

Lava Beds National Monument

Unit 4 – Activity B: Understanding Bat Populations Lava Beds & Bats

There are two ways to conduct this activity, Alternative A and B, please use both or whichever is most suitable for you class and the time of year.

OBJECTIVES

Students will understand different methods of counting and what that means to bat population estimates. Students will learn about bat population counts being done by Lava Beds Resource Management staff members.

MATERIALS

You will need to provide

- Copies of Bat Math: Student Log Sheet (extension)
- Tape measure (extension)

Alternative A

- Cookies with chocolate chips in them
- Sieve(s) or screen
- Cups
- Water

Alternative B

- Something to write on outside
- Watch with a second hand or stopwatch

SUBJECTS

Life Science, mathematics

SKILLS

Group work, investigation, mathematics, scientific inquiry.

Alternative A:

METHOD

1. Assign students into roughly equal numbered groups.
2. Pass out 2 cookies, one sieve or screen to each group.
3. Have students count the number of chocolate chips they see on the cookie.
4. Pass out one cup to each group have students pour water in it. Have students put both cookies in a cup of water, and wait for the cookie to get soft enough that the cookie will wash away leaving only the chocolate chip.
5. While the cookie is soaking discuss the idea that counting bats different ways can lead to different population estimates.
6. Have students count the number of chips and record on log sheet.

Alternative B:

METHOD

1. Assign students into roughly equal numbered groups. Pass out one log sheet per group.
2. Take students to an outside area which has birds.
3. Have each group discuss how they should count and tally the birds
4. Have students count birds for 1 minute.
5. Discuss the idea that counting bats different ways can lead to different population estimates in caves like Bracken Cave in Texas.
6. Discuss reasons for why their numbers may not equal the numbers of the other groups.

EXTENSION:

Hold a discussion about mathematics and how they are used to understand populations of bats. Have students complete the *Bat Math: Student Log Sheet*. Discuss the answers and some of the different threats to bats and how new mathematics can be used to show how large the threat is.