

## Student Worksheet #1

# The Physical Geography of the California Trail

Emigrants traveling to California on the Oregon-California Trail faced many challenges, some of which were due to the physical geography of the route. Following the Oregon Trail from “jumping-off places” along the Missouri River, those heading for California left that trail about 150 days later near Fort Hall on the Snake River. California travelers faced the most difficult terrain in the West. Not only had they crossed the Rocky Mountains at South Pass, but ahead of them lay deserts and the Sierra Nevada Mountains. There were various routes to California, but they all contained the same physical barriers. This lesson will follow the Truckee River Route, also known as the Donner Pass Route, through the writings of some of its travelers.

### Great Basin

After crossing the Rocky Mountains and leaving the Oregon Trail, travelers entered the Great Basin Desert. This desert lies between the Rocky Mountains to the east and the Sierra Nevada and Cascade Mountains to the west. It consists of alternating basins (valleys with interior drainage) and mountain ranges. In other words, all of its waterways (rivers and streams) drain into desert flats, not into the sea. It is mostly a desert and semi-desert area of sagebrush and greasewood plants.

**Saturday August 18th** *The appearance of the country is again changed. The vallies are lar--ger, and in many instances form quite large plains-- are destitute of grass, and all kind of vegetation, except the eternal Artimecia;-- [sagebrush] this shrub grows from one, to six feet high; it has a few small leaves that resemble sage leaves, and are about the same size--it grows very scraggy, and gives the country where it is the only thing of the vegetable kin--gdom that is seen (and there is much of it) a som--bry, and grayish appearance that is not at all pleasant. The mountains begin to show more rock, and barrenness.*

Gordon C. Cone, Diary, 1849-1850

**July 4<sup>th</sup>** *The country through which we pass to day rather barren and dry of a porous soil and easily broke; hence the road very dusty The season has become quite warm and the meridian sun makes us pant for the shady Grove & cooling brooks our fancy would gladly emagine . . .*

**July 15<sup>th</sup>** *we now continued to cross the sterll plain prolific for nothing but its deep dust. Thise ise a very level plains or table lands at the foot of lofty bluffs*

John Furmes Cobbey, Journal, 1850.

### **Humboldt River**

After traveling about 160 miles from the turnoff on the Oregon Trail, emigrants reached the Humboldt River, the longest river in the Great Basin. The Humboldt begins in northeastern modern-day Nevada and flows to the southwest. Travelers found grass and water along the river, but soon tired of constantly having to cross its meandering path and traveling along its swampy lowlands. The river eventually drains into the Humboldt Sink.

**July 6<sup>th</sup>** *Continued down the valley 5 miles crossed a low plain 1 mile to the Middle forke of Humbolt river. This stream is about 40 feet wide at this time 4 feet deep crossed safely we now have tow [two] slougs to cross the mud or /mire almost bottomeless Horses, mules, and Oxen foundered some mules only saved from the dominion of the mud; by fasning ropes to them; & using violent force, make the mire yeald its bony prey.*

John Furmes Cobbey, Journal, 1850.

### **Humboldt Sink**

Travelers said goodbye to the Humboldt River as it disappeared into the Humboldt Sink. The sink is an intermittent dry lakebed. The body of water occasionally in the sink is called the Humboldt Lake. The sink has no outlet. It is a remnant of a large prehistoric lake (Lake Lahontan) that existed about 13,000 years ago, at the end of the last ice age.

**September 22, 1849** *We have passed the "sink" or termination of Humboldt river; and after haveing travelled along its Ban--ks four hundred miles, and enjoyed so many refr-eshing draughts from its limped stream, it is not without some little emotion that we see it in its final resting place, in the midst of a Desart. It is a singular fact that so large a stream of water as*

*"Humboldt" river, should after flowing on over a firm bed, and within high banks for four hundred miles loose itself in a bottomless than ten miles in length.*

Gordon C. Cone, Diary, 1849-1850

***July 19<sup>th</sup>** Started early this morning. Came 2 miles and come the last Slough of the sink (as we supposed) we now camped untill the heat of the day should pass water very poor in this slough. At 5 o'clock P.M. We continued our journey ascended a low sand ridge, and found the sloughs of the ~~sunk~~ sink still extended farther In 4 miles we crossed the meagre sloughs, the remains of Humbolt ; that, had escaped the devouring sands.*

John Furnes Cobbey, Journal, 1850.

#### **40-Mile Desert**

The travelers left the poor water and grass of the Humboldt Sink and entered the 40-mile Desert. The 40-Mile Desert is an alkaline wasteland, the remnants of part of an ancient, inland sea. Travelers faced deep sand, dust, and intense heat for the entire 40 miles. There was no grass for the animals and the only drinkable water was at Boiling Springs, a mineral-filled bubbling geyser. Many emigrants lost animals and belongings on this stretch of the trail, and while it was difficult and uncomfortable for the travelers, very few lost their lives. Most emigrants survived to reach the Truckee River.

***July 19<sup>th</sup>** We found this part of the desert a level plain for 12 miles and looked like it might have been covered with water in in (sic) times past. It is a complete arid waste. these 12 miles the road is good the plains then becomes more rolling with some heavy sand Dead Horses are frequent on either hand, having performed only a small portion a cross this desert.*

John Furnes Cobbey, Journal, 1850.

**September 22, 1849** The country is indeed a desert , not a single plant of any description is to be seen along the route as we pass-- not even the wild sage, or greasewood, that is almost every where, is to be found here; all is one dry, and barren waste, and with the exception of here and there a sand hill, the country is entirely level . .

Gordon C. Cone, Diary, 1849-1850

*Disappointment intensified our burning thirst and my good mother gave [us] moistened peppermint and later put a flattened bullet in each child's mouth to engage its attention and help keep the salivary glands in action.*

Eliza Donner, *Overland in 1846* in Kimball, *Stories of Young Pioneers: In Their Own Words*, p. 139.

### **Truckee River**

The weary travelers and their surviving animals found plentiful water and grass upon reaching the Truckee River. This river begins high in the Sierra Nevada Mountains and sinks into the 40-Mile Desert. Travelers followed the river on an uphill grade, crossing the river several times, into the forested country of the Sierra Nevada Mountains.

*Sep. 1<sup>st</sup> Tuck's river [Truckee River] which flows thro this valley is a fine little stream which flows from the " Sierra Nevada ", clear as crystal. It is well appreciated by the thirsty traveller, after a journey of 45 miles over a desert.*

*Sep. 3d. We started from our nooning - went about 5 miles and came to a very extensive plain, 5 by 10 miles, covered by a luxuriant growth of grass, thro which Truck's river [Truckee River] passes; and walled in on all sides by the lofty Sierra Nevada .*

Jackson, Edward. Diary, 1849

### **Sierra Nevada Mountains (Through Donner/Stephens Pass)**

The final obstacle on the road to California now lay before the emigrants – the Sierra Nevada Mountains. The Sierra Nevada stretch 400 miles from north to south with peaks ranging from a height of 5000 feet to over 14,000 feet. This mountain range began approximately 150 million years ago rising as a result of the collision of landmasses. By 65 million years ago, they had been worn down to a range of low, rolling mountains only a few thousand feet high.

Uplifting of the mountains began about 25 million years ago and continues today. As a result of the uplifting, rivers cut deep canyons on both sides of the range. U-shaped canyons were also carved out of the mountains by glaciers during later ice ages. All of this physical activity resulted in beautiful, but rugged mountains; very difficult for emigrants and wagons to traverse both up to Donner Pass (also known as Stephens Pass) as well as down into California's Central Valley and Sutter's Fort (Sacramento).

**September 9, 1849** *it is 2 miles from base to summit nearly all up hill parts of it considerable steep covered with pines the last hill or pitch is 30 yds long sandy + very steep + very difficult of ascent our mules got so tired or jaded we were obliged to call on an emigrant wagon to assist us up the last ascent which was granted when our wagon was safely landed on the summit*

Churchill, Stillman. Diary, 1849

**September 6, 1849** *We started this morning, for our last tremendous summit, at 9 o'clock. For the first 2 miles the ascent was very gradual and our path lay among pines; but the next three miles was more rugged and steep and many fir and spruce trees bordered our way. Some of the rocks are granite of a very white color. After climbing one very sharp pitch, we came on a level bit of table land, an acre broad, which seemed placed on purpose for all hands to stop and recruit for the next tremendous effort, which is the top of the Sierra Nevada, 9358 feet above the level of the sea.*

**September 7, 1849** *We still have monstrous mountains to ascend and descend. You have nothing at home that will compare with them. Sometimes, to get the waggons down, we cut a tree and tie it to the back part of a waggon & ease it down, sometimes, we tie a rope to the back and give it a turn or two around a tree then all take hold and ease it down as slowly as possible.*

Jackson, Edward. Diary, 1849

## Student Worksheet #2

### Map Activities

Use the map, "The Oregon and California Trails," for the following activities. You may use a map or atlas for reference.

1. Label Independence, Missouri, the main starting point of the Oregon Trail.
2. Label the Sierra Nevada Mountains and the Great Basin Desert.
3. Highlight the following items on the map by tracing them in different colors. List each item in the legend box on the map, showing the colors you used.
  - Marshall Route (to Independence, Missouri)
  - The Oregon Trail (from its starting point in Independence, Missouri to the California Trail cutoff)
  - The California Trail
  - Humboldt River
  - Truckee River
4. Shade in **yellow** the area known as the 40-Mile Desert. (Hint: remember where travelers **entered it** and **left it**.)
5. Label Sacramento (Sutter's Fort), California, the ending point of the California Trail.

## Student Worksheet #3

### Elevations Along the California Trail

Emigrants on the California Trail crossed deserts and traveled up and down mountains to reach their destination. One way to understand the difficulty of their journey is to compare the different elevations (distance above sea level) of locations along the trail.

A line graph is used to show change. You will make a line graph to show the change in elevation along the trip from Independence, Missouri, to Sacramento, California.

Directions: Use a sheet of graph paper.

1. Use the data from the table below. Determine the best scale for the data. The scale will begin at 0. (5 pts)
2. Draw and label the scale on the vertical axis. (5 pts)
3. Draw and label the horizontal axis. (5 pts)
4. List the name of each location. The data has been listed from west to east so that your ending graph will show the elevations in the same direction as the emigrants traveled across our country; from east to west. (6 pts)
5. Locate the points on the graph. (12 pts)
6. Connect the points with line segments. (6 pts)
7. Write a title for your line graph. (1 pt)

**\*Note:** Your graph does not show the correct **distance** between locations on the trail. It shows only the differences in elevation emigrants experienced as they traveled to California.

#### Elevation Along the California Trail

| Location                   | Elevation  |
|----------------------------|------------|
| Sacramento (Sutter's Fort) | 25 feet    |
| Donner Pass                | 7,100 feet |
| Humboldt Sink              | 3,900 feet |
| Fort Hall                  | 4,360 feet |
| South Pass                 | 7,550 feet |
| Independence, Missouri     | 1,050 feet |

**Assessment**

Name \_\_\_\_\_

Write one fact you learned about the physical geography of each of the physical features of the California Trail.

1. Great Basin Desert

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2. Humboldt River

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3. Humboldt Sink

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4. 40-Mile Desert

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5. Truckee River

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6. Sierra Nevada Mountains

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**Assessment Key** – possible answers – 1 fact required for each – 6 points total

1. Great Basin Desert

- a. It consists of alternating basins (valleys with interior drainage) and mountain ranges.
- b. All of its waterways (rivers and streams) drain into desert flats, not into the sea.
- c. It is mostly a desert and semi-desert area of sagebrush and greasewood plants

2. Humboldt River

- a. It's the longest river in the Great Basin.
- b. The Humboldt begins in modern-day northeastern Nevada and flows to the southwest.
- c. Has grass and water along the river, meandering path and swampy lowlands.
- d. The river eventually drains into the Humboldt Sink.

3. Humboldt Sink

- a. The sink is an intermittent dry lakebed.
- b. The body of water that occasionally is in the sink is called the Humboldt Lake.
- c. The sink has no outlet.
- d. It is a remnant of a large prehistoric lake (Lake Lahontan) that existed about 13,000 years ago, at the end of the last ice age.

4. 40-Mile Desert

- a. It's an alkaline wasteland, the remnants of part of an ancient, inland sea.
- b. It's an area of deep sand, dust, and intense heat.
- c. There was no grass and the only drinkable water was at Boiling Springs, a mineral-filled bubbling geyser.

5. Truckee River

- a. It begins high in the Sierra Nevada Mountains.
- b. It sinks into the 40-Mile Desert.

6. Sierra Nevada Mountains

- a. The Sierra Nevada stretch 400 miles from north to south.
- b. Its peaks range from a height of 5000 feet to over 14,000 feet.

- c. This mountain range began approximately 150 million years ago rising as a result of the collision of landmasses.
- d. By 65 million years ago, they had been worn down to a range of low, rolling mountains only a few thousand feet high.
- e. Uplifting of the mountains began about 25 million years ago and continues today.
- f. As a result of the uplifting, rivers cut deep canyons on both sides of the range.
- g. U-shaped canyons were also carved out of the mountains by glaciers during later ice ages.

Key- Map Activities – Worksheet #2

**Total points possible -10**

**See The Oregon and California Trails Labeled for map key**

1. **1 point** - Label **Independence, Missouri**, the starting point of the Oregon Trail.
2. **2 points** - Label the **Sierra Nevada Mountains** and the **Great Basin Desert**.
3. **5 points** - (**1 point for correctly highlighting each item and correctly listing it in the legend on the map.**) Highlight the following items on the map by tracing them in different colors. List each item in the legend box on the map, showing the colors you used.
  - **Marshall Route (to Independence, Missouri)**
  - **The Oregon Trail (from its starting point in Independence, Missouri to the California Trail cutoff)**
  - **The California Trail**
  - **Humboldt River**
  - **Truckee River**
4. **1 point** - Shade in **yellow** the area known as the **40-Mile Desert**. (Hint: remember where travelers **entered it** and **left it**.)
5. **1 point** – Label **Sacramento (Sutter’s Fort), California**, the ending point of the California Trail.