

Google Earth Scavenger Hunt

The Scavenger Hunt:

Find these places using Google Earth. Once you find a place, *right click* right click and choose “Save to My Places” so that the program will remember that place for you. On this worksheet, write down the *latitude* and *longitude* for that place. The *latitude* and *longitude* are shown at the bottom left of your Google Earth screen.

1. Your House
2. Montana Tech
46° 0'43.74"N
112°33'33.41"W
3. Museum of the Rockies (hint: in Bozeman, near Montana State University)
45°39'37.43"N
111° 2'44.22"W
4. World Museum of Mining (hint: in Butte, near Montana Tech)
46° 0'33.46"N
112°33'51.90"W

Find the following locations using Google Earth, then use the Internet to research the landmarks listed below, and write a short paragraph about why each is significant in Montana history:

5. The Berkeley Pit
46° 1'2.38"N
112°30'36.60"W
6. Milltown Reservoir (hint: east of Missoula, on the Clark Fork River)
46°52'17.71"N
113°53'33.40"W
7. Big Hole National Battlefield (hint: near the Big Hole River)
45°38'45.98"N
113°39'4.59"W
8. Little Bighorn Battlefield National Monument
45°33'55.19"N
107°25'46.45"W
9. Lolo Pass (hint: between Idaho and Montana near Missoula; follow a road west from Lolo, Montana)
46°38'6.72"N
114°34'47.28"W
10. Anaconda Smelter (hint: on the east side of Anaconda; zoom in a lot to see it)
46° 6'36.72"N
112°54'49.09"W

Use Google Earth to plot routes:

1. From your house to Glacier National Park
2. From your house to Yellowstone National Park

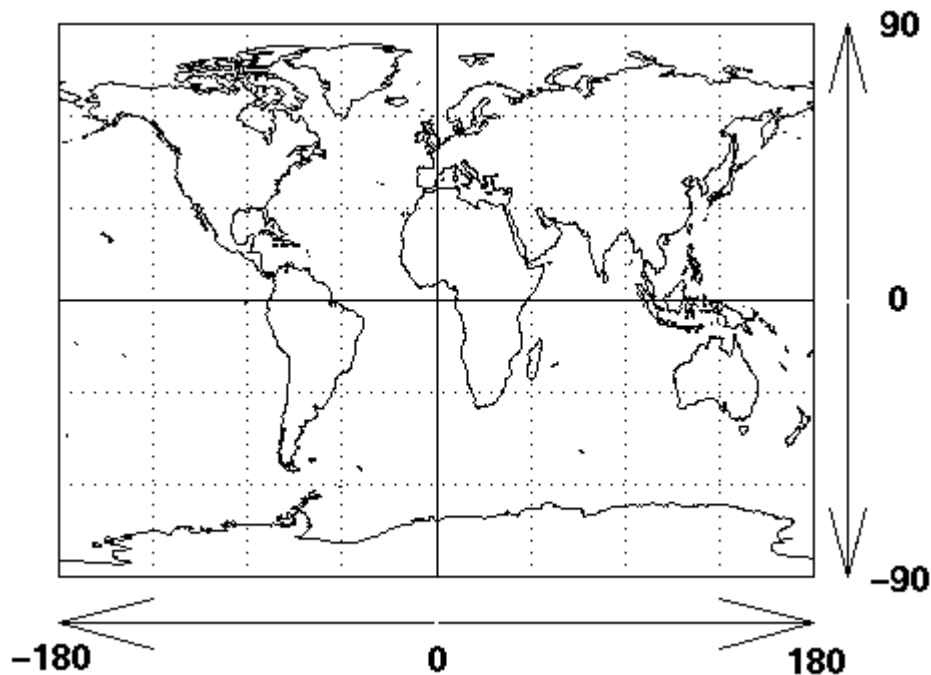
3. From your house to wherever you would like to go.

Definitions:

Latitude

Longitude

Latitude is measured from the equator, with positive values going north and negative values going south. Longitude is measured from the Prime Meridian (which is the longitude that runs through Greenwich, England), with positive values going east and negative values going west. So, for example, 65 degrees west longitude, 45 degrees north latitude is -65 degrees longitude, +45 degrees latitude.



Facts:

5. The Berkeley Pit is a gigantic former open pit copper mine located in Butte, Montana, and is the one of the largest Superfund sites. It was opened in 1955 and operated by the Anaconda Mining Company and later by the Atlantic Richfield Company (ARCO), until its closure in 1982. When the pit was closed, the water pumps at the bottom were also turned off, which caused groundwater from the surrounding basin to leak into the pit. The water seeped through metal deposits, causing it to become heavily acidic and laden with heavy metals and dangerous chemicals such as arsenic, cadmium, zinc, and sulfuric acid. The water has a pH level of 2.5. Toxic water was filling up the pit at a very fast rate after its closure until it was a mile wide and over 900 feet deep, but it was not until the 1990s that serious plans were devised for solving this problem. The water is so loaded with metals (up to 187 ppm Cu) that "mining" of the water has been done. However, fluctuations in power prices have made this difficult. In 1995, a large flock of migrating snow geese landed on the Berkeley Pit water and were killed, most likely by the high

concentration of acid. 342 carcasses were recovered. Their livers and kidneys had bloated, and many had eroded esophaguses. ARCO, the current custodian of the Pit, denied that the toxic water caused the death of the geese, instead blaming their deaths on their diet. They maintain that the Pit is safe and environmentally sound. Nearby residents are also concerned about the fog produced by the pit and are wondering what it is doing to their health. The most recent development in the clean-up was the construction of a treatment plant on Horseshoe Bend. This facility is intended to treat and divert water coming from the Horseshoe Bend flow. In addition, it will be able to treat the existing Berkeley Pit water in 2018, or whenever the water level hits the critical point of 5,410 feet above sea level. This number was set by Federal order and is intended to protect the ground water from being contaminated by the water in the pit.

6. The Milltown dam and reservoir are located in Milltown, Montana, about 4 miles upstream of Missoula. The United States Environmental Protection Agency (EPA) listed the area on the federal Superfund site list in 1983 based on high levels of arsenic detected in area drinking water wells. EPA is considering a range of cleanup options, including complete sediment and dam removal, and is expected to propose a cleanup plan in 2002. The dam was built in 1906-7. A large flood in 1908 filled the reservoir with sediments containing wastes from upstream mining operations in Butte and Anaconda. The dam is 21 feet high, with eight foot wooden flashboards on its crest. It has been repeatedly damaged by floods and ice over the years, and re-fortified with concrete – however the original timber crib structure remains in place. The reservoir holds about 6.6 million cubic yards of sediments, about 2 million yards of which are heavily contaminated with metals, including 2,100 tons of arsenic, 13,100 tons of copper, 19,000 tons of zinc, 143,900 tons of iron, and 9,200 tons of manganese. The depth of contaminated sediments ranges from 1 to more than 20 feet. Water depth in the reservoir averages about four to eight feet.

7. **Big Hole National Battlefield** is a memorial located in [Montana, United States](#). The [Nez Percé](#), under [Chief Joseph](#) fought a delaying action against the [U.S. Cavalry](#) here on August 8 and 9, 1877 during their failed attempt to escape to [Canada](#). This action, the [Battle of the Big Hole](#), was the largest battle fought between the Nez Percé and [U.S. Government](#) forces in the five month conflict known as the [Nez Perce War](#). The park was made a part of [Nez Perce National Historical Park](#) in 1992 which consists of 38 separate locations in five different states, following the flight of the Nez Percé tribe from the U.S. Cavalry. Big Hole National Battlefield is located on 655 [acres](#) (2.65 km²), 10 miles (16 km) west of Wisdom, Montana on Montana state highway 43. A year round visitor center is located in the park.

The Nez Perce homeland territory was in the states now known as [Oregon](#), [Washington](#) and [Idaho](#). In 1873, Chief Joseph negotiated with the federal government to ensure his people could stay on their land in the [Wallowa Valley](#) as stipulated in 1855 and 1863 land treaties with the U.S. government. But, in a reversal of policy in 1877, General Oliver O. Howard threatened to attack if the Indians did not relocate to an Idaho [reservation](#) that was only a small fraction of their original territory. Chief Joseph reluctantly agreed. As they began their journey to Idaho, Chief Joseph learned that three young Nez Percé men, enraged at the loss of their homeland, had massacred a band of white settlers. Fearing

U.S. Army retaliation, Chief Joseph decided that the best way to avoid the official U.S. Government policy of forcing Native Americans onto reservations was to escape to [Canada](#), where he believed that his people would be treated differently and they could unite with [Sitting Bull](#), leader of a band of [Lakota](#) there.

Six weeks after leaving their homeland, U.S. Cavalry forces performed a predawn attack on the 800 men, women and children encamped at Big Hole. The Nez Perce mounted a fierce resistance and managed to overwhelm the attacking force, cornering them on a hillside. Meanwhile, the women and children fled the battlefield after burying their dead. During the day and a half battle, the Nez Perce lost an estimated 60 to 90 men, women and children, although it is believed that actual losses may have been much higher. U.S. forces lost 28 and an additional 40 serious casualties. The confrontation was the most violent battle between the Nez Perce and the U.S. Government forces. After the battle they fled east through [Yellowstone National Park](#), then the Nez Perce headed north. In October 1877, the starving and exhausted Nez Percé surrendered to the U.S. Forces commanded by General Oliver O. Howard, in Montana's [Bear Paw Mountains](#), only 40 miles from the Canadian border. Approximately 150 Nez Perce managed to escape to Canada prior to the surrender. Upon the final surrender by Chief Joseph he was quoted as saying, "Hear me, my chiefs! I am tired. My heart is sick and sad. From where the sun now stands I will fight no more forever".

8. The Battle of the Little Bighorn — also known as Custer's Last Stand and Custer Massacre and, in the parlance of the relevant [Native Americans](#), the Battle of the Greasy Grass — was an armed engagement between a [Lakota-Northern Cheyenne](#) combined force and the [7th Cavalry](#) of the [United States Army](#). It occurred [June 25–June 26, 1876](#), near the [Little Bighorn River](#) in the eastern [Montana Territory](#).

The battle was the most famous incident in the [Indian Wars](#) and was a remarkable victory for the Lakota and Northern Cheyenne. A U.S. [cavalry](#) detachment commanded by [Lt. Col. George Armstrong Custer](#) was annihilated.

9. Lolo Pass (el. 5233 ft./1595 m.) is a high mountain pass in the northern Rocky Mountains located on the border between the U.S. states of Montana and Idaho approximately 25 mi (40 km) WSW of Missoula, Montana. It is famous as the location where the Lewis and Clark Expedition crossed the summit of the Bitterroot Range via the Lolo Trail on the outward and return journeys in 1805 and 1806. U.S. Highway 12 crosses the pass.