



What's in Your Wagon?

Background: Imagine you are a pioneer going west to the frontier after the Civil War. Before the war, you lived on a farm next to a river in a hilly area covered with trees. You lived in a log cabin that your father helped you and your husband build. You wore clothes made from deerskins and cotton that you made into cloth with your own loom. You ate corn from your fields and venison (deer meat) from hunting. You have to be good shots, because your rifles can fire only one bullet before reloading. That's OK, because as soon as they hear a shot, animals run away to hide in the woods.

In 1862, Congress passed the Homestead Act give free land to anyone who was willing to build a house and live there for five years. After the War, your family decided to move to the frontier.

You carefully chose what to take along and sold everything else.

Now, everything you own is in your wagon.

- 1.** Write how many of each of these things you want in your wagon. Be ready to explain why you chose these particular things. Remember: you can carry only 900 pounds, plus clothing and food for two months (you expect to buy some food on the way).

- | | | |
|---------------------------------------|-------------------------------------|---------------------------------------|
| <input type="checkbox"/> apple seeds | <input type="checkbox"/> dairy cow | <input type="checkbox"/> raincoat |
| <input type="checkbox"/> axe head | <input type="checkbox"/> desk | <input type="checkbox"/> rifle |
| <input type="checkbox"/> axe handle | <input type="checkbox"/> frying pan | <input type="checkbox"/> rope |
| <input type="checkbox"/> bed frame | <input type="checkbox"/> gunpowder | <input type="checkbox"/> saddle |
| <input type="checkbox"/> bullets | <input type="checkbox"/> hammer | <input type="checkbox"/> saw |
| <input type="checkbox"/> candles | <input type="checkbox"/> knife | <input type="checkbox"/> shovel |
| <input type="checkbox"/> cotton cloth | <input type="checkbox"/> mattress | <input type="checkbox"/> water bucket |
| <input type="checkbox"/> chair | <input type="checkbox"/> money | <input type="checkbox"/> wheel grease |
| <input type="checkbox"/> corn planter | <input type="checkbox"/> nails | <input type="checkbox"/> window glass |
| <input type="checkbox"/> corn seeds | <input type="checkbox"/> needles | <input type="checkbox"/> wood stove |

Remember: things like cell phones, flashlights, or nylon rope have not been invented yet.

- 2.** Here are some special tools used in the late 1800s. Which of these do you want to take?

- | | |
|--|--|
| <input type="checkbox"/> awl to sew deerskins together | <input type="checkbox"/> loom to weave wool and cotton cloth |
| <input type="checkbox"/> block and tackle to lift logs | <input type="checkbox"/> maul to split wood for the fireplace |
| <input type="checkbox"/> churn to make butter out of milk | <input type="checkbox"/> peavey to roll or hold logs for sawing |
| <input type="checkbox"/> froe to split wood into shingles | <input type="checkbox"/> spinning wheel to make thread |
| <input type="checkbox"/> log splitter to make fence rails | <input type="checkbox"/> whetstone to sharpen axes and knives |

- 3.** Write up to four more things that you want to take but are not on the lists above:



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Background: Imagine you are a pioneer going west after the Civil War.

Before the war, you lived on a farm next to a river in a hilly area covered with trees. You lived in a log cabin that your parents helped you and your husband build. You ate corn from your fields and meat from animals you hunt. Your rifles fire only one bullet before reloading - no big deal, because animals run and hide in the woods if you miss.

After the Civil War, you decided to leave your cabin and move to the western frontier. You carefully chose what to take along and sold everything else.

Now, everything you own is in your wagon.

You looked at guidebooks and talked with other people who were also planning to move. After long discussion, you decided that you need to take about 900 pounds of tools (You also have extra clothes, blankets, cooking equipment, and food for six weeks. You plan to make your furniture and to buy more food and supplies along the way.)

Item list. The numbers indicate the pounds that each of these items weighs.

Long rifle (18 pounds)	2 Shovels (20)	Chain (12)
Bullet mold and lead (162)	Posthole digger (16)	5 Ropes (25)
Gunpowder (50)	2 Water buckets (8)	Wire (12)
8 Knives and sheaths (12)	Barrel rings (16)	4 Scissors (2)
3 Axe heads (18)	Spare wheel axle (20)	Candle mold (5)
3 Hammer heads (6)	Render tub to make grease	300 candles (24)
2 mauls and 8 wedges	out of animal fat (12)	Corn seeds (80 pounds)
for splitting logs (42)	Harness parts (6)	Plowshare (30)
2 2-person saws (12)	2 Saddles (42)	Corn planter (12 pounds)
Small saws and drills (16)	28 Horseshoes (16)	2 Weeding hoes (10)
Froes to make shingles (8)	Awls to sew leather (4)	2 Corn harvest knives (8)
Smoothing planes (4)	Small wood stove (190)	Bean seeds (25)
Variety of nails (40)	Chimney pipe (24)	Squash seeds (20)
Blacksmith tongs (18)	Door and window hinges (18)	Pumpkin seeds (10)
Whetstone to sharpen	Glass for windows (40)	Apple seeds (4)
axes and other tools (14)	2 Bed frames (60)	Flower seeds (1)

Thought questions. Answer in a short essay or presentation as directed.

1. Problem: the items above weigh more than 1100 pounds. What will you leave behind?
2. Look at the map of water balance. Which tools in your wagon will still be useful after you cross the "continental water line" and go into the dry country? Why would the other tools have lost their usefulness?
3. What new tools will you have to find (or invent) to live in a place that has no trees?

Teacher's Guide: **What's in Your Wagon?** (Culture Shock on the Great Plains)

Overview: This activity has its focus on what is perhaps the most important question in all of applied geography – <i>What technology is appropriate in a particular environment?</i> Students examine the technology of pioneers, select tools to take in wagons, and then judge their appropriateness in the Great Plains	Grade: 4 – 12 with adaptations
	Related Discipline: Engineering
	CC Standard: writing
	Time: ½ to 1 class period

Setup: This lesson could be used in units about North America regions, US history, or economics; the idea of culture shock has many applications in sociology and political science.

Ask students what pioneers might take in their covered wagons as they head west toward the frontier. In some classes, you might start with a more general question – have you ever gone to a place where some of your ideas about how to behave just didn't seem to fit? This activity is about how pioneers might have felt in the 1870s, but the basic principles about human action in a place can be applied to just about any topic, from abortion and energy policy to how police should deal with a protest rally.

For example, what if you grew up in a log cabin like this (show picture) – what kinds of ideas about how to make a living might you learn in this place? What tools would you know how to use?

Another setup option: discuss what to take on a backpacking or canoeing trip – where you have to prepare for the environment and the somewhat unexpected, and weight is an issue.

Procedure: If desired, hand out Part 1 (or a version with either an expanded or reduced list of tool options). Have students examine the list, individually or in groups, and decide what tools they would take along in their wagon if they were pioneers heading west.

Question 2 is optional – its purpose is to introduce (and, hopefully, painlessly define) some vocabulary that might be useful in reading primary documents from the pioneer era.

Question 3 provides an opportunity to get students to start sharing generalizations about tools and technology. How do we decide what tools might be appropriate? What criteria of appropriateness should we use? (Mind-stretch: this could include speculating about a wide range of “tools,” like electric cars, nuclear reactors, cellphones, rubber bullets, or derivatives based on subprime mortgages, to name just a few.

The presentation could be done all by itself, with just a brief oral summary of the ideas in the handout.

Debrief: The really important message is stunningly simple – the tools and technology that worked well in the forested east were doomed to fail on the semi-arid Great Plains. The historian Walter Prescott Webb (in a terrific book called *The Great Plains*) used the term “culture shock” to describe what happens when people encounter an environment where their cultural ideas do not work (defining *culture* as mental rules about appropriate behavior, shared with neighbors and taught to children).

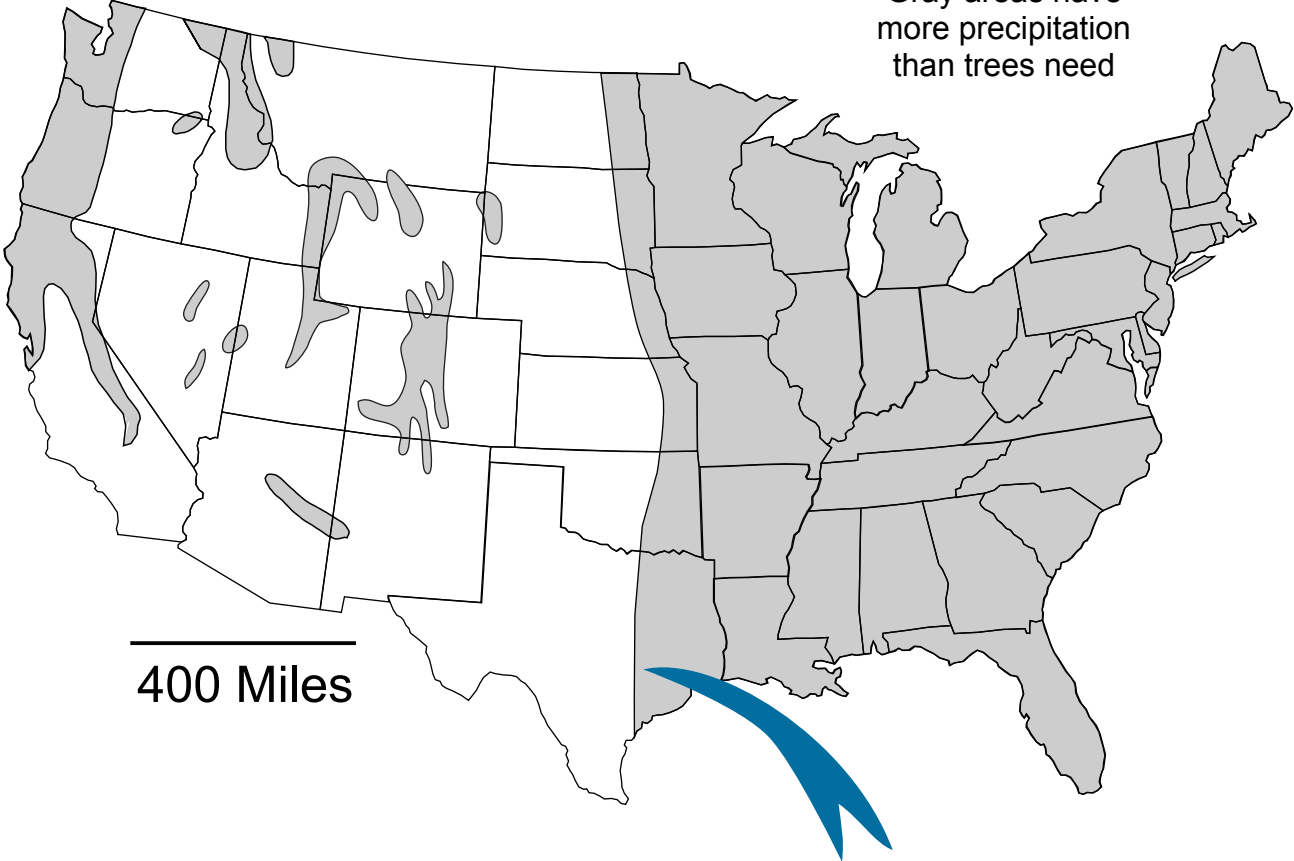
He then devoted several chapters to an examination of the ideas and inventions that were needed to allow efficient settlement of the semi-arid Plains – things like wheat seeds from Turkey, longhorn cattle from India and Spain, barbed-wire fences to keep the cattle from eating the wheat, fence laws to maintain their integrity, drilled wells, windmills to pump water, railroads, and multi-shot weapons for hunting and defense. Go to any county museum on the Plains and you are likely to see historic exhibits that celebrate these innovations and adaptations. Underlying this flurry of cultural adaptation, in turn, are ideas about investment and deferred gratification that seem especially important as the United States faces several kinds of culture shock in the 21st century – the need to deal with issues of energy, climate change, globalization, epidemic diseases, an aging population, etc.

Vocabulary: culture, culture shock, cultural adaptation, innovation, invention, technology, semi-arid

Extension: The basic ideas about culture shock and adaptation may be easier to teach in the somewhat remote and “sanitized” story of pioneer history, and then applied to the more controversial topics of the present day – see list of topics above. See also the multimedia unit about the Continental Waterline in the Teaching Geography CD.

Water Balance

Gray areas have more precipitation than trees need



400 Miles

image source: NASA



This is an oil field.

Memorize the path of this line. The surplus of water in the east (and on high western mountains) is the environmental condition that supports forests, rivers, most kinds of farming, and human population (compare the map of lights as seen from space).

Note the spatial association between surplus rain and strings of cities in the mountainous west.