A field guide to wildflowers coloring book. Houghton Mifflin.

Assessments

- Students can write up an evaluation of what they learned or liked most about the activity.