

Andrew Bernstein
Judy Bianco
Fall, 2003

Grade Level 4th
Instructional Time: Several class periods (approx 1 week)

HEALTHY PLANERIA
in
“FERTILIZED DEATH WATER”

Abstract:

This platyhelminthes (flatworms) lesson will furnish students with an introduction to planaria; as well as perception into planaria development. Pupils will be rendered the opportunity to ascertain what planaria are, and in what surroundings they may be found. Through inquiry and class discussions, the children will come to realize some primary factors of planaria and their locality. The students will ascertain that planaria is/are not altogether cliché animals. Furthermore, they will gain a sense of the conditions under which these creatures may exist.

Background Information:

Platyhelminthes (flatworms) no body cavity except a stomach, eats and expels waste through same (pharyngeal) opening, body includes a brain, muscle bundles, internal reproductive system, and a simple nervous system. Mating season spans from February to March. They are sensitive to light, temperature and ph levels. Can regenerate lost body parts. Found in most freshwater streams and ponds (look under the rocks). Eat algae and leaves and most other substances found on the bottom of rivers/ponds including meat.

Standard(s): # 5

Students will understand the physical characteristics of Utah’s wetlands, forests and deserts and identify common organisms for each environment.

Objective(s): # 2

Describe the common plants and animals found in Utah’s environments and how these organisms have adapted to the environment in which they live.

- a. Identify common plants and animals that inhabit Utah’s forests, wetlands, and deserts.

Materials:

1. 1 mason jar full of living healthy planeria (use rubber spatula too scrape planeria off bottom of rocks) taken from lower Millcreek stream and 1 gallon jug filled with river water (same water test subjects were taken from).
2. 3 mason jars (and lids) that can hold 12oz of water.
3. Box of sodium sulfate pellets.
4. Extracting tools (syringe) used for separating planeria into different jars.

5. Observation sheet for students to record information (stream location, collection date, collectors, weather conditions, conditions samples were taken from: clear water murky water etc).
6. Microscopes and Magnifying glasses

Terminology:

Planeria: The simplest animals that are bilaterally symmetrical and triploblastic.

Triploblastic: Animals that are composed of three fundamental cell layers.

Flatworms: Divided into three groups, (including planarian/planeria) found in fresh water, and in most terrestrial habitats.

Steps/Procedures:

1. Separate class into groups of two or three.
2. Collect samples and fill out observation sheet.
3. Create a hypothesis for experiment.
4. Put 8oz's of water in the three mason jars.
5. Place seven planeria into the individual mason jars.
6. Keep first jar clean place three pellets in second jar and five pellets in third jar (make sure to label jars).
7. Observe and record results.

Purpose:

This experiment intends to show what fertilizer can do to living organisms when it is introduced into their environment. Its purpose is to exhibit the direct effects chemicals have on the environment in a controlled setting. The lesson will begin with a teacher led discussion about some methods we use to keep our grass green and what happens to the chemicals that do not get absorbed into the ground.

Intended Learning Outcomes:

1. How to gather materials for experiments.
2. How to set up, conduct, observe and record experiments.
3. Understanding the effects toxic chemicals that are used regularly can have on our environment.

Assessments:

1. Students will be assessed on class participation.
2. Students will be assessed on how they conducted their experiments.
3. Students will be assessed on the questions they come up with.
4. Students will be assessed on their group co-operation.
5. The students will create a group mural based on what they learned during the experiment.
6. The students will write a paper explaining what their murals are about.

Extension:

For extended results set up two more mason jars with 8oz's of water with seven planeria in each jar.

Place one pellet of sodium sulfate in the first and two pellets in the second observe and record results.