



Acorn Woodpeckers

Grade One Objective- Students will observe Acorn Woodpecker Colony & will:

- a.) Explain that in summer, AWP's eat insects for food
- b.) Describe how AWP's peck holes and store acorns for winter food
- c.) Estimate and then count the number of storage holes pecked by AWP's.

Grade One Science Standard 2: Plants and animals meet their needs in different ways.

2a: Students know different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places.

2c: Students know animals eat plants or other animals for food and may also use plants or even animals for shelter and nesting.

Grade One Math Standard 2.0: Students demonstrate the meaning of addition and subtraction and use these operations to solve problems

3.0: Students use estimation strategies in computation and problem solving that involve numbers [to 3 digits]

Materials:

- Woodpecker puppet
- Woodpecker picture
- Portable white board and pen
- A chisel (to demo woodpecker bill making a hole)
- Soap bubbles (pretend they are insects- adults blow bubbles and students pop them and pretend to eat the insects.)
- Acorns & tree with holes
- Fencepost full of Acorn Woodpecker holes
- String to mark tree into different parts for counting

Theme: Acorn Woodpeckers eat insects in the summer and acorns in the winter.

Introduction: (While hiking to the Acorn Woodpecker station)

This is an Oak Woodland- a place where lots of oak trees grow! We have three species of oak trees here at Circle J: Valley Oak, Blue Oak and Live Oak. (Show diagram) Go by an oak tree that is dropping acorns. Point out that the tree a.) is dropping acorns, its seeds, so that new oak trees can grow during the rainy winter;

b.) Its leaves may be changing color and dropping off, too. Fall is the season when some trees leaves change color, drop leaves and drop seeds!

- 1.) This is an Acorn Woodpecker. [Show Drawing] What markings do you see on this woodpecker? Its feather colors and patterns help us tell Acorn Woodpeckers from other birds. It has:
 - A red cap
 - Black back
 - White belly
 - Black Wings with a white spot on each wing
- 2.) Acorn Woodpeckers live in colonies. Leader explains that AWP colonies cooperate to raise babies! Only 1 or 2 females (moms) lay eggs, the rest of the woodpeckers help to feed the babies so they can grow!
- 3.) AWP's eat different food in different seasons! In summer, when the days are warm and insects are plentiful, they fly and catch insects on the wing. They feed some of the insects to their babies. They nest in spring so that there is plentiful food (insects) to feed their babies. What season is it now? Even though it has been chilly at night, there are still a few insects flying about. Look and see if you can see an acorn woodpecker sitting on a tree branch and then fly in a loop. If you do, you have seen that bird catch and eat an insect!
- 4.) **Activity:** Adults blow soap bubbles, kids pretend soap bubbles are insects and their hands are acorn woodpeckers. They fly loops and pop them and pretend to eat or feed to babies). So, in summer there are plenty of insects for the AWP's to eat.
- 5.) In fall, cool nighttime weather kills many insects! (Brrr!) There are hardly any insects left in the wintertime. What can the acorn woodpeckers eat? Acorns! Acorns are seeds from oak trees! Where do AWP's find the acorns? On the ground.
- 6.) AWP's must spend all fall gathering acorns, drilling holes & finding holes that they fit into! (Teacher demos drilling a hole into the wood w/ a chisel and explains that AWP's bills are like chisels.) An acorn storage tree is called a *granary*. A granary is where the acorn woodpeckers store their acorns.
- 7.) **Activity:** Kids must become AWP's and store acorns by fitting them into holes in log or fencepost. There are 2 different sizes of acorns & they must fit snugly into holes.
- 8.) Then as the cold weather of winter comes, AWP's begin eating the acorns out of their granary (or are they eating larvae of the weevil that live inside the acorns?) Let's pretend it is wintertime and there are no more insects to eat. We must find our acorns and eat them.

- 9.) **Activity:** Students "fly" to the tree and remove acorns, pretending to eat them. So, Acorn Woodpeckers store acorns to eat in the wintertime.
- 10.) Many other animals compete with the acorn woodpeckers for their stored acorns. Scrub Jays fly to the granary and try to steal acorns. Ground Squirrels will crawl up and try to get acorns to eat.
- 11.) **Activity:** *Estimating and counting* acorn storage holes in fallen tree:
Here's a question: I wonder how many acorns can be stored in just one side of this fence post?

Ask students to form 4 groups. Each group is a team of scientists who are studying acorn woodpeckers. The groups' job is to come up with a reasonable estimate (a guess) of how many acorn storage holes are pounded into one side of the fence post.

Give the student- scientist teams a few minutes to figure out how to do this. They can use strategies to help them get close to the answer. Ask the teams to record their estimate on the white board and to explain to the other groups how they came up with their estimate.

Now, we will make an actual count of the acorn holes in this tree.

Select a student to point to the holes as the group counts each one in unison. The pointing must be done methodically (students tend to jump around and miss several holes).

Compare the resulting actual count to the estimates. Which estimate was the closest?

Now estimate how many acorn storage holes in the whole fencepost??? How can we come up with a good estimate for that?? Have each team share their ideas.

- Maybe they will suggest taking the number of acorn storage holes on one side and adding it together four times.
- Maybe they will come up with another method.

Acorn Woodpecker colonies often have more than one granary tree! Look around, can you spot another one?

Acorn Woodpeckers eat insects in summer and lots of acorns in winter!