

Polliwog Pond

TEKS:

- Grade 6 6.1 a, b; 6.2 a-e;
6.3 a; 6.4 a,b;
6.12 b,c; 6.14 b
- Grade 7 7.1 a,b; 7.2 a-e;
7.3 a; 7.4 a,b;
7.12 a-c; 7.14 b,c
- Grade 8 8.1 a,b; 8.2 a-e;
8.3 a; 8.4 a,b;
8.6 c; 8.11 a;
8.12 c; 8.14 b,c

Tools:

Dip/Collecting Nets
Buckets or pans
Field guides or other
identification guides
Magnifying lenses
Rubber boots or old shoes

Activity overview:

Students collect aquatic organisms for study. Using field guides or identification sheets, organisms are identified. Students then discuss the concept of “indicator” species for water quality and how aquatic systems can be affected by natural and human caused events. “Non-point source pollution” is also introduced, and students are asked to consider how they can help reduce or eliminate pollutants from entering waterways.

Skills:

- Collecting and recording data using appropriate equipment safely
- Observing and evaluating
- Comparative Analysis
- Identifying by reading for comprehension
- Critical thinking
- Predicting
- Working in a group and following directions

Concepts:

- Aquatic vertebrates and invertebrates can tell us about water quality.
- Streamside management zones help protect water quality.
- Humans can affect levels of pollution and water quality.
- Aquatic life needs oxygen; acceptable ranges differ among organisms.
- Aquatic life is affected by pH levels; acceptable ranges differ among organisms.

Who Ate That Tree?

TEKS:

- Grade 6 6.1 a, b; 6.2 a-e;
6.3 a; 6.4 a,b;
6.10 b,c; 6.12 a-c
- Grade 7 7.1 a,b; 7.2 a-e;
7.3 a; 7.4 a,b; 7.5 b;
7.9 b; 7.7 b; 7.11 b;
7.12 a-d; 7.14 b,c
- Grade 8 8.1 a,b; 8.2 a-e;
8.3 a; 8.4 a,b;
8.6 c; 8.11 a;
8.12 c; 8.14 b,c

Tools:

Diameter Tape Measures
“Log” measuring sticks
Field/identification guides
Magnifying lenses
Thermometers
Hand trowels or shovels

Activity overview:

Students visit a forest to study decomposition and how connections between and among forest organisms can be beneficial or detrimental. Using field guides and measuring equipment, several trees are identified and measured for diameter and height. Their contribution to our regional air and water quality will be considered. Relationships of organisms with other organisms and their non-living environment, human cultural activities and their effects, and the concept of reducing/preventing pollution through personal positive actions are discussed.

Skills:

- Collecting and recording data using appropriate equipment safely
- Observing and measuring/evaluating
- Comparative Analysis
- Identifying by proper use of equipment and reading for comprehension
- Critical thinking
- Predicting
- Working in a group and following directions

Concepts:

- Relationships between organisms can result in positive or negative impacts
- Forests have beneficial impacts on air and water quality
- Humans can alter environmental benefits of trees: positively/negatively
- Plants/trees are affected by pH levels, geology, geography and climate