

Welcome

Fresh Science *Getting* *Ready*

Fresh Science is a cooperative project of the Yakima Area Arboretum, Heritage University, Yakima County Master Composters, and W.S.U. Master Gardeners. Funded by the Washington Native Plant Society and a Yakama Nation Legends Casino grant. Michelle Lester, editor. Revised © 2005.

Orientation

The *fresh science* interactive lab pack includes on-site activity instructions and materials to help you learn about plants and nature. The volunteers assembling this pack hope your experiences at the Yakima Area Arboretum will expand and enhance your understanding and enjoyment of the natural world. Activities are divided into six basic focus areas:

Pond– Blue
Deciduous trees– Orange
Wetlands– yellow
Jurassic trees– Purple (two trees are marked)
Evergreens– Green
Flowers– Red

Inside the pack are stuff sacks holding activity instructions and materials needed for each activity. These are color coded to match the map. Teachers can design their own tours by selecting which on-site activities they would like to use on tour day. **Allocate 20-30 minutes for each activity.**

Fresh Thought:

We could not put the most important instruments in the lab packs– your senses! Your ears, eyes, nose, and fingers can open a fresh new window to this natural wild world.

Getting Ready

Pre-activity

Name Game

Objective: To introduce how plants are named, and the multi-lingual nature of botanical names. To prepare name tags for the tour.

People from anywhere in the world can talk about a plant and know they are talking about the same plant, because the name is the same wherever you go.

Plants, like people, have two names. But a plant's last name is always said first. If your name was Mary Smith as a person, then your name would be Smith mary (or *Smith mary*) as a plant. Smith tells us you are related to other plants named Smith (genus). Mary tells us you are one-of-a-kind (species). The names are always underlined or italicized; the second name is lower case.

Use the fresh thought from the next column to make name tags for tour day. Can you find paper in the waste basket to recycle/reuse instead of using new paper for the name tags?

Materials:

See support material

Fresh Thought:

Students can convert their names into scientific names. Be creative about the species. Ask children what makes them unique in their families. For example if the child is the only family member with dimples and her last name is Gonzales then her botanical name might be Gonzales dimples

Getting Ready

Cooperative Grouping

Your group experience at the Yakima Area Arboretum will be something the students will remember their lifetimes through.

Cooperative grouping can help students focus on the tour, as well as assist your leaders in presenting the curriculum. We offer the following role assignments for your students. Remember, there are ten lab packs. Teachers may have up to ten groups if they have ten leaders working with their classes. Divide the number of students by the number of leaders, then select the roles you would like each student in each group to perform:

Navigator: Holds the navigation map and locates the next station. Posts with the colors that match each station are located on the grounds to help with navigation.

Reader: Reads the on-site activity card for the group at each station.

Recorder: Keeps a record of group conclusions or comments at each station.

Litter Bag Holder: Keeps the litter bag for each group and turns it in at Jewett Center.

Lab Pack Organizer: Makes sure the lab pack materials returned to the pack are neat and dry.

People Safety Monitor: Helps the group to stay on the paths or grass to avoid poison Ivy and reminds students to watch for bees on flowers.

Arboretum Safety Monitor: Helps group remember not to “blast the chloroplasts” since walking on the plants can kill them. Invites group to show respect towards all living things and collect only memories.

Water carrier: When it is not practical for all of the students to tote their own water, one student can carry a bottle for the group.

Getting Ready

Be Prepared!

Help Sheet for Parents

Our class is going to the Yakima Area Arboretum to study science on:

We will be walking through the grass and trees and need your help remembering how to get ready.

1. **Shoes.** We need comfortable shoes that won't get wet walking through the grass. Sandals are too open and are not bee proof.
2. **Protection.** Layer our clothes so we can take some off as we warm up. A sweater over a shirt works well. Sunscreen or a hat would be great. Bug repellent (mosquito spray) is a good idea too.
3. **New Word.** We think the word "Arboretum" is very long. Can you help us practice saying it? It sounds like this:

Arbor—eat—um

4. **Awareness.** Can you talk to us about why trees are good for us? Can you tell us the difference between a playground and a plant preserve?

Getting Ready

Definition

Arbor What?

The word "arboretum" is very difficult for most people to say. Just remember it sounds like arbor- eat- um. The word is appropriate for a 4th grade spelling test.

There are many goals of an arboretum. Here are a few:

1. To popularize plant knowledge
2. To conserve the native life of the region
3. To test plants to see if they will survive in the local climate.
4. To introduce new species to cultivation. Like showing people how to grow native plants.
5. To help schools by providing a living laboratory.
6. To train gardeners.
7. To preserve historic plants.
8. To do research. Like testing which grass species grows well and conserves the most water.
9. To publish. Like this *fresh science* curriculum.
10. To cooperate with other organizations for the extension of botanical knowledge.

Fresh Thought:

Please help us teach the children the difference between an arboretum and a park. Many activities allowed in a park are not permitted in an arboretum to protect the valuable plant collection.

Getting Ready

Support Material

Botanical Names

Botanical names (also called scientific names) are in Latin. Some botanical names are the same as common names. How many of these genera do you know already?

Ageratum, Ajuga, Aloe, Alyssum, Caladium, Canna, Catalpa, Chrysanthemum, Clematis, Coleus, Dahlia, Delphinium, Ficus, Fuchsia, Geranium, Gladiolus, Hosta, Impatiens, Iris, Lobelia, Petunia, Potentilla, Rhododendron, Salvia, Sedum, Sequoia, Verbena, Vinca, Viola, Wisteria, Zinnia.

Some species names indicate a place, like::

africanus means the plant is African

arizonicus means from Arizona

chinensis means from China

floridanus means from Florida

italicus means from Italy

hispanicus means Spanish

You don't need to know Latin to figure out these :

zebrinus means striped, like a zebra

compactus means compact, small

phu means rotten smelling

Fresh Thought:

The European white water lily has 245 common names. It has only one botanical name. What kinds of problems could you have if you had 245 names?

Getting Ready

Leader's Aid

Tour Day!

Volunteer leaders who have walked the tour offer these tips for tour day:

1. A restroom stop before the bus will save quality tour time.
2. Disembark at the loading pad in front of Jewett Interpretive Center (the building with the red roof and bell tower). Follow the walkway towards the entrance and lead the children onto the gravel path on your right. This path leads to the pond—station number one. You will color coordinated posts at each station.
3. One person should report to the office to sign out the lab packs and clipboards. Your children do not need to bring any materials, except for drinking water (optional)..
4. If children need restroom facilities during the trip, a maximum of three students may use the restrooms at Jewett Center. We often have meetings in the building, so volume should be kept to a whisper.
5. **Remember, the Japanese Garden is not part of the school tour route.**
6. If a telephone is needed for an emergency, please report to Jewett Interpretive Center.
7. When entering the wetlands area, do not stop on the asphalt pathway, since passing bikes make stopping dangerous. Keep children on the right side of the path until you enter the trails.
8. Most trees have metal identification bands bearing both their common and botanical names. There are located at eye level on the south side of the trees (your back to K-Mart).

Wrapping Up

Teacher Evaluation

Your evaluation of *fresh science* helps up improve future editions and plan new packets in the future. Please take the time to complete this evaluation from and return it to:

Programs Committee
Yakima Area Arboretum
1404 Arboretum Dr.
Yakima, WA 98901

Preparatory Activities Please rate the

Activity name _____
Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

Activity name _____
Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
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Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

Arboretum Trip Activities Please rate the packet activities that your students used

POND

Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

DECIDUOUS TREES

Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

WETLANDS

Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

JURASSIC TREES

Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

EVERGREENS

Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

FLOWERS

Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

INTEGRATED PEST MANAGEMENT

Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

COMPOSTING

Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

Additional Comments:

Post Tour Activities Please rate the packet activities that your students used

Activity name _____
Appropriateness: Not appropriate 1 2 3 4 5 Most appropriate
Ease of Use: Very difficult 1 2 3 4 5 Very easy
Effectiveness Not effective 1 2 3 4 5 Very effective

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