LESSON GOALS
Example: How many earthworms live in soil around the edge of school courtyard as compared to the edge of the playground?

Collecting scientific knowledge and data; Comparisons of habitat contents, Organization and qualifications of samples and their ecosystems; Counting, fractions, averages; Writing skills (journal entries) Research and Internet usage skills (More, more, more)

Title | Got Worms? Now all you need are the cookies
Age Group | K-3rd Grade
Lesson Duration | One Week
Year | 2000
Cost | $10 or less

MATERIALS
- Small shovels or spoons
- Fresh dried mustard (6 teaspoons per gallon of water)
- Two gallon milk jugs filled with water
- Map of playground
- Ground flags (Popsicle sticks w/red ribbon),
- Student's field journals
- One bucket or margarine tub per group (depending on number of groups)
- Hula Hoops for each group to plot area.
- Rubber gloves for the squeamish student.

PROCEDURE
1. Present a need or problem Example: Observe amounts of uneaten food thrown away from school lunches. Discuss the why, where when, and how of trash or waste in our overstuffed landfills (and encourage students to come up with solutions - Hence compost piles.

2. Classroom discussion should encompass K-W-L, which will list questions from students on where to find earthworms. Field journal entries now would be a great beginning, followed with pictures of what they believe they look like.

3. Read stories to add excitement and enthusiasm,

4. Make a map of your playground as a class (would also be a great computer skill challenge)

5. Write a class hypothesis and Prediction choosing two separate areas of playground. (record them in field journals)

6. Design the study with student's input, controlling only, when necessary. Discuss before leaving on hunt any possible problems, weather, amount of worms needed, and assignments within each group. (Good time to take pictures of each group)
7. Organize and analyze data collected in field books and chart paper.

8. Reflect by drawing conclusions on hunt and supporting or disproving hypothesis. Discuss results, writing on chart paper and field journals. (Comparisons are important here)

**RESOURCES**

**Websites**
- wormdigest.com
- goldworm.com
- whatcom.wsu.edu/cgi/homHORT/compost/Easywormbin.htm
- urbonext.uiuc.edu (student friendly site)
- yucky.com

**Books**
- *Worms Eat My Garbage* by Mark Apelhof
- *The Worm Cafe 6* by Binet Payne
- *Earthworms, Dirt and Rotten Leaves*
- *An Exploration in Ecology* by M. McLaughlin
- *Keeping Minibeasts-Earthworms* by Chris Henwood