

Cricket Wars

Utah Studies

Materials

- ◆ Glass jars with 2" of straw or coarse grass clippings (cured or dried), or strips of paper in the bottom
- ◆ 1 egg carton
- ◆ 1 old pine cone with little or no pine scent
- ◆ Cloth
- ◆ Rubber bands
- ◆ Small and large plastic caps
- ◆ Dry pet food

Background

They're back...

Every so often, farmers in counties around the state of Utah are forced to defend their crops from an overwhelming number of Mormon Crickets! This hungry insect caused quite a problem in Utah in 1848 when a plague of monstrous crickets descended on the crops of Mormon pioneers. The crickets frightened the early settlers greatly because they became the greatest hazard to growing the first crops. The crickets nearly destroyed their entire annual food supply!

Some Like Them Hot!...and Cold!

Not all of the people living in the early Salt Lake valley were thrilled to see the crickets eaten by the gulls. In fact, Mormon Crickets made up a large portion of the diet of some Indian tribes. When the Mormon pioneers reached Salt Lake City on July 20, 1847, one new resident wrote, "the ground was covered with millions of black crickets which the Indians were harvesting for their winter food. An unusual number of natives had assembled for this purpose...." The pioneers often described their fascination by the insect-food sources of the Indian tribes. The crickets were generally roasted and pounded into a coarse-grained meal called "pulverized crickets." Some Indian tribes simply preferred to eat them without any preparation at all other than pulling off their legs and head!

In 1999, the spring hatching brought a record number of crickets, during migration, back into the hay, wheat, barley, and vegetable fields. The crickets are voracious eaters and will eat many weeds and rangeland plants such as sagebrush and bitterroot, but prefer the succulent forage provided mainly by farmers. The large numbers of crickets collect together in groups called bands. These migrating bands may travel from 25 to 50 miles in a single season and can easily devastate crops as they move from field to field. In 1848, pioneers relied on flocks of seagulls to devour the crickets to save their crops. Utahans were so grateful for the seagulls that they declared the "California Gull" the Utah State Bird!

Crickets in the Classroom—Activity Procedures

This inexpensive and simple activity will help teach your students about habitats, life-cycles, and other scientific methods of observation. Live crickets can be easily kept and viewed in a gallon jar or aquarium.



Time: 1 hour

Grade Level: 3, 4, 7

Science Grade 3

Standard 2—Students will understand that organisms depend on living and nonliving things within their environment.

Objective 2—Describe the interactions between living and nonliving things in a small environment.

Indicator a—Identify living and nonliving things in a small environment (e.g., terrarium, aquarium, flowerbed) composed of living and nonliving things.

Indicator b—Predict the effects of changes (e.g. temperature, amount of water, light) upon a living organism.

Indicator c—Observe and record the effect of changes (e.g. temperature, amount of water, light) upon the living organisms and nonliving things in a small-scale environment.

Indicator e—Pose a question about the interaction between living and nonliving things in the environment that could be investigated by observation.

Social Studies Grade 4

Standard 1 – Students will understand the physical geography in Utah and human life. Objective 3 – Analyze how human actions modify the physical environment.

Indicator b – Explain viewpoints regarding environmental issues (e.g. species protection, land use, pollution controls, mass transit, water rights, trust lands).

Standard 2 – Students will understand how Utah's history has been shaped by many diverse people, events, and ideas.

Objective 2 – Describe ways that Utah has changed over time.

Indicator a—Identify key events and trends in Utah history and their significance (e.g. American Indian settlement, European exploration, Mormon settlement, westward expansion, American Indian relocation, statehood, development of industry, World War I and II).

More standards can be found on the next page.

1. Collect crickets. Field crickets live in leaf litter, under or near logs, or around damp places in gardens. To collect crickets in the field, have the jar ready. Your hand is the best tool to grab the cricket. Gently cup your hands around the cricket. If you don't want to touch the cricket, you can place the jar over it and slide a piece of paper underneath. Place the cloth over the top of the jar and use a rubber band to secure it.
2. Design a cricket habitat. Most dry pet foods will work fine as a food source for your cricket. Rabbit pellets or chicken feed are especially good. Pellets should be ground into a powder, and offered in a small plastic cap. Other foods crickets like include dry fish flakes, bran, and wheat germ. Occasionally give the crickets carrots, apples, and lettuce for a varied diet.

Place wet tissue paper or a cotton ball in a large plastic cap. Check the cotton ball every two or three days for moisture. Do not waterlog the cotton ball or allow it to dry out. Change the tissue or cotton ball once a week.

Dead crickets have an offensive smell. Remove dead crickets as soon as possible, particularly if they are in the water dish. If the odor is completely overwhelming reduce the number of crickets in the container when it is cleaned out. When the bottom of the container becomes full of droppings or if mites become a problem, the container should be cleaned.

Handling

Field crickets are harmless, although they do have mandibles and can nip fingers. Hind legs are strong and may have spines, and you may be poked when the cricket kicks. If you are transferring a cricket, cup the animal in your hand. If you want to show the students, hold the cricket firmly on the sides of the thorax.

Special Considerations

Crickets do best in a dry atmosphere at about 85°F. Crickets are more likely to chirp if they are in the dark. A gallon jar can comfortably house 15-20 crickets if they have egg cartons or pine cones to climb on. Overcrowding is stressful and leads to premature death. Some species of crickets are territorial. Carefully watch crickets when you place them in the container to see how they react to each other. If they are territorial, keep one female and one male in the container.

Cricket Observations

When your students observe their crickets, they can either view them through their jar or slow the crickets down by placing them in a refrigerator for 15-30 minutes. Cold crickets may be observed in a bowl with a magnifier. If you really want to study the details of the cricket's body, place the cricket into a small jar with a cotton ball soaked in rubbing alcohol and secure the lid. The cricket will be "asleep" in a few minutes. The students will have several minutes to examine the tiny details. For longer preservation immerse the cricket in the rubbing alcohol (yes, the cricket will die), but you can really observe the crickets details.

Grade 7 Utah Studies

Standard 1—Students will understand the interaction between Utah's geography and its inhabitants.

Objective 1

Investigate the relationship between physical geography and Utah's settlement, land use, and economy.

- Read and interpret a variety of maps.
- Identify the physical features and regions of Utah.
- Compare and contrast the relationship between physical features and regions to settlement, land use, and the economy.