

**Instructor Activity Guide: Brandy Creek or James. K Carr Trail**

**Adaptations of Plants and Animals to Whiskeytown Area  
(Adapted from Project Learning Tree #11)**

Concept: Adaptation, tie in to global warming.  
Learn about adaptations of plants & animals to Whiskeytown region.

California Science Standards:

3<sup>rd</sup> Grade: Life Science – 3b, c, d. Adaptations in physical structure or behavior may improve an organism’s chance for survival.

4<sup>th</sup> Grade: Life Science – 3b. Living organisms depend on one another and on their environment for survival.

7<sup>th</sup> Grade: Life Science – 3.1, 3.5. Biological evolution accounts for the diversity of species developed through gradual processes over generations.

E P & C:

3<sup>rd</sup> Grade: Recognize when environment changes, some life will die or move to new locations as natural system can no longer sustain them.

4<sup>th</sup> Grade: The health of an ecosystem affects ability of living things to survive in a particular environment.

7<sup>th</sup> Grade: Describe how human activities can affect reproductive cycles and genetic diversity and thus, the evolution and diversity of the species.

Activity:

Conduct activity during hike, instruction takes place at various stops along the trail.

Materials

- Student page (double sided, Adaptations of Plants & Animals and Who’s Who)
- Instructor guide (double sided, Instructor Read aloud for Who’s Who & Adaptations of Plants & Animals)
- Pencils

**A.** Explanation to students: When an organism’s environment changes, the organism must move, adapt or die. The change an organism makes over time to suit and survive in its environment is called **adaptation**. The adaptation takes place over many generations. An organism might have a feature that helps it survive cold winters. All those in the species with thicker fur survive over generations as the climate turns colder. The relatives with thinner fur, or no fur, start to die out over generations. It’s the species that survives, not the individual.

Many plants and animals develop curious strategies over time to adapt and survive in their environment. These adaptations help ensure the survival of the species. Let’s practice on a few plants and animals to get a better idea of this.

**B. Who’s Who. Instructor does activities 1-4 at one stop, activities 5-8 next stop.**

- Students/Instructor define together the meaning of fictitious.
- Students refer to Who’s Who page.
- Instructor reads descriptions only....Don’t say names of plants or animals. Pictures are descriptive so students will figure out which one your reading about.

- Students listen and try to decide if animal described is **real** or **fictitious** and check the appropriate box.
- Tell students they will get answers at next stop
- Proceed to next stop, finish activities 5-8.
- Answers: With each picture, poll students if they thought organism was real, raise hands, false, raise hands. Then tell students that all organisms are real plants and animals that have developed these adaptations over generations to survive in their environment.

- What human activities at Whiskeytown could impact reproduction and continuation of species at Whiskeytown? (Probably road development-erosion, fire, timber harvests, herbicide use for invasive plant removal, release of non native plants and animals into environment.)
- Losing species means losing the enjoyment of our unique Whiskeytown ecosystem. It's not just the plants and animals that we lose, we lose too.

### **C. Adaptations of Plants & Animals to Whiskeytown Region**

- Help students connect adaptation concept by showing them how plants and animals have uniquely adapted to Whiskeytown region. Teach-discuss half the activities at one stop, half at the next stop.

**Wrap up:** Try to get students to express their understanding of adaptation. Clarify as necessary. Summarize by reminding students about the unique adaptations of plants and animals here.

- Have them predict what plants and animals will survive if the climate at Whiskeytown becomes warmer. (Probably the fence lizard, toyon and Manzanita.)
- Predict what plants and animals will survive if the climate gets colder or wetter. (Probably both forms of the Pacific Giant Salamander and the Tailed Frogs.)