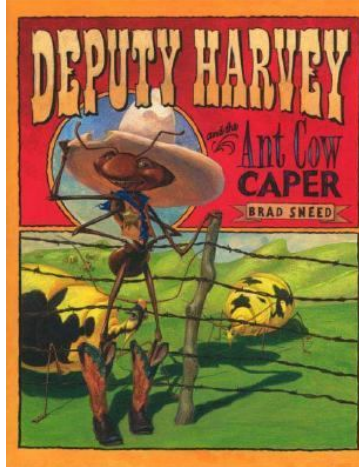


## **Deputy Harvey and the Ant Cow Caper**

Written and Illustrated by Brad Sneed

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### **Lesson plan by Linda Troutt**

**Summary:** In the western town of Ant Hill, a dastardly crime has been committed: half of the town's herd of ant cows is missing. Sheriff Dill just wants to finish his breakfast, so Deputy Harvey is left to solve the crime. Their supply of honeydew is dwindling, so in steps Atley Diamond with plenty to sell. With late night surveillance, Deputy Harvey solves the case and discovers it is not the ladybugs, after all, that were stealing the ant cows.

### **PASS Objectives:**

Process Standard 1: Observe and Measure – Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

**Activity #1:** Do ants use their sense of sight or their sense of smell to find their way?

**Supplies:** Piece of cake, cookie, or doughnut / Leaves / Sticks / Thin strips of paper / Clock

1. Set a piece of cake, cookie, or doughnut on the ground about 5 feet away from an active anthill. Place several obstacles like leaves, sticks, and thin

strips of paper between the food and the anthill. Record the time it takes for all the ants to follow the same trail, and then move some of the obstacles around. How long does it take for the ants to make the trail back? After making the changes, can you tell if the ants are using smell or vision as clues on their trails? Army ants are blind and must use their sense of smell to get around, while carpenter ants use both sight and smell. Repeat the experiment using different kinds of ants.

**Activity #2:** Make an Ant Farm

**Supplies:** Soft drink can / Large glass jar / Dirt and ants from ant hill / Sand / Sponge / Fine nylon netting (pantyhose) / Rubber bands / Black paper / Food scraps

1. Fill a soft drink can with sand and seal the opening with tape. Put the can into a larger glass jar. This forces the ants to build tunnels near the outside of the jar where they can be seen. Fill the rest of the glass jar with dirt and ants. Do not pack the dirt too tightly but fill the entire jar. Place a small piece of wet sponge on top of the soft drink can, and be sure to keep it moist. Cover the jar with fine nylon netting, such as pantyhose, using a double or triple layer. Use rubber bands to hold the netting in place. Be sure the cover is secure. Tape black paper over the outside of the jar so that the ants will tunnel against the dark sides. It may take a week for the complex tunnels to really begin developing. Paper may be removed for short periods to observe the tunnels. Feed the ants by placing food scraps on top of the dirt (sugar water, dry pet food, pieces of fruit).
2. Record daily observations of tunneling done by the ants.