Biodiversity

In our first session we will be exploring biological diversity. This is an important concept to begin with. As conservation horticulturists we strive to conserve as much diversity as possible when producing plant populations for re-vegetation and restoration. Information in the following web sites may be useful for teachers as an aide in preparing students for our upcoming activities:

http://esa.sdsc.edu/biodiv2.htm
http://www.ea.gov.au/biodiversity/publications/series/paper1/
http://www.wri.org/wri/biodiv/

Activities for Session 1

I. "Talk Story" – The objective of this opening exercise will be to assess the students' current understanding of biological diversity. Using a concept map we will attempt to link current perceptions of biodiversity, why the students think biodiversity is/is not important, how does diversity "work" (e.g. interrelationships between organisms) and what would the world be like if it lacked biodiversity.

II. Survey of Waipa Biodiversity – Students will conduct a vegetation and animal survey of selected sites in Waipa using transect and quadrant methods. Student scientists will be instructed on how to use both methods of data collection. After they have an understanding of each method they will have an opportunity to collect data from various sites (e.g. coastal strand, garden, disturbed area, back of valley). Students will sketch transect and quadrants then compare data from various sites and report findings to other groups.

III. "Talk Story" – This discussion will be used to assess if the students have a better understanding of biodiversity. We will re-visit the previous concept map and compare former ideas to any new ideas that the students have formed.

Waipa Biodiversity Survey
Grades K-3

OBJECTIVES

1. Students observe different types of plants and animals living in two habitats (e.g. organic garden and wetland) using quadrants set out by scientist
2. Students count and record numbers of interesting life forms in quadrants
3. Students help scientist create simple bar graph
4. Students and scientist/teachers discuss graph
5. Students realize many different types of life forms exist
6. Students create biodiversity collage

SKILLS DEVELOPED

- Observation
- Recording data
- Teamwork
- Problem-solving
- Data presentation
- Analytical and critical thinking

ACTIVITIES

IV. "Talk Story" – The objective of this opening exercise will be to assess the students' current understanding of biological diversity. Using a concept map geared towards K-3 students we will attempt to link current perceptions of biodiversity, why the students think biodiversity is/is not important, how does diversity "work" (e.g. interrelationships between organisms) and what would the world be like if it lacked biodiversity. We will attempt this without using large words such as biodiversity. This term will be introduced later.

V. Survey of Waipa Biodiversity – Students will conduct a vegetation and animal survey of selected sites in Waipa using the quadrant method. The quadrants will be set up and moved by the scientists. Student scientists will have an opportunity to collect data from two sites (e.g. garden and wetland). Students will draw/color their favorite life form from various sites. Students will assist the scientists in creating a simple bar graph. We will discuss the bar graph and introduce the term biodiversity.

VI. Biodiversity Collage – Students will create a collage depicting biodiversity. They will have an opportunity to draw, paste pictures from magazines, color, and create from construction paper as many different types of life forms as they can think of. These images or creations will be placed around the word biodiversity, which will be written in the center of a large piece of poster board. We will refer back to this collage at a later date.

VII. "Talk Story" – This discussion will be used to assess if the students have a better understanding of biodiversity. We will re-visit the previous concept map and compare former ideas to any new ideas that the students have formed.

Supplies Needed

2 $1m^2$ quadrants
1 Flip chart and holder
As many different colored crayons, pencils, and markers we have
5-7 dull point scissors
5-7 glue sticks
Old magazines with pictures of plants and animals
Construction paper
2 large sheets of poster board