SUTTER'S FORT
STATE HISTORIC PARK

THE WAGON
THEY CAME BY WAGON TO SUTTER'S FORT

(Prepared by Helen Diepenbrock, Teacher, Sacramento Country Day School)

I. GOAL:

Familiarize students with the mechanics of their travel cross country.

II. OBJECTIVES:

1. Students will see the type of wagon in which the pioneers actually traveled.
2. Students will learn what tools and provisions pioneers had to bring, and how those were packed into the wagon.
3. Students will learn what the country they traveled through was like.
4. Students will learn about the animals that helped them successfully travel across the continent.

III. THE PEOPLE:

Before the Gold Rush, most of the pioneers traveling to California and Oregon had already traveled to the western edge of the United States – into the Great Plains just west of the Mississippi River. They were generally farming families, though some were mechanics (craftsmen such as blacksmiths and carpenters) and businessmen.

IV. THE PLACE:

Any place between the Mississippi River and the Pacific Ocean; through prairies and deserts, over rivers and mountains.

V. THE TRIP:

If you come to California today, you would travel by car, plane, bus or train. Even if you live on the East Coast, you can make the trip in a few hours or a few days. Wouldn't the pioneers be surprised to learn about highways, airports and railroad tracks?

There was barely a trail to California in the 1840s, and the only way to travel was by foot, horseback, or wagon. In the mid-1840s, the overland trip took 5 – 6 months. The first wagons to come into California arrived at Sutter's Fort in 1844 with the Stephens-Murphy Party. After abandoning several wagons in the Sierra, the Stephens-Murphy Party crossed the mountains and traveled to the Fort with only five or six wagons. This was the first wagon party to successfully complete their trip to California. This was just the beginning.

CALIFORNIA STATE PARKS SINCE 1864

By 1845, about 50 more emigrant wagons came into California, and the next year 500 wagons crossed the Sierras. The number of pioneers making the overland trip grew each year; by the end of the Gold Rush, thousands of people traveled west in covered wagons.

WHAT DID THE WAGONS LOOK LIKE?

Just like buying a car today, a pioneer family had lots of decisions to make when choosing a wagon. There were many kinds and sizes. Some were strong, new wagons. Others were small farm wagons built by the men and boys in a family. Some people even rode to California in buggies!

Most families came to Sutter's Fort in simple farm wagons that were light in weight and easy to take apart for river crossings. They were mostly made of wood so pioneers could replace broken parts from trees found along the way.

The wagon was designed to carry everything the family would need for six months on the trail. There were only a few forts along the way where they could trade or buy supplies. So a family's first decision was the size of its wagon. How much room would be needed to carry food, clothing, tools, weapons, equipment and household goods? The wagon you will see at Sutter's Fort is about the size of the average farm wagon. The wagon box measures 4 feet wide by 10 feet long. It was not designed for people to ride in, unless someone was too ill or too young to walk. In fact, the wagon box was so crowded with barrels and supplies that there was no room inside for people. Even at night, the pioneers slept outside the wagon.

The wagon was covered with a white top made of a heavy cloth, called canvas. Wooden hoops (called bows) were bent from one side of the wagon to the other to hold the cover in place. This made a rounded roof over the wagon box. Once the wagon was packed, there was probably no room to stand up!

The cover kept out the rain and dust. Before leaving for California, the family had to be sure it was waterproof. Children often helped their fathers rub oil over the canvas so that rain would not ruin everything inside. If the weather was bad, the pioneers could also close up the front and back ends of the canvas. They pulled on ropes, called **pucker strings** to close up the cover.

Inside the wagon, pioneers invented many ways to save space. Some sewed pockets onto the cover. Other placed hooks on the wooden hoops for guns, clothing, and other supplies. A tailgate could be lowered on the back of the wagon.

Outside the wagon, every inch of space was important. Wooden boxes and barrels were nailed to the sides to add storage. Ropes, lanterns, farm tools, and even furniture might be tied to the outside of the wagon box. A bucket was often seen swinging from the front of the wagon where cream was churned into butter from the bouncy ride.

Most important was the grease or tar bucket, usually made from a hollowed out log and fitted with a cover and a dipping stick. It hung from the rear axle or the side of the wagon. No one would travel without it. Just like a modem truck, a wagon needed grease to keep its wheels and other moving parts rolling smoothly. Wagon grease was a mixture of lard and pine tar. If they ran short of grease, the pioneers used cooking grease, or fat from buffalo or other game.

The wheels looked a lot different from an ordinary wagon because the front wheels were smaller than those in the back. This made it easier for the wagon to make sharp turns. In fact the back wheels were probably taller than most children. This allowed the axle to clear over rocks and tree stumps. The axle is a bar of wood under the wagon box that is attached to each set of wheels. It turns as the wheels revolve. If the axle is damaged, the wagon cannot roll.

The wheels were made of wooden pieces that were bolted together. A strip of iron, called a tire, slipped over the wheel to protect the wood. The wheels had to be removed and the hubs greased regularly to make them roll smoothly.

No wagon was complete without a tongue, which was a long wooden timber that was attached to the yokes of the oxen. Now that the family has a wagon, what do you think they will pack inside?

Activity #1 – Design your own wagon!

1. Start with your wagon box. How large will it be? Look at drawings and pictures. How long? How wide? How high are the sides? How long is the tongue? What is the diameter of your wheels?
2. You may wish to get large pieces of cardboard and construct your wagon box with tape or glue. Or you may wish to use graph paper and draw your design to scale.
3. Your design needs to include the hoops that hold the cover in place. Be sure to draw your cover. (Most covers were white.)
4. You will need to show the diameter of your wheels. Remember the back wheels were larger than the front.
5. Be creative! What ways can you add extra storage? Include items that are hooked, sewn or nailed to your wagon!

LEAVING HOME – FOOD AND SUPPLIES

Imagine the arguments that were heard over what to take, and what to leave behind.
Men insisted on good equipment, weapons and tools, while women needed supplies to keep families well and halfway comfortable on the trail. Everyone wanted to bring family treasures that would remind them of home in faraway California.

In figuring out what to bring, most pioneers wanted to keep their wagon as light as possible. If wagons were too heavy, the oxen could become exhausted and unable to continue pulling the wagon. A complete outfit for a family of four could cost from $800 to $1,000 and weigh nearly 2,000 pounds.

Activity #2 – Brainstorming Your Load – list items you would need for your trip:

Food:

Clothing:

Animals:

Tools and Equipment you will need in California, but maybe not be able to buy. Remember to include items that you would need on the trail to make repairs to your wagon:

Cooking Equipment:

Household Goods:

Now, compare your list with the Pioneer Provisions list on the last page of this handout. What did you forget? (You also may wish to add a new list of items that a child could have carried in a secret place or in a pocket!)

Activity #3 – Food on the Trail

Among other things, the Pioneer Provision list recommends the following foods based on one adult. It tells you to multiply this number by the number of persons in the party. Remember children would have eaten less than adults.

- Flour - 200 pounds
- Bacon (dried) - 75 pounds
- Pilot Bread (hardtack or dried cracker-like bread) - 30 pounds
- Rice - 10 pounds
- Coffee - 5 pounds
- Salt - 10 pounds
- Dried Beans – ½ a bushel (big basket)
- Dried Fruit - 1 bushel
- Baking soda - 2 pounds
- Vinegar - small keg
- Sugar - 25 pounds

Pioneers also took yeast for baking, eggs (that were packed in cornmeal so they wouldn't break), lard, dried meat, and even chocolate for a treat. They took cattle and other livestock so they could get milk and some meat. They depended on hunters to provide game, and children gathered roots and berries along the way.

1. Using the items in the list on the previous page, how much food would you have to take if you had two adults and four children in your party?
2. What would you pack these items in? Remember there was no such thing as plastic containers back then? * *
3. Compare the prices (on the Provisions List) with prices at the grocery store today.
4. What foods would you cook with the ingredients mentioned above? You may need some help from the family cook to get your ideas. (Biscuits were a favorite!)

* * The teacher may wish to bring in canvas bags, kegs, bushels and barrels to show the variety of old-time containers. The Fort has some.

HORSES, MULES OR OXEN - Which Will You Select to Pull Your Wagon?

Horses were very expensive so most pioneers used oxen or mules to pull their wagons. Both were strong, steady and able to cross rough terrain.

Most families coming to Sutter's Fort chose oxen because they were cheaper than horses or mules, and they could be eaten if food ran out! They were able to stand both heat and cold weather, could eat very poor grass and stay healthy, and were less likely to get diseases, probably because they have four stomachs to help digest grasses.

What is an ox, anyway? A male calf can grow up to be a bull. Or it can be neutered to become a steer. When a steer is over 4 years old, it can become an ox if trained to work. A steer under 4 that has been trained to work is called a working steer. A steer of any breed may become an ox. (Oxen is the plural of ox.)

Oxen learn to work in a yoke. This is a piece of wood with bows at both ends which fit over the necks of two oxen. Oxen always work side by side in this yoke. A **yoke of oxen** means two oxen. The yoke was easy to make, so it was another reason that oxen were popular on the trail.

Oxen did not have reins like horses. In fact, they were led by a teamster or drover, who walked beside the oxen. He used a light stick to prod them along. Commands of **Gee** meant turn right, and **Haw** meant go left. It was important not to pull too far to the left or the right or the wagon tongue might break. Remember how difficult it would have been to replace or repair the tongue on the prairie!

When crossing rivers or streams, lead oxen were tied to a rope and the teamster led the oxen across the river. If the river was big and strong, wagons were taken apart and floated across the river. After the wagons went across, the oxen swam across in a herd, following the leader. Like horses and mules, oxen have shoes that are made by blacksmiths. But oxen are hard animals to shoe since an ox cannot stand on three legs. When an ox had to be shoed, the pioneers would dig a trench, lay the ox on its back and with its legs pointed up, the blacksmith could shoe the ox. Because an ox has a cloven foot (two separate pieces), it required two curved pieces of iron for its shoe, rather than the U-shaped horseshoe!

After months of travel, the oxen deserved much credit for getting the pioneers to California. The term, strong as an ox, seems very true! One pioneer, named Joel Palmer wrote about oxen in his diary of l847, Journal of Travels over the Rocky Mountain to the Mouth of the Columbia River: He wrote:

> Oxen stand the trip much better, and are not so liable to be stolen by the Indians. Cattle [meaning oxen] are generally allowed to go at large [roam freely] when not hitched to the wagons; whilst horses and mules must always be staked up at night.
>
> Oxen can procure food in many places where horses cannot, and in much less time. Cattle [oxen] that have been raised in Illinois or Missouri better stand the trip. They are accustomed to eating the prairie grass which they must rely on while on the road. Great care should be taken in selecting cattle [oxen]. They should be from four to six years old and heavy made [large and powerful]. For those who fit out but one wagon, it is not safe with less than four yoke of oxen, as they are liable to get lame, have sore necks or to stray away.

Activity #4 – Your Choice

1. Pretend you are a pioneer who wants to use oxen for your overland trip. You must convince others in your wagon party that oxen are better than horses. Write a persuasive paragraph that tells why you think oxen are best. Use the information you have read above to tell your reasons. You may also add some reasons that horses would be a bad choice.

OR

2. Write a letter to a friend, dated 1846, that describes your oxen team. Why did you choose oxen over horses? How many are you taking? Who is going to lead them? What have you learned about oxen that you could include in your letter?

Additional Activity Ideas for Teachers

1. Copy short selections from several diary entries or make them up yourself. Be sure these are dated. Example: June 30, 1846: "The thunder on the plains was not from any storm. As the dust rose and the ground shook, we knew it must be a buffalo stampede. We circled the wagons and put the oxen in the middle of the circle, hoping they would not get

the scent of the buffalo." Cut these entries in strips and distribute them to table groups. Have students discuss what they learned about wagon travel from the strips, and then put them in chronological order.

2. Keep a diary from the oxen's point of view. As you discuss the Oregon and California trails, make a classroom chart showing the various features, including geography, vegetation, wildlife, hardships, etc. Students write diary entries that reflect what an ox might be thinking as he travels through the plains, desert, and mountains.

MORE ABOUT OXEN (AND BUEYS, TOO)
(By John Grafton)

We know that oxen were the most popular power source for getting the immigrants in their covered wagons to California and Oregon. We also know that the Mexicans, who were already here in California, used oxen (bueys in Spanish) to pull their two wheeled carts and wooden ploughs.

However, the ox seems to have mostly disappeared from the American West shortly after the westward migration, and was replaced by horses and mules. Consequently, it seems like the average westerner of today knows mostly nothing about these noble animals which played such a large part in early settlement of the West.

I have attempted to recapture some of this knowledge about oxen by contacting some very gracious and helpful people in the New England area of the United States, and in the state of Jalisco Mexico, where the ox still lives.

WHAT AN OX IS

Contrary to popular belief, oxen are not a particular breed of cattle. Any breed can be, and probably has been, used as oxen. The Durham, or what we would call the Shorthorn breed of cattle today, was apparently the most common type of animal pulling the wagon trains west. Some Herefords, or whitefaces, may have been used as well.

Just about any kind of cow, including the family milk cow, was at times pressed into service to pull. To earn the title of ox or buey however, an animal needed to be a castrated male, fully grown and trained, usually by about four years of age. Before attaining oxhood an animal was known just as a steer to the Americans and as a novillo to the Mexicans.

The preferred age for castrating was about a year. This age was late enough to allow good muscle development in the neck and shoulders, but early enough to allow the legs to grow longer than those of a bull.

HOW OXEN WERE HANDLED

The American way of handling oxen, and the Mexican way, was two distinct styles of working. The Americans used ox yokes with wooden bows that fit around the animal's necks. An iron ring was attached to the yoke, and the wagon tongue, or a chain, was hooked onto this ring. The person driving the oxen would walk along beside, or slightly in front of the team. He would be carrying a whip, but would be guiding the team mostly by voice commands: **gee** to turn to the right, **haw** to turn to the left, and **whoa** to stop.

The Mexicans used yokes (yugos in Spanish) which were tied to the animal's horns with a soft leather strap (coyunda). The yoke was then attached to the cart or plow with a rope or rawhide loop (barzon). The team (yunta) was guided by being prodded with an iron-tipped pole (otate), and usually the only voice command was an **ooah** to stop.
The Mexican buey along with the Mexican two-wheeled cart and wooden Mexican plow were probably much used at Sutter's Fort.

WHY OXEN?

Contrary to popular belief, oxen are not stronger than horses, and they do not last longer. They are much slower, are more difficult to shoe, and they cannot stand as much heat as a horse. And, their lifespan is about ten years less than that of a horse.

They do seem to have their advantages though. They can work on much less feed than a horse, are easier to handle (especially for an inexperienced person), and the ox yoke is a much simpler piece of equipment than the horse harness. The ox is also much less prone to injury due to its thicker skin and more placid nature.

People who have worked oxen seem to have a special affection for them, frequently describing them as noble and gentle beasts. And, they have not only enjoyed working them, but have enjoyed eating them as well. And that is probably the final advantage of oxen over horses since horses have never been very popular in American or Mexican cuisine.

SUTTER'S FORT
STATE HISTORIC PARK

PIONEER PROVISIONS

Based on a document provided by the Pacific Northwest Region, Forest Service, United States Department of Agriculture. Not everyone took all these items. Prices were of the 1840's and varied from year to year and town to outpost, much like today.

FOOD for One Adult (Multiply by # in Party)		
Flour - 200 lbs per adult	.02lbs	
Bacon - 75 lbs	.04/lb	
Pilot Bread - 30 lbs	.03/lb	
Rice -10 lbs	.07/lb	
Coffee - 5 lbs	.07/lb	
Tea- 2lbs	.05/lb	
Sugar - 25 lbs	.10/lb	
Dried Beans - Y2 bushel	.08/lb	
Dried Fruit - 1 bushel	.24/lb	
Salt- 10 lbs	.04/lb	
Corn Meal- 10 lbs		
Ground Corn - 12 lbs		
Vinegar - small keg		
Whiskey - 4 gal keg	5.00	
Bran		
Dried Vegetables		
Citrus Acid		
Saleratus (baking soda) - 8 lbs	.04/lb	

CLOTHING
2 Changes
Flannel Underclothing
Shoes
Sunbonnets
Cowhide Boots
Hats
Heavy Wraps for Mountains
Extra Walking Shoes
Cotton & Wool Socks
Cotton & Wool Underwear

ANIMALS		
Mares- 3		
Milk Cows-3		
Oxen-4 to 6	25.00	each
Sheep		
Goats		
Chickens		
Horses	150.00 – 200.00	each

TOOLS & EQUIPMENT
Oxbows - 3 or 4
Screws - 3 dozen
Tacks - 8 to 10 oz
Shingle Nails - 2 lbs
Saw
Hammer
Axe
Spade
Augers
Wrench
Screwdriver (tum screw)
Pocket Knives - 2
Blacksmith Tools
Mining Tools
Mallet
Matches (in corked bottles)
Wide Belts (Bullet Pouches)
Bull Whip (Goad)
Horse Gear
Ox & Horse Shoes
Tar Bucket
Wagon Tongues
Spokes
Axles
Wheels
Anvil
Grinding Stone
Plow Molds
Rope
Seed Looms
Metal
Watch
Wagon

WEAPONS	
Rifle 30.00	
Pistol- 1 or more	15.00
Powder - 3 lbs	.25/lb
Lead - 12lbs	.04/lb
Caps (flints) - 1,000	5.00/1000

COOKING EQUIPMENT	
Cooking Utensils	20.00
Dutch Oven	1.25
Tin Plates & Cups	.03/ea
Water Keg	FH
Sheet Iron Stove	FH
Coffee Pot	FH
Wooden Bowls & Spoons	FH
Water & Milk Buckets	FH
Bailer	FH
Churn	FH
Wrought Iron Baking Pan	FH
Tin Cans	FH
Coffee Grinder	FH

HOUSEHOLD GOODS	
Bible	FH
Clothing	FH
School Books	FH
Bags	FH
Medicine & Medicine Cabinet	FH
Paper / Journals	FH
Feather Mattress	FH
Candles	FH
Furniture	FH
Linen & Muslin	FH
Money - 200.00	FH
Blankets - 2/ person	10.00
Quilt - 1/ person	FH
Pillow - 1/ person	FH
Ground Cloths - 1/ person	FH
Soap	FH
Sewing Supplies	FH
Beeswax	FH

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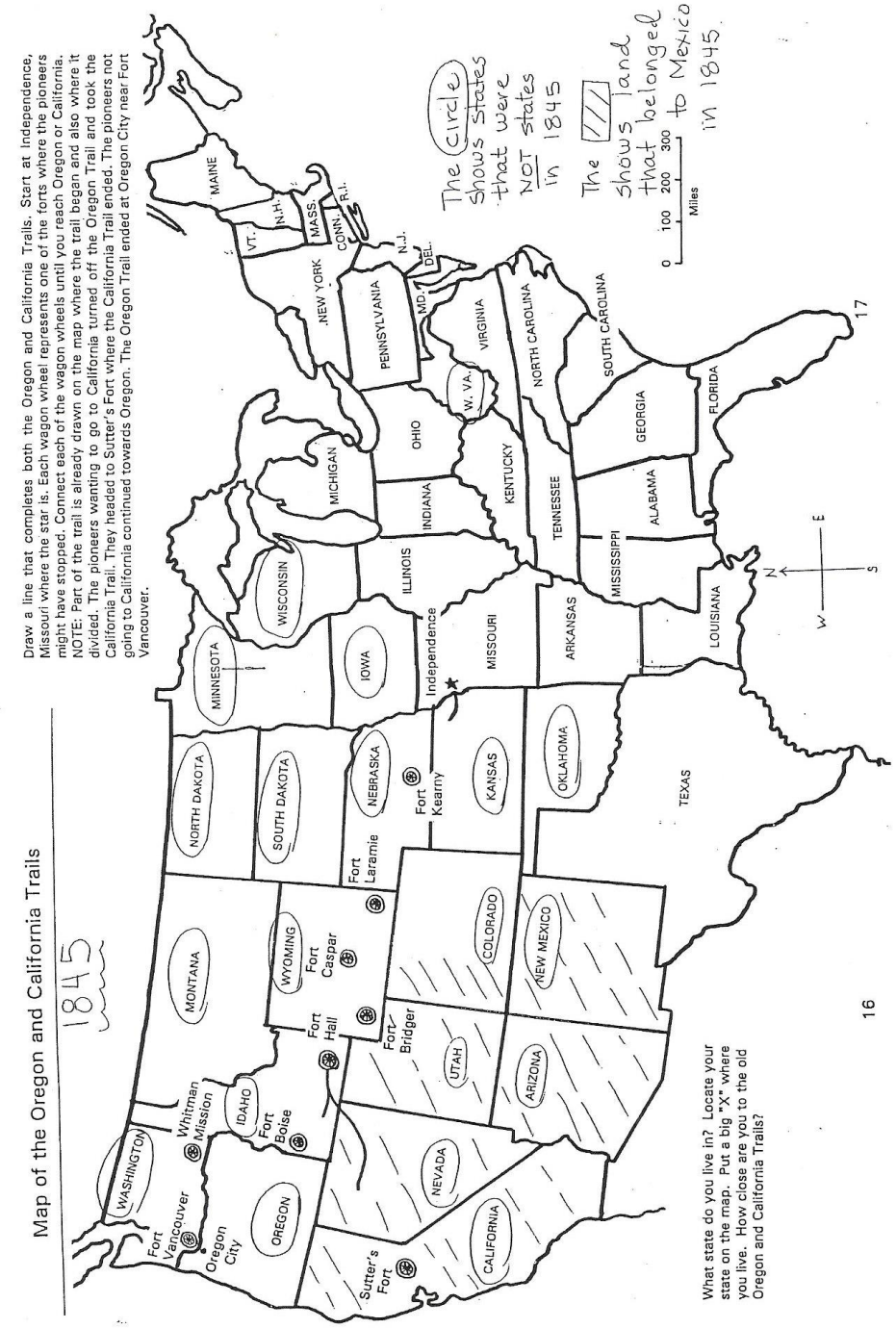
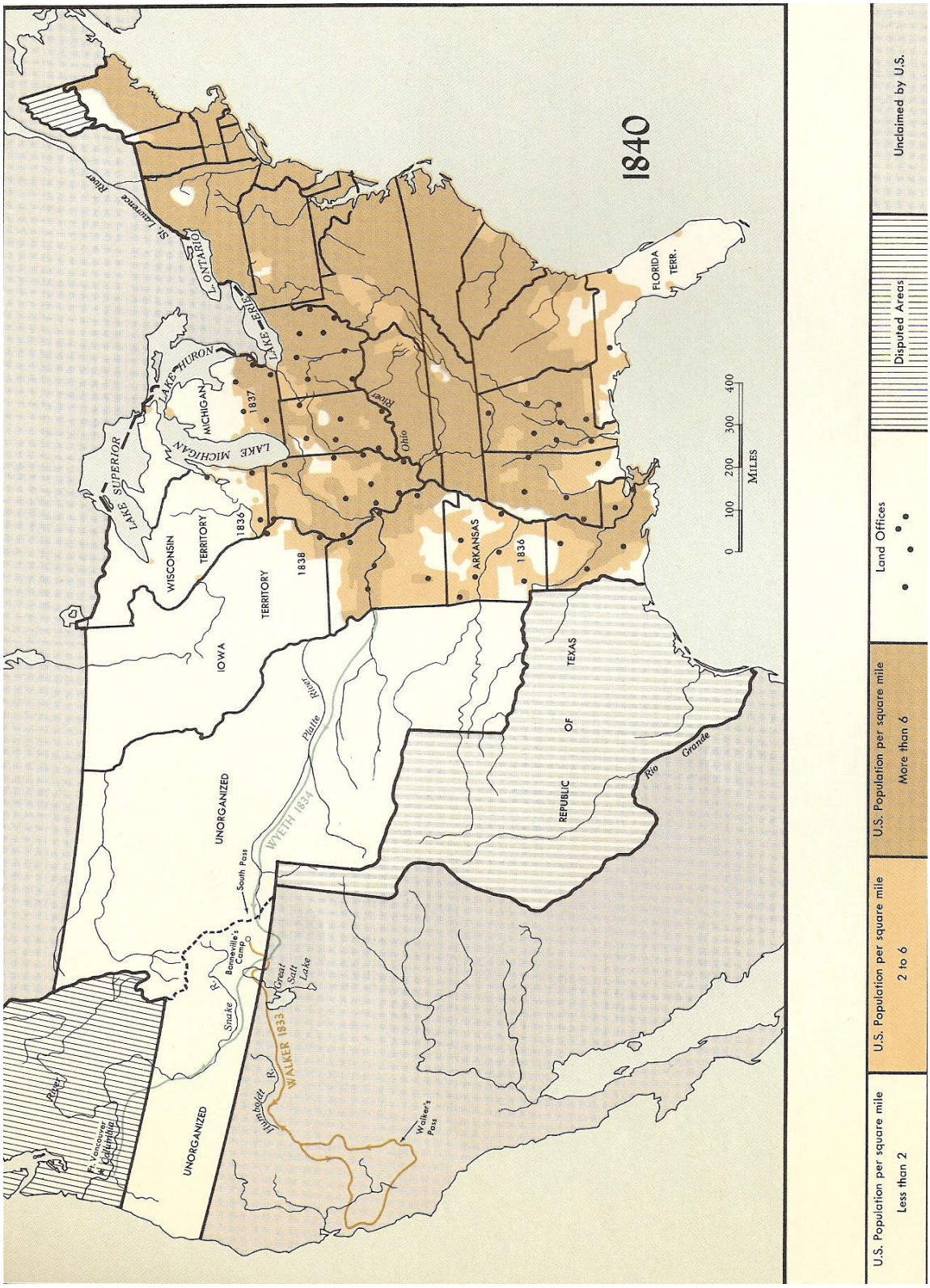
Note: FH means from home


Map of the Oregon and California Trails
1845
Draw a line that completes both the Oregon and California Trails. Start at Independence, Missouri where the star is. Each wagon wheel represents one of the forts where the pioneers might have stopped. Connect each of the wagon wheels until you reach Oregon or California.
NOTE: Part of the trail is already drawn on the map where the trail began and also where it divided. The pioneers wanting to go to California turned off the Oregon Trail and took the California Trail. They headed to Sutter's Fort where the California Trail ended. The pioneers not going to California continued towards Oregon. The Oregon Trail ended at Oregon City near Fort Vancouver.
The circle shows states that were NOT states in 1845
The /// shows land that belonged to Mexico in 1845
0 100 200 300
Miles
MAINE
VT.
N.H.
MASS.
CONN.
R.I.
N.J.
DEL.
MD.
NEW YORK
PENNSYLVANIA
W. VA.
VIRGINIA
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
FLORIDA
ALABAMA
MISSISSIPPI
LOUISIANA
TENNESSEE
KENTUCKY
OHIO
INDIANA
ILLINOIS
MICHIGAN
WISCONSIN
MINNESOTA
IOWA
MISSOURI
ARKANSAS
TEXAS
OKLAHOMA
KANSAS
NEBRASKA
NORTH DAKOTA
SOUTH DAKOTA
COLORADO
NEW MEXICO
WYOMING
MONTANA
IDAHO
UTAH
ARIZONA
NEVADA
OREGON
CALIFORNIA
WASHINGTON
Fort Vancouver
Whitman Mission
Fort Boise
Oregon City
Fort Hall
Fort Bridger
Fort Caspar
Fort Laramie
Fort Kearny
Sutter's Fort
Independence
N
S
E
W
What state do you live in? Locate your state on the map. Put a big "X" where you live. How close are you to the old Oregon and California Trails?
16
17


1840
St. Lawrence River
L. ONTARIO
LAKE ERIE
LAKE HURON
MICHIGAN
1837
LAKE MICHIGAN
Ohio River
LAKE SUPERIOR
WISCONSIN TERRITORY
1836
IOWA TERRITORY
1838
ARKANSAS
1836
FLORIDA TERR.
0 100 200 300 400
MILES
TEXAS
REPUBLIC OF
Rio Grande
Platte River
UNORGANIZED
WYETH 1834
South Pass
Bonneville's Camp
Great Salt Lake
Snake R.
WALKER 1833
Humboldt R.
Walker's Pass
Ft. Vancouver
Columbia River
UNORGANIZED
Land Offices
Disputed Areas
Unclaimed by U.S.
U.S. Population per square mile
More than 6
U.S. Population per square mile
2 to 6
U.S. Population per square mile
Less than 2