

# Living Map -- Life Zones of Boulder County

**Theme:** Boulder County has incredible plant and animal biodiversity because of its many altitudinal life zones.

**Activity:** Life zones, vegetation, and wildlife in Boulder County

## Activity Set-up

- Unfold Living Map (12 X 16 feet) and place on floor, north edge to blackboard
- Mount *Life Zones of Boulder County* banner on blackboard
- Place town labels on map: Niwot, Lyons, Longmont, Louisville, Lafayette, Boulder, Nederland, Ward, and Allenspark
- Place landmark labels on map: Flatirons, Longs Peak, Continental Divide, and Arapaho Glacier
- Place drainage labels on map: Boulder Creek, Lefthand Creek, and St. Vrain Creek

## Activity

- Presenters stand at north side of map next to blackboard
- Arrange students around the remaining three sides of map
- **Question:** What is this a map of? (Boulder County – area: 742 square miles)
  - **Question:** What is a “county”? (a geographic area and unit of local government)
  - Colorado is divided into 64 counties
  - Boulder County is one of the original 17 counties created in 1861 as part of the Colorado Territory (Colorado became a state in 1876)
  - Largest county in Colorado: Las Animas County in SE Colorado (4,771 square miles)
  - Boulder County area is 742 square miles (51 of 64 counties in land area)
- **Question:** Where is north on this map? (Place north arrow on map and have students identify which sides they are standing on)
- **Question:** Where are we today? (school location; orient kids to the map: towns, drainages, landmarks, etc.)
- **Question:** Where do most of the people in Boulder County live? (On the plains east of the mountains)
- **Question:** Where do plants and wild animals in BoCo live? (Everywhere)
- Boulder County has more bio-diversity (many types of plants and animals) than most places. **Question:** Why do you think that is? (Because of the five different life zones and diverse ecosystems in BoCo created by the dramatic elevation changes)
- **Question:** Where do you think the lowest and highest elevations in BoCo are? (East edge of map where St. Vrain Creek leaves BoCo [just under 5,000 feet], and northwest corner of map at Longs Peak [over 14,000 feet])

- **Question:** How much does the elevation change between the lowest point in Boulder County and the highest point? (about 9,000 feet of elevation change)
- **Question:** What and where is the Continental Divide? (The high peaks on the western boundary of Boulder County that determine whether water flows west to the Pacific Ocean or east to the Atlantic Ocean)
- Life Zones are identified primarily by the characteristic types of vegetation in each zone. Generally, average temperatures go down and precipitation goes up as you go move from lower to higher life zones.
- Introduce each life zone, one at a time (plains-alpine), and place life zone labels and pictures of plants in appropriate life zones on the map.
  - Plains (below~ 5,500 feet): cottonwood and big bluestem grass (“turkey-foot”)
  - Foothills (5,500-8,000 feet: ponderosa pine and pasque flower
  - Montane (8,000-10,000 feet: Douglas fir and mariposa lily
  - Subalpine (10,000-11,500 feet): Engelmann spruce and Colorado columbine
  - Alpine (above 11,500 feet): moss campion and alpine forget-me-not
- Many plants and trees can live in more than one life zone.
- **Question:** Why are there no trees in the alpine life zone? (Trees can’t live in the alpine life zone because it is too cold, dry, and windy to survive)
- **Question:** Which life zone are we in today? (school site)
- **Question:** Which life zone is Longs Peak in? (alpine)
- So, we know that wild animals (or wildlife) live everywhere in BoCo, in all life zones, right? **Question:** What do you call anyplace that wildlife lives? (habitat)
- **Question:** What do all animals need in their habitat to survive? (food, water, shelter, and space)
- **Question:** Do people need habitat too? (yes)
- Let’s see if we can find where some of the animals in Boulder County might live.
- Mix up wildlife pictures so they are not arranged by life zone.
  - Plains: black-tailed prairie dog, golden eagle, prairie rattlesnake
  - Foothills: mountain lion, mule deer, and Abert’s squirrel
  - Montane: moose, bear, and porcupine
  - Subalpine: elk and snowshoe hare
  - Alpine: pika and white-tailed ptarmigan
- Ask students where they think the different species of wildlife live and place wildlife pictures on map in the appropriate life zones.
- Just like plants and trees, many animals can live in more than one life zone, as long as they can find appropriate habitat (food, water, shelter, and space)
- **Questions?**
- **Conclusion:** There are lots of places in Boulder County to explore our many life zones and the incredible variety of plants and animals that live all around us.

**\*NOTE: This outline is only a suggested program template. Please modify or tailor your approach to be appropriate for your program and group**