California National Parks: Answer Key & Coordinator Notes

A - Cabrillo NM

B- Channel Islands NP

C- Death Valley NP

D- Devil's Postpile NM

E- Golden Gate NRA

F- Joshua Tree NP

G- Lassen Volcanic NP

H- Lava Beds NM

I- Manzanar NHS

J- Mojave National Preserve

K- Muir Woods NM

L- Pinnacles NP

M- Pt. Reyes NS

N- Redwood NP

O- Santa Monica Mountains NRA

P- Sequoia and Kings Canyon NPs

Q- Whiskeytown NRA

R- Yosemite NP

Coordinator Notes:

This activity as written lends itself well to studying the interaction of weather, climate and environment - with a few small extensions tweaks - as these elements go hand in hand with how water shapes the environment of our National Parks. The cards for the California National Park areas were created with this in mind. The (4) clues on each card we taken directly from the website of each National Park area – (3) clues from the 'Nature & Science' tab; (1) from 'History & Culture'. Below are steps educators have been using to integrate a weather and climate focus into the activity with the California cards:

1. **Ask students if they have ever visited a national park.** Can they recall any prominent water features (e.g., rivers, waterfalls, geysers, lakes).

2. **Divide students into groups of three to five and provide each group with a copy of a deck of 6 to 9 California National Park area cards.** Ask each team to spread their cards out **picture side up** so they can see all of the cards in their deck.

3. **Ask <u>each</u> team member to choose 1 park card.** Depending on student grade level, ask students to:

   K-3: List as many land features as they can see in their picture (i.e., mountain, valley, ocean, lake, etc.). List what kind of plants and animals might live in their picture – Do they see any organisms in the picture?

   4-6: Can student see evidence of water or the water cycle in their picture? Do you think this park gets a lot or a little precipitation – and in what form? How many states of water can be observed in the picture?

   6-12: Can students see evidence that water has shaped this National Park area (erosion fans, glacial valleys) and how would you describe the current climate portrayed in the picture?

4. **Ask students to share their pictures with the class and their observations.** Ask if students in other groups had the same picture – Did they have any different observations? Teachers working with Lower Elementary may want to break here and use the K-2 instructions as written in the Project WET Guide 2.0.

5. **Pass out copies of the 'Natural Regions' or 'Habitat' map** from the California Education & the Environment Initiative materials. Both maps can be downloaded for free from <u>http://californiaeei.org</u>

6. **Still only using the picture side of the cards,** ask each team of students to place all of the cards on or around the edge of the California EEI map where they think this park may be located in the state. Once completed, ask what visual cues did teams use to decide the location of their park?

7. **Show or give each group a copy of the FRAP California Precipitation map included with the California Project WET National Parks supplementary materials or the California Precipitation map that is also found in the EEI materials.** Explain to students what this map is showing, then ask students if this map helps explain the placement of their parks? What part of California gets the highest precipitation? What part of the state gets the least? Can you see evidence of this in the Park pictures?

8. **Give each group a copy of a map of National Park Service areas in California**. Each team can now turn over their cards and take turns reading the clues on the back. Each team is trying to answer these questions:

    1) What special features led to each being designated as a National Park Service area?

    2) Why is water important to this Park area – or how is this Park area important to California's water resources?

    3) What National Park area is it and where is it located in California?

9. **Go through the deck and discuss with students the parks and their special water features.**

10. **Ask students why the waters of our national parks are important.** Answers may include:

    They provide habitat for plants and animals (often threatened and endangered – Were there any examples in the clues?).

    They provide recreational opportunities like fishing, canoeing, kayaking and tubing.

    Mountain snowpack originates in some parks and supplies water for plants, wildlife and people. Where does most of the snow fall in California? What National Park areas are in these areas? (Lassen Volcanic, Yosemite, Sequoia – Kings Canyon, Devils Postpile, etc.)

    How are National Park areas important to California cities and farms? (The Merced & Tuolumne Rivers originate in Yosemite, the Kings, Kaweah and Kern Rivers originate in Sequoia – Kings Canyon, the San Joaquin River originates in Devils Postpile, Whiskeytown NRA was created to transfer water from the North Coast to the Central Valley, which also receives water from Lassen and Lava Beds, etc.)

11. **This is a great point to further explore California bio-regions through the Student Readers for each grade level in the EEI (**http://californiaeei.org**).** The Student Edition in the High School EEI unit 'Liquid Gold' (E.9.c) on the Central Valley, State and Local Water Projects is one example that ties in well with this activity.