Fourth Grade Social Studies

Glen Canyon Dam

Unit 3: Human Geography in the United States

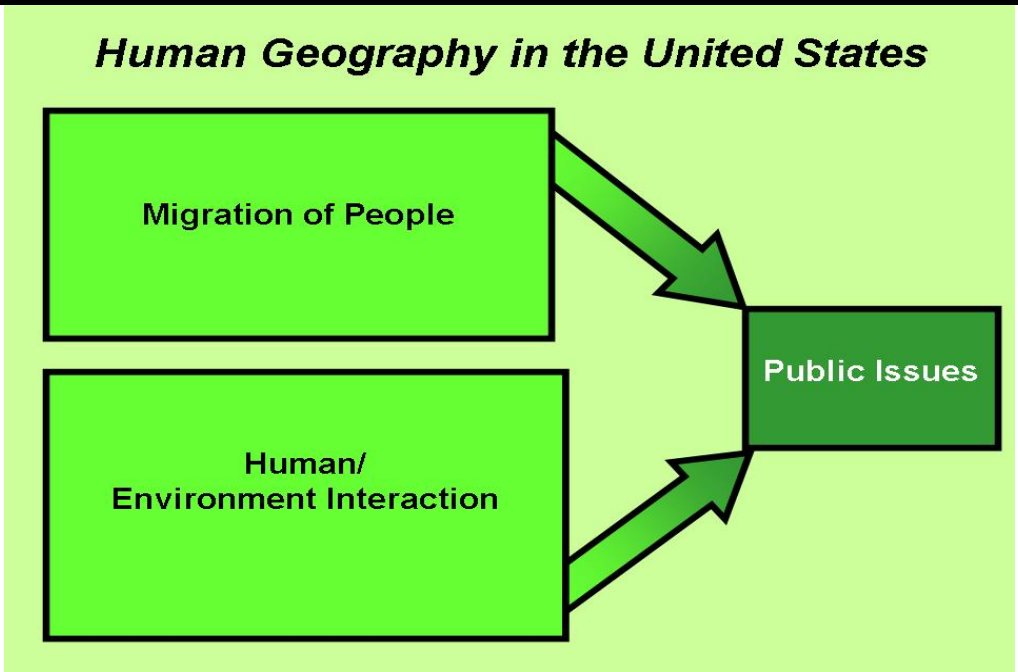
Student Name:

Big Picture Graphic

Overarching Question:

How are people connected to the Earth and to each other?

Previous Unit:	This Unit:	Next Unit:
The United States in Spatial Terms	**Human Geography in the United States**	Exploring Economics



Questions To Focus Assessment and Instruction:

1. What questions do geographers ask in examining human geography in the United States?
2. How have the concepts of movement and human/environment interaction influenced the development of the United States?
3. How might the country resolve contemporary public issues related to movement and human/environment interaction in the United States?

Types of Thinking

Cause and Effect
Compare and Contrast
Generalizing
Issue Analysis

Questions for Students

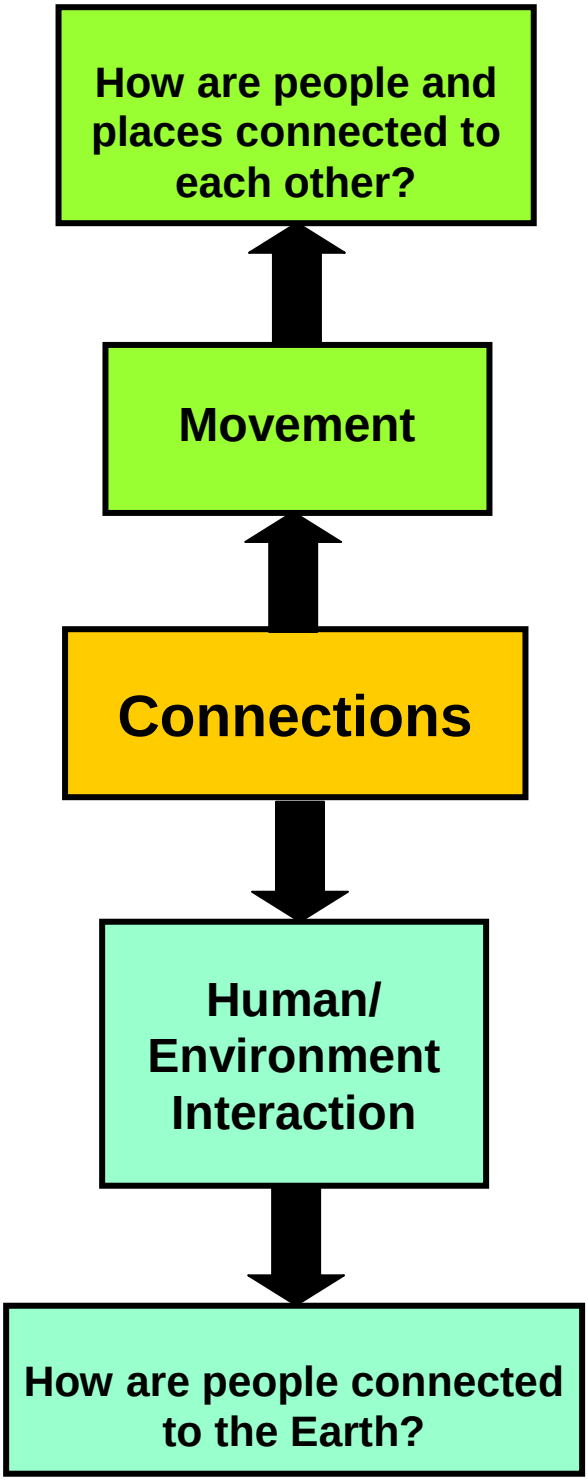
In this unit, we are going to be learning about Human Geography in the United States. Think about the focus questions:

1. What questions do geographers ask in examining human geography in the United States?
2. How have the concepts of movement and human/environment interaction influenced the development of the United States?
3. How might the country resolve contemporary public issues related to movement and human/environment interaction in the United States?

Use the chart below to write or draw about these questions.

Things I Know	Questions I Have

Lesson 1 Graphic Organizer



Big Ideas of Lesson 1, Unit 3

- In studying human geography, geographers examine how people and places are connected to each other, as well as how people are connected to the Earth.
- Human geography has two main themes: movement and human/environment interaction.
- In studying movement, geographers ask questions such as: Why do people move?, How does the movement of people connect places?, and How do geographic features impact movement?
- In studying human/environment interaction, geographers ask questions such as: How do people use the Earth?, How do people change the Earth?, and What are the consequences of changing the Earth?

Word Cards

1
the five themes of geography

five big ideas that help people understand geography

***Example*:** Location is one of the five themes of geography.

2
movement

the geographic theme that explains how and why people, goods, and ideas move

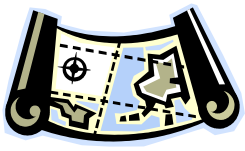
***Example*:** The theme of movement helps us understand how places are connected to other places.

3
human/environment interaction

ways in which people use, adapt, or modify with the Earth

***Example*:** When people build new roads they are interacting with the Earth.

Questions Geographers Ask

Theme	Questions
Location 	**Where is it?** • What is its absolute location? • What is its relative location?
Place 	**What is it like there?** • What are its natural characteristics? • What are its human characteristics?
Regions 	**How might common geographic characteristics help understand this place?** • How can the place be divided into regions? • To what regions does the place belong?
Movement 	**How is the place connected to other places?** • How and why have people, goods, and ideas moved in and out of the place?
Human/Environment Interaction 	**How do people interact with the environment?** • How have people used the environment? • How have people adapted to the environment? • How have people modified or changed the environment?

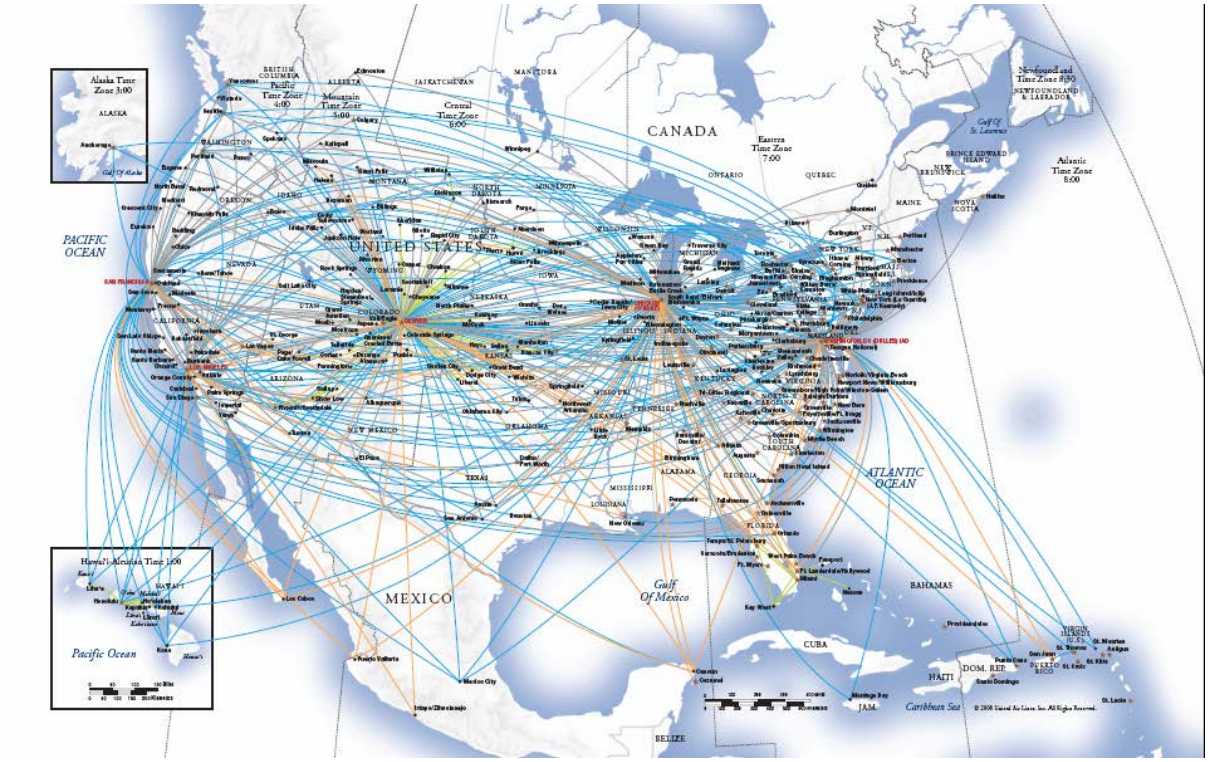
Group Brainstorming Sheet

Ways People and Places are Connected to Each Other	Ways People are Connected to the Earth

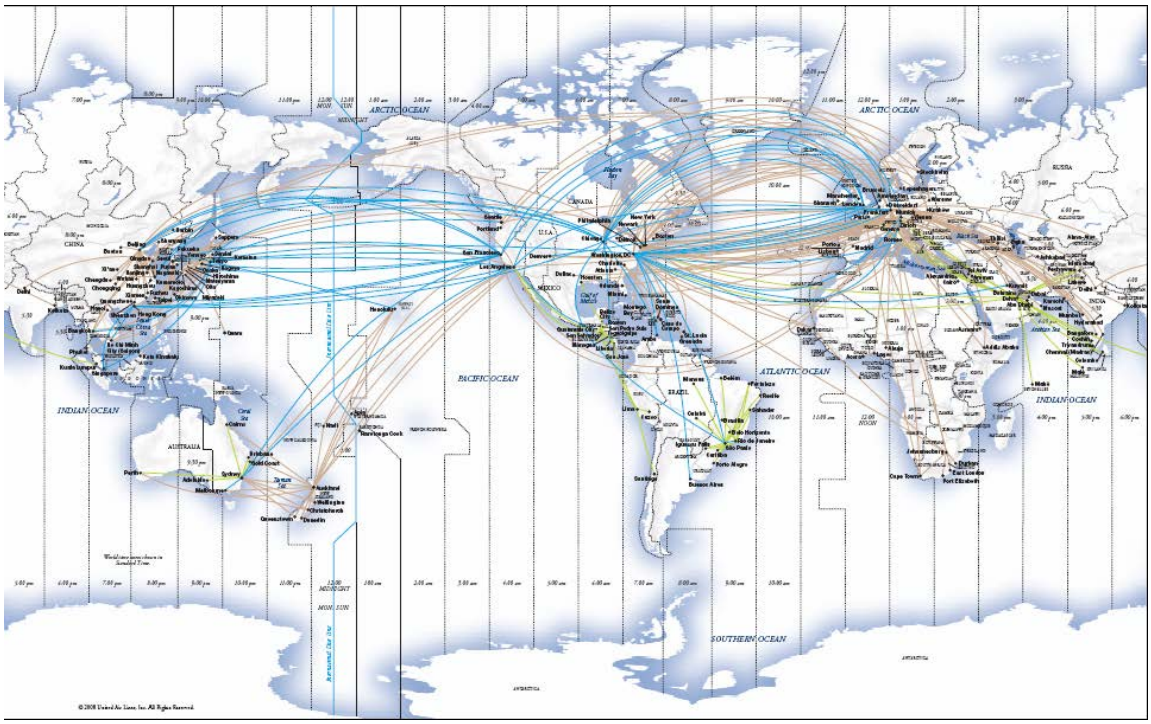
Map #1

Source: *Michigan Global Connections*. MEDC Website. 12 November 2008 <http://ref.michigan.org/medc/miinfo/mimaps/>.

Map #2



Map #3



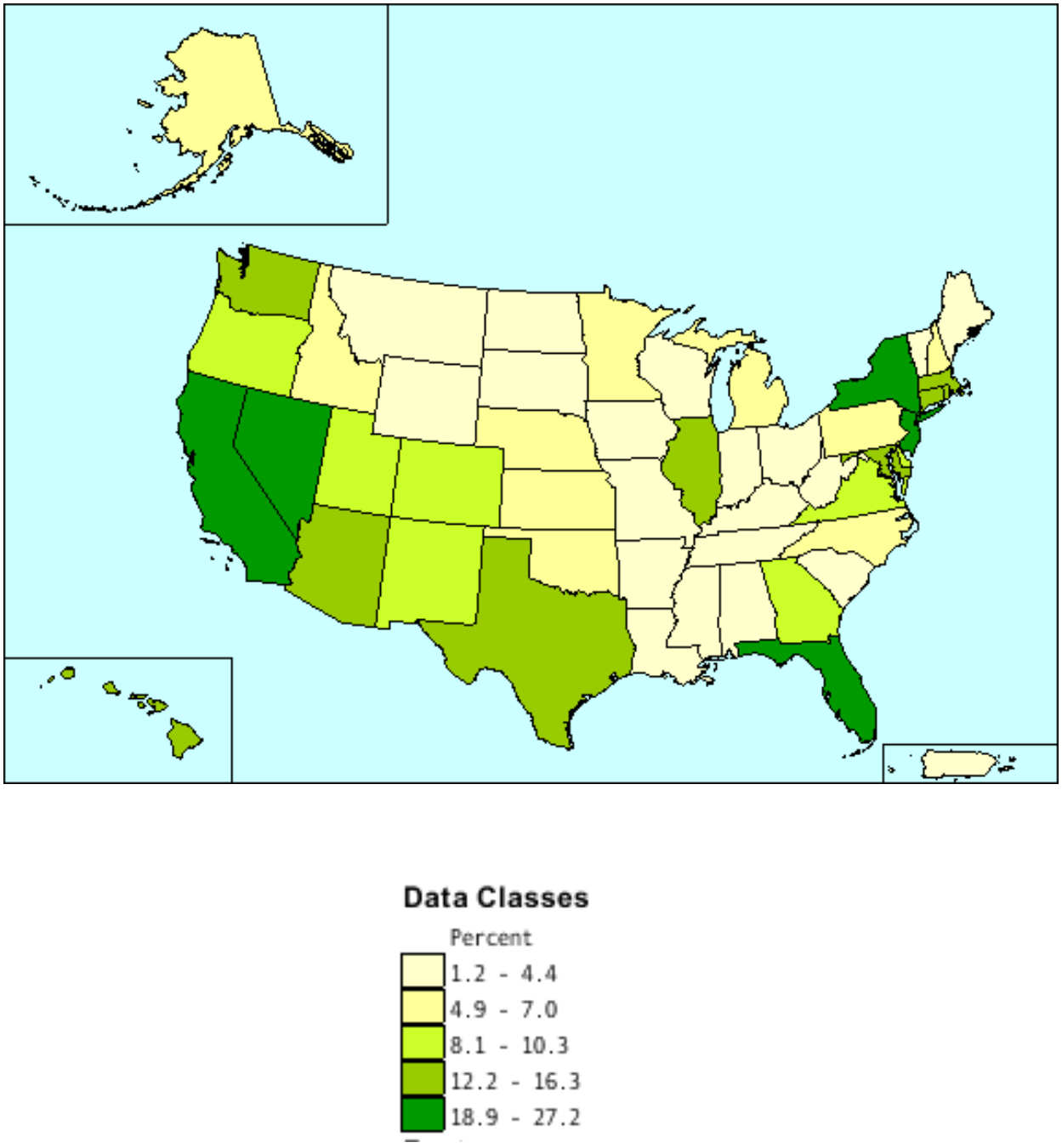
Source: <http://www.united.com/ual/asset/unitedroutes_World_8_08.pdf>.

Analyzing Maps

What do you think the maps show?	
How are the maps related to the theme of movement?	
What questions do the maps help answer?	
What are some questions the maps raise?	

Map #4

Percent of People that are Foreign Born

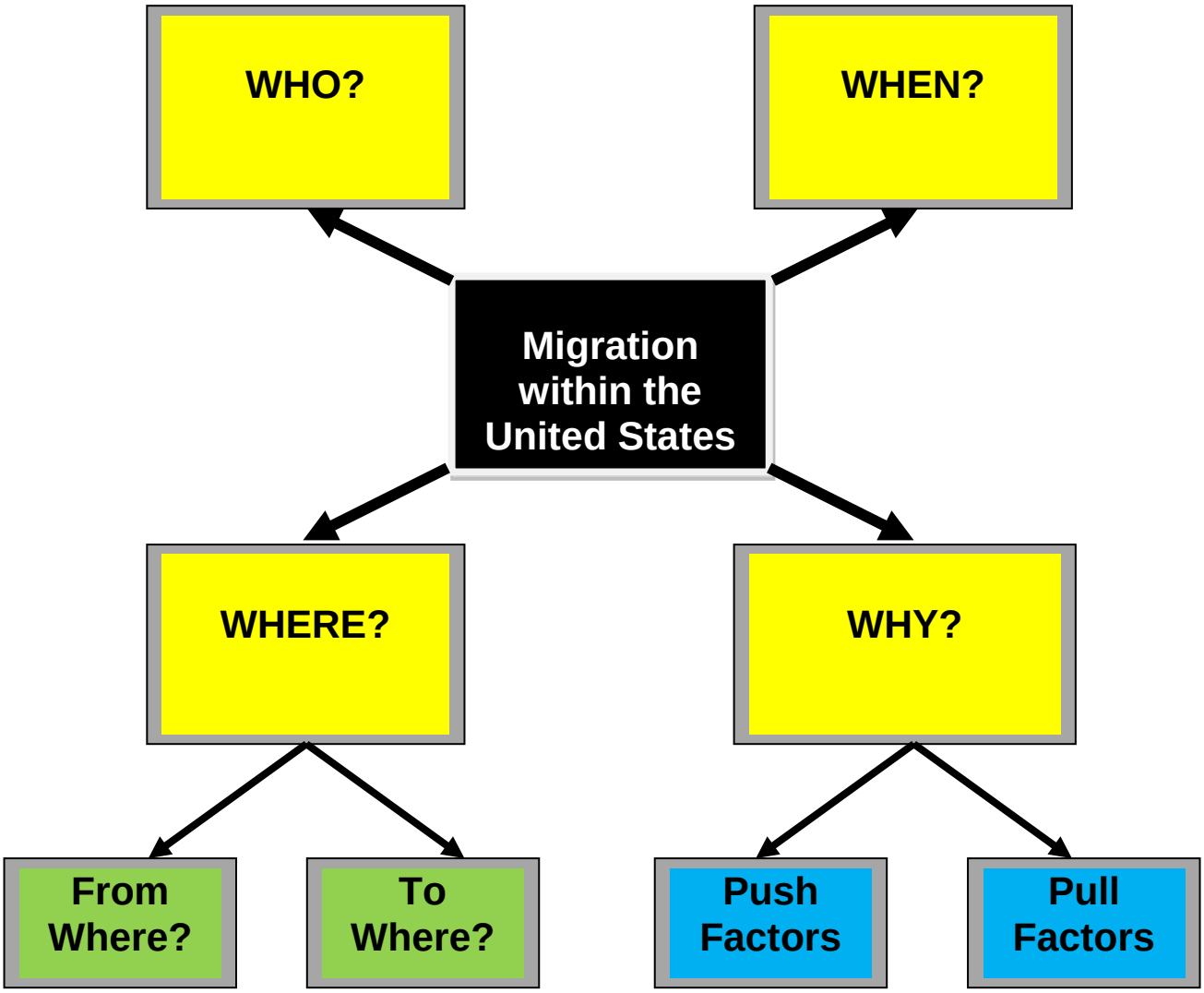


Source: <http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pageId=thematicmaps>.

Book Analysis

Ways People had Changed the Earth	Consequences of the Changes

Lesson 2 Graphic Organizer



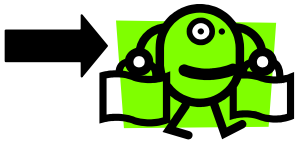
Big Ideas of Lesson 2, Unit 3

- Both geographers and historians have studied how and why people have moved, or migrated, within the United States.
- Push factors are reasons people leave a place. Some examples of push factors include a lack of freedom, a shortage of jobs, war, famine, or high cost of living.
- Pull factors are reasons why people settle in a particular place. Some examples of pull factors include economic opportunities, freedom, family, or culture.
- Not everybody freely chose to move to new places in the United States. Native Americans were often forced off their land and forced to move to new places.
- People continue to move within the United States.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Movement – Word Card #2 from Lesson 1

4 **migration** the movement of people to a new place ***Example*:** Geographers and historians study the migration of people by exploring how and why people move to new places.	**5** **push factors**  things that tend to push people out of a place ***Example*:** When people have a hard life in a place, this can be a push factor that encourages them to move to a new place.

6
pull factors

things that pull people to a new area

***Example*:** Jobs and the chance for a better life can pull people to a new place.

7
slavery

a system that forced people to work and treated enslaved people as property

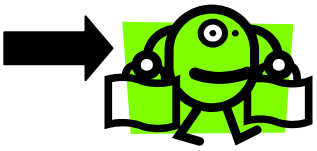
***Example*:** Many enslaved people wanted to move North in the hope of finding freedom.

8
Underground Railroad

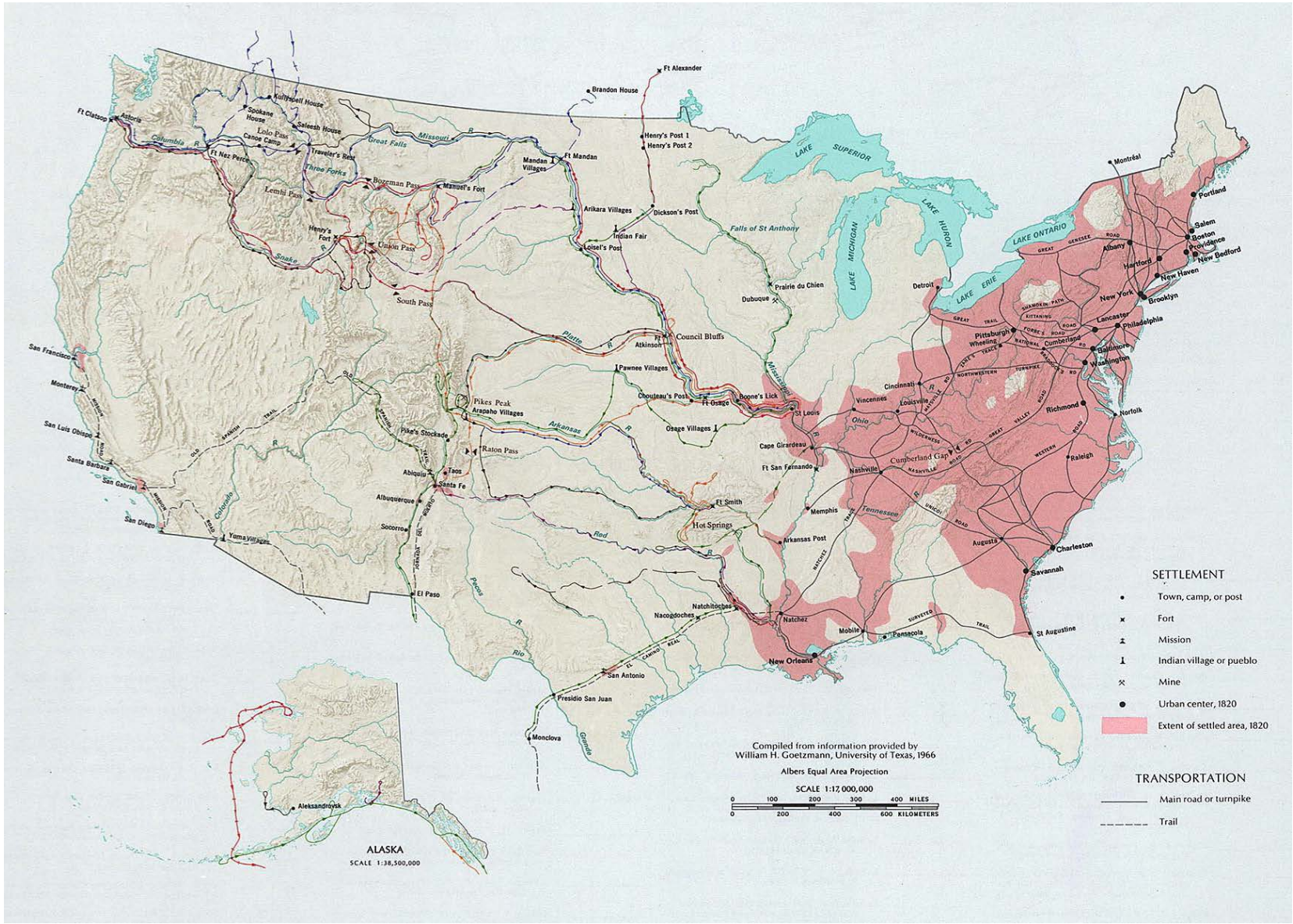
a secret group of routes, safe places and people that helped enslaved people escape to freedom

***Example*:** Many houses in Michigan were part of the Underground Railroad.

T-Chart

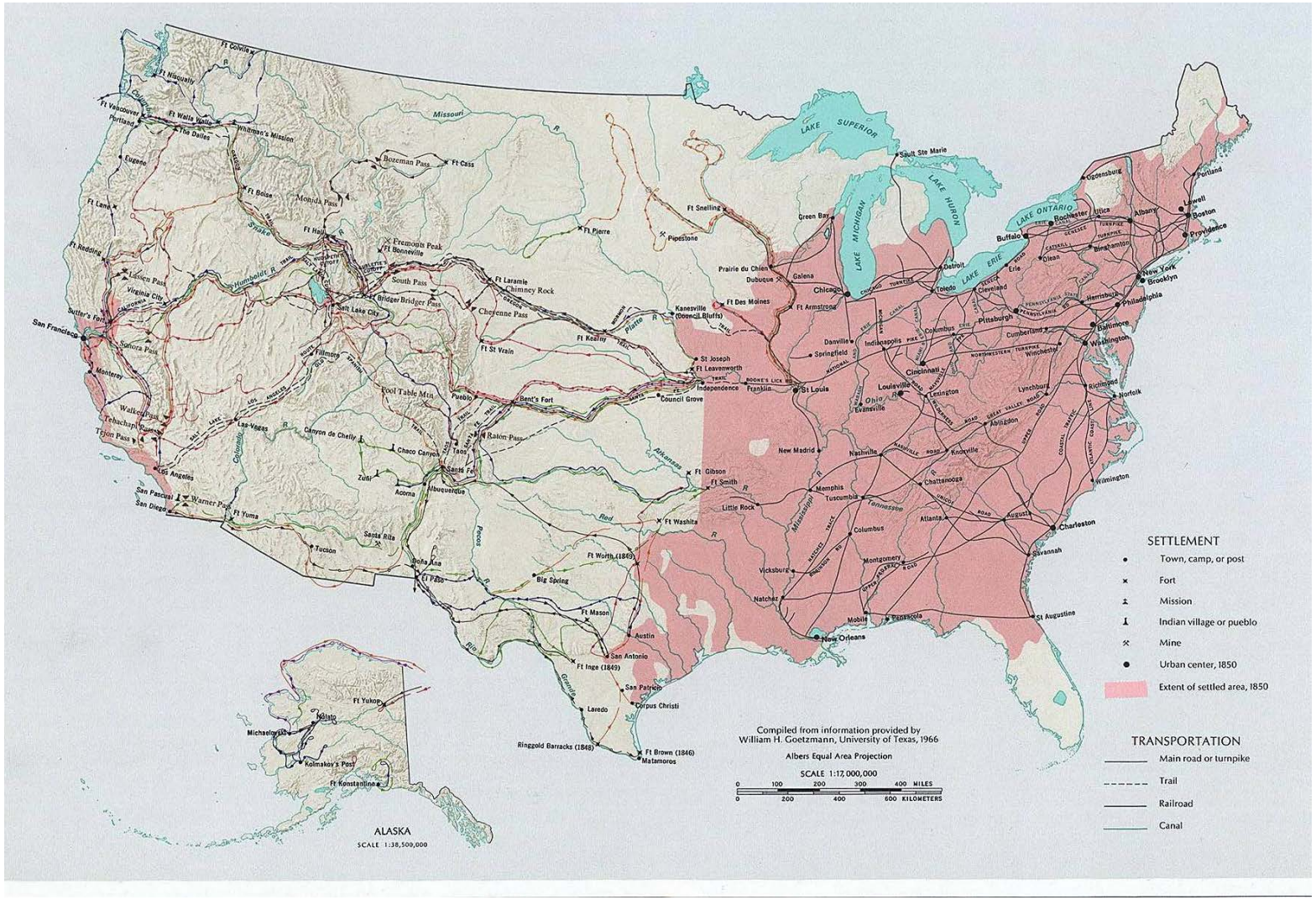
PUSH FACTORS 	PULL FACTORS 

EXPLORATION AND SETTLEMENT 1800-1820



Source: <http://www.lib.utexas.edu/maps/united_states/exploration_1800.jpg>

EXPLORATION AND SETTLEMENT 1835-1850



Source: <http://www.lib.utexas.edu/maps/united_states/exploration_1835.jpg>.

Migration Chart

	Who	Where	When	Why
WESTWARD MOVEMENT		From _____ _____ To _____ _____		**Push Factor:** **Pull Factor:**
UNDERGROUND RAILROAD		From _____ _____ To _____ _____		**Push Factor:** **Pull Factor:**
ORPHAN TRAINS		From _____ _____ To _____ _____		**Push Factor:** **Pull Factor**
THE "GREAT MIGRATION"		From _____ _____ To _____ _____		**Push Factor:** **Pull Factor**
NATIVE AMETICAN REMOVAL		From _____ _____ To _____ _____		**Push: Factor** **Pull Factor:**

Michigan People Important in the Underground Railroad

Laura Smith Haviland

- Lived in Adrian and led escaped slaves to Canada.
- Southern slave owners offered a $3,000 reward for her capture.
- She and her family also opened one of the first schools in Michigan for black children.

George De Baptiste

- A black businessman who bought a ship to take escaped slaves across the Detroit River to Canada.
- He was also a member of the Second Baptist Church, which was an important station on the Underground Railroad. This church, which still exists in downtown Detroit, helped as many as 5,000 slaves escape to freedom.

Sojourner Truth

- Was born a slave in New York in 1797 and freed in 1828.
- She became an abolitionist, a person who believed slavery should be made illegal, and a supporter of voting rights for women.
- In 1856 she moved to Battle Creek.
- She was an excellent speaker and traveled throughout the U.S. speaking out against slavery and for the rights of all people.

Nathan Thomas

- He was a doctor in Kalamazoo County.
- Dr. Thomas started helping slaves in 1843.
- Over 1000 slaves passed through his home.

Primary Source

Oskaloosa Independent
Kansas
December 9, 1910

Wanted! Homes for orphan children.

A company of orphan children under the auspices of the Children's Aid Society of New York will arrive at Valley Falls, Thursday afternoon, December 8.

These children are bright, intelligent and well disciplined, both boys and girls of various ages. They are placed on trial, and if not satisfactory will be removed. Parties taking them must be well recommended. A local committee of citizens of Valley Falls has been selected to assist the agents in placing the children. Applications must be made to and endorsed by the local committee.

Source: *Want-Ads*. 13 November 2008 <http://www.kancoll.org/articles/orphans/or_wants.htm>.

Analyzing a Primary Source

1. What kind of primary source is this?

2. When was it written?

3. Where was it written?

4. Why was it written?

5. What questions does this primary source make you think of?

"THE REMOVAL OF THE MICHIGAN POTAWATOMI" – A PLAY

Cast of Characters

Narrator
Potawatomi person 1
Potawatomi person 2
Potawatomi person 3
Potawatomi person 4
Potawatomi person 5
Potawatomi person 6
Potawatomi person 7
Potawatomi person 8
Potawatomi person 9
Potawatomi person 10
Saginaw resident 1
Saginaw resident 2
Saginaw resident 3
Soldier 1
Soldier 2

Act 1

Narrator: We are in Potawatomi territory in the place now called "Michigan." The year is 1768. Three Potawatomi people are talking about some recent news.

Potawatomi 1: We have been living here on this land for hundreds of years now. First the French people came to live nearby and called their place "Detroit."

Potawatomi 2: But after the British defeated the French in 1763, they took over the city. More people from England came to settle here in the colonies along the Atlantic Ocean. Since then, European people have been trying to move further west into our homelands.

Potawatomi 3: Have you heard about the Treaty of Fort Stanwix (STAN-wicks)? They just signed it last week. The treaty says that the Ohio River will now be the boundary line between the European and Indian places.

Potawatomi 1: That's good news. This treaty will help everyone understand which land is whose. We should be able to relax a little knowing that this boundary is set.

Potawatomi 2&3: Yes, we should.

[They all leave the stage.]

Act 2

Narrator: The year is now 1825. Treaties have been made between some of the Potawatomi nations in Michigan territory and the United States of America. Some Euro-American people in Saginaw are talking about the recent treaties.

Saginaw resident 1: Did you hear this? Since the Potawatomi and other tribes ceded (gave up) their land in the Treaty of Saginaw in 1819 and the Treaty of Chicago in 1821, more of the land in southern Michigan territory is now available for non-Indian people to buy.

Saginaw resident 2: How much land did they give up?

Saginaw resident 1: Most of the southern part of the territory. The Potawatomi ceded (gave up) all of southwestern Michigan south of the Grand River, except the area west of the St. Joseph River.

Saginaw resident 3: What will happen to the Indian people who live on the land now?

Saginaw resident 1: They will have to move to the land reserved for them in southeast Michigan. This land was reserved by the tribes in the treaties.

Saginaw resident 2: I hear they are building a new road from Detroit to Chicago. This will force more of the Potawatomi people to be removed soon.

Saginaw resident 3: Well, that may be true, but we all need more land for farming. The land near the new road will be very valuable.

[They all leave the stage.]

Act 3

Narrator: It is now two years later. Some Potawatomi people are talking on a reservation in southeast Michigan territory.

Potawatomi 4: This is terrible! A new road is being built from Detroit to Chicago. We are being forced to exchange our reserved lands here on the east side of Michigan for some land over on the west side of Michigan.

Potawatomi 5: That *is* terrible! I don't want to move over there. My family and I have lived here for many years. I am afraid of what will happen to us.

Potawatomi 6: Do we have to go?

Potawatomi 4: Yes. A treaty was signed in September. We don't have a choice. We will have to start moving west soon.

Potawatomi 5: Well, I am not going to move west. I am going to take my family and flee to an

island near here in Canada, where we will be safe. It is called Walpole (WALL-pole) Island. Some people I know have already gone there, so they wouldn't be forced to move west.

Potawatomi 6: That sounds like a good plan. I think I will go with you.

[They all walk off stage together.]

Narrator: Because of the 1827 treaty, many villages in Lower Michigan territory were broken up. Far away, new Potawatomi villages were formed. Some people ran away to Walpole Island.

Act 4

Narrator: In 1830, Congress passed the "Indian Removal Act". This meant that all Indian people were supposed to move west of the Mississippi River. Only one Potawatomi leader was able to negotiate a separate treaty that allowed his band to stay in Michigan. His name was Chief Leopold (LAY-o-pold) Pokagon (Po-KAY-gon). The rest of the Potawatomi people in Michigan would be forced to leave. This next scene takes place in 1835.

Soldier 1: Okay, everyone here has to start packing. We have been told by the government to remove you to a reservation in Kansas, across the Mississippi River.

Potawatomi 7: What is this all about?

Soldier 2: After the treaty of Chicago was signed in 1833, you were told you would have to move to reservations in the west. Now it is time to go.

Potawatomi 8: What if we don't want to go? We just moved here from eastern Michigan a few years ago.

Soldier 1: Sorry, but you have no choice in the matter. You'll have to move west like it says in the treaty.

[The Potawatomi people follow the soldiers off stage.]

Narrator: The remaining Potawatomi people in Michigan Territory were removed from their homelands to Kansas in the next few years, although 1,200 people moved into Northern Michigan. Others were allowed by the Canadian government to move to Manitoulin (Man-a-TOO-lin) Island in Upper Canada.

Act 5

Narrator: When Potawatomi people arrived at the new reservations in the west, they found that the land was not good for growing food. They had to rely on the United States government to provide food. The Potawatomi did not even get to stay long in Kansas. Government leaders in the state of Kansas soon wanted the reservation land for non-Indians. They forced the Potawatomi to move again to reservations in Oklahoma.

Potawatomi 9: [Speaking to audience] By the late 1840s, some people from my tribe began slowly moving back into Michigan, which became a state in 1837. They purchased land and formed new communities. Some of these communities are the homes of many Potawatomi people today.

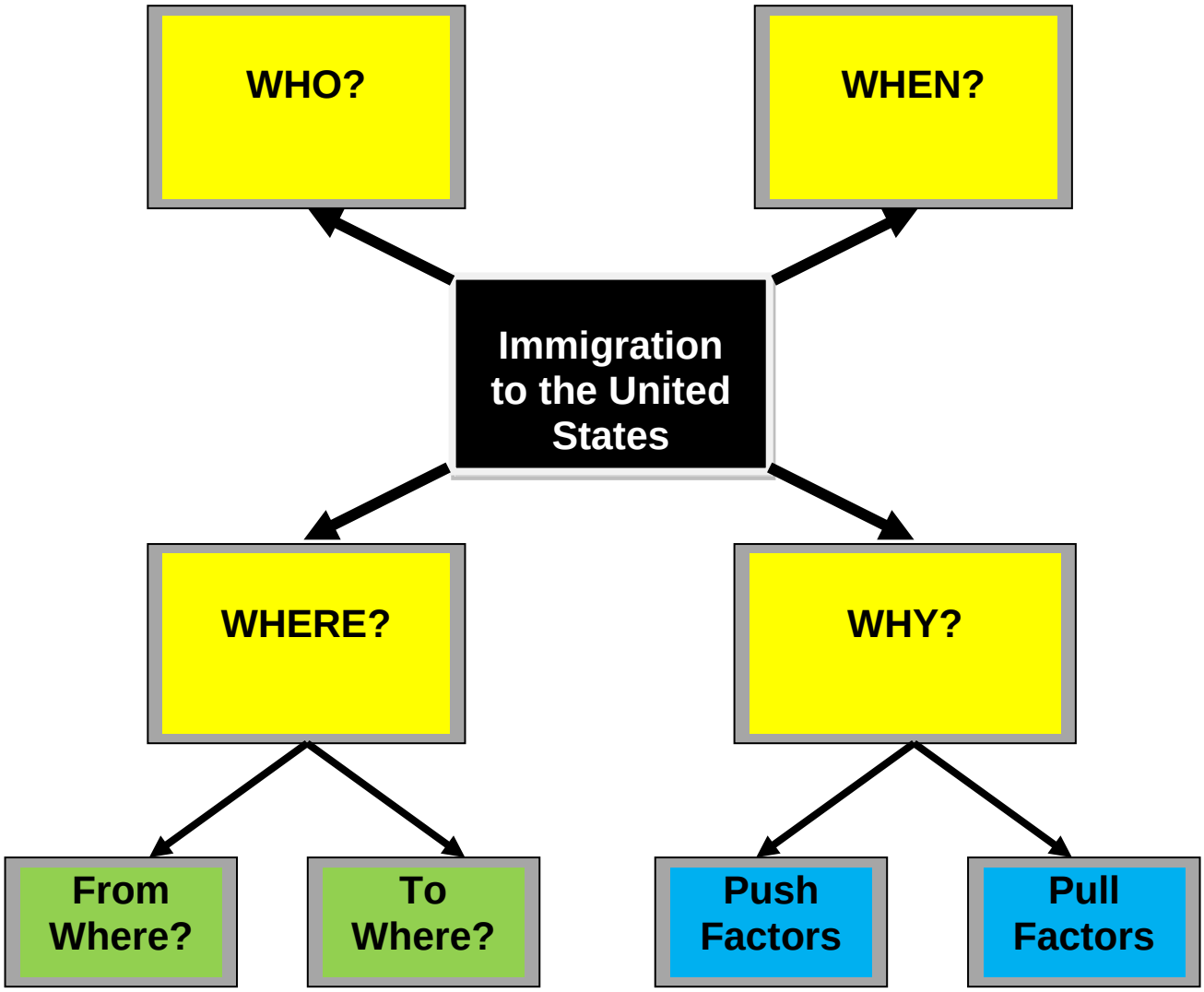
Potawatomi 10: [Speaking to audience] In 1913, Potawatomi people returning to Wisconsin were granted a reservation at a place in the Upper Peninsula of Michigan called Hannahville. Today, there are many Potawatomi people who live, work, and go to school on this reservation.

Potawatomi 9: Other groups came back to their Michigan homelands after living in Canada. Many Potawatomi people stayed in the west on the lands reserved for them in Oklahoma.

Narrator: The history of the Potawatomi Removal is a long and often sad story. It is the story of people who were forced to move away from their homelands. In 1934, the United States government passed the “Indian Reorganization Act”. Many tribes organized governments for themselves that would help them keep the lands they reserved for themselves in treaties. Today, some Potawatomi people live on reservations, but many live in cities and towns all over the United States and Canada. The Potawatomi people are proud of their history and their heritage, and they have not allowed themselves to remain permanently separated. For example, every summer Potawatomi people now living in Michigan, Wisconsin, Kansas, Oklahoma, and Ontario come together to celebrate their ties to each other. The Bands rotate the honor and responsibility of hosting what is called the “Potawatomi Gathering.” People have the opportunity to meet distant relatives from all over the country and to celebrate being together.

Play Courtesy of the Nikomis Center in Okemos, Michigan. 13 November 2008 <http://www.nokomis.org/>.

Lesson 3 Graphic Organizer



Big Ideas of Lesson 3, Unit 3

- Both geographers and historians have studied how and why people have immigrated to the United States.
- Push factors such as a lack of freedom, a shortage of jobs, war, famine, or high cost of living caused people to leave their home countries.
- Pull factors such as economic opportunities, freedom, family, or culture of the region encouraged people to immigrate to the United States.
- Not everybody freely chose to immigrate to the United States. Under the system of slavery, Africans were forced to immigrate.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Movement – Word Card #2 from Lesson 1
- Push Factors – Word Card #5 from Lesson 2
- Pull Factors – World Card #6 from Lesson 2
- Slavery – Word Card #7 from Lesson 2

9
immigrate

to move to a new country

***Example*:** Many people immigrated to the United States hoping to for a better life.

Home Letter

Dear Parents/Guardians,

In social studies we are studying immigration to the United States. Please share information regarding your own family members who immigrated to our country by completing the chart below.

Family Member	Year they immigrated	From what country	Why did they immigrate?

Moving to Michigan

Informational Article

The population of Michigan is made up of people from many different places. They migrated to Michigan for a variety of reasons and helped Michigan grow and develop.

The French came first in the late 1600s to work in the fur trade. There were not a lot of French people but they did start many early Michigan towns. Later in the middle 1800s, French people came from Canada to work in the lumbering business. Many settled in lumbering towns like Saginaw and Bay City.

People of African descent have lived in Michigan from the time of the fur trade. Between 1840 and 1860, many escaped slaves came to Michigan looking for freedom. During the early 1900s, many African Americans left southern states hoping to find jobs and a better life in northern states like Michigan. Many settled in cities like Detroit where they hoped to get jobs in factories. In the late 1900s, Africans from countries such as Nigeria, Ghana, and Ethiopia came to Michigan. Many settled in the metropolitan Detroit area.

Germans began to come to Michigan around 1830. Many left Germany because of shortages of food caused by crop failures. There were also political, or governmental, problems in Germany. They settled first around Ann Arbor and the Saginaw River Valley. They started towns such as Frankenmuth.

British people came to Michigan after the French. In the 1830s many people of British descent moved from the New England area to Michigan. They settled in many areas of the Lower Peninsula. Many became farmers. In the 1850s, people from the Cornwall area of Britain came to work in Michigan mines.

In Ireland in the 1840s there was a famine, which meant there was a serious shortage of food. This was caused when the potato crop failed. Many Irish people left Ireland at this time and came to states like Michigan. Here they settled in Detroit and in an area of southeastern Michigan along U.S. 12, which became known as the Irish Hills.

Food shortages were also a problem in Poland in the 1860s. Just after the Civil War, Poles began to come to Michigan looking for better jobs and farmland. They started towns like Posen in the northeastern part of the Lower Peninsula. Later many Poles moved to the Detroit area to work in car factories.

In the 1840s, the Dutch government took control of the churches in Holland. This caused many Dutch people to leave their country in search of religious freedom. Many came to Michigan and settled in the western part of our state in cities like Grand Rapids. They also started a town called Holland.

After the Civil War, Swedish people settled in the Upper Peninsula to work in mines and lumber camps. They felt the Upper Peninsula was a lot like their native Sweden. They lived in towns like Iron Mountain and Iron River.

Finnish people and Italians also came to Michigan beginning in the 1860s. They came mainly to work in mines. Later people from both these groups settled in the Detroit area to work in factories.

Hispanic people came to Michigan in the 1900s. They were mainly from Mexico, Puerto Rico, and Cuba. In the beginning, many helped pick Michigan crops. Later they settled in cities like Detroit, Pontiac, Dearborn, and Allen Park. Many Hispanic people worked in factories.

Chinese people began to settle in Detroit in the 1870s. They settled an area called “Chinatown” located near Third and Michigan streets. Many had left the western part of the United States because of anti-Chinese feelings there. There was little Chinese immigration after this until the late 1990s.

After World War II, many Japanese came to settle in Michigan mainly in the metropolitan Detroit area. There was another wave of Japanese immigration in the 1980s. During this time, many Japanese settled in Oakland County. Many were worked for Japanese car part companies.

Michigan has more people of Arab descent than most other states. They have come to Michigan mainly from the countries of Iraq, Jordan, Lebanon, and Syria. People came for a variety of reasons including conflict in southwestern Asia. Most Arabic people live in cities near Detroit such as Dearborn and Southfield. Many Arabic people are Muslims and follow the religion of Islam. Others, like Chaldeans, who come from Iraq, are Christians. Most Arab immigration was in the later part of the 1900s.

A few Jewish people came to Michigan as early as the times of the fur trade. Many came between 1880 and 1914. In the late 1900s Russian Jews immigrated to the Detroit area to escape discrimination in their homeland.

Now, in the 21st Century, people continue to immigrate to Michigan. Recent immigrants include the Hmong and Vietnamese from Southeast Asia and people from Central American countries like Guatemala.

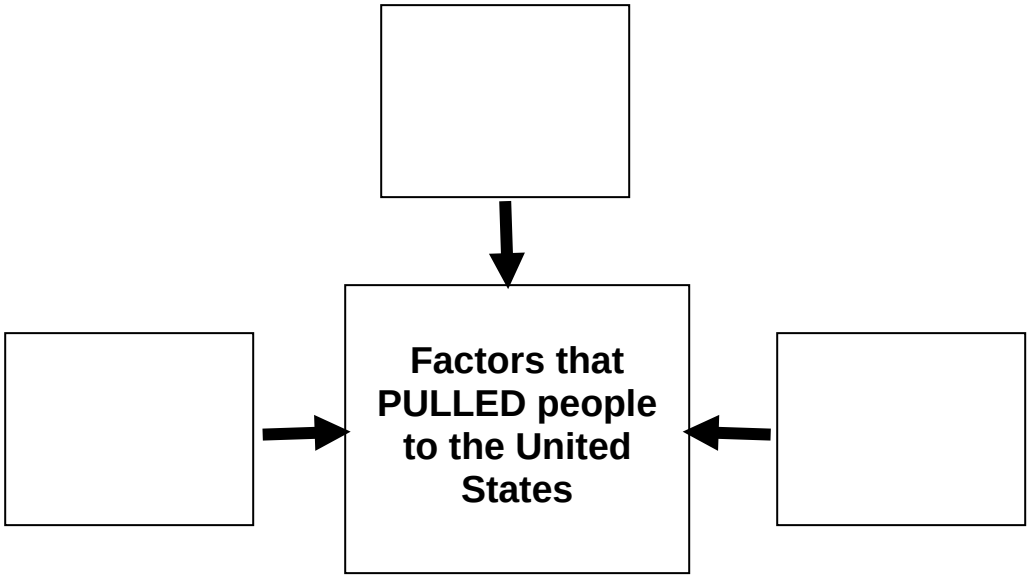
Moving to Michigan Chart

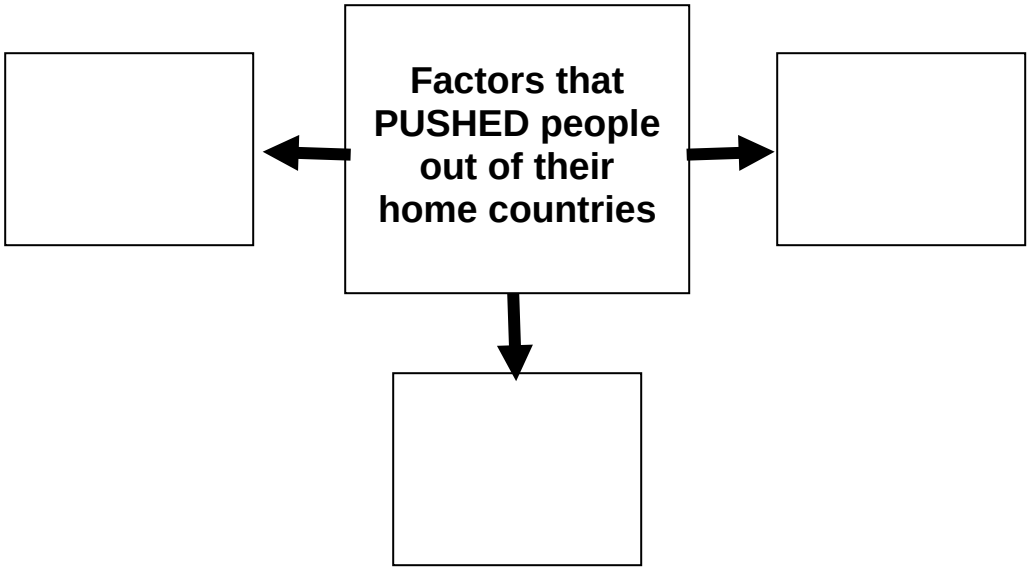
Directions: Read the informational article. Choose 6 of the groups mentioned in the article and summarize what you learned about these groups by completing the chart below.

Who?	When?	Why?	Where did they settle?

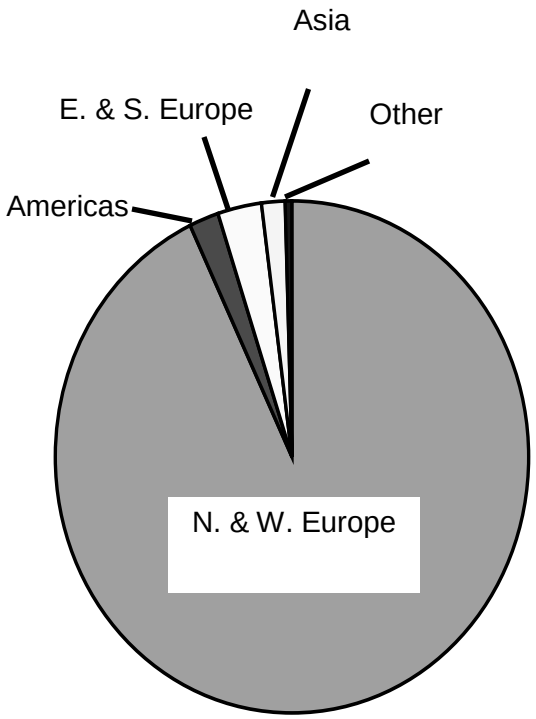
Push and Pull Factors

Assessment

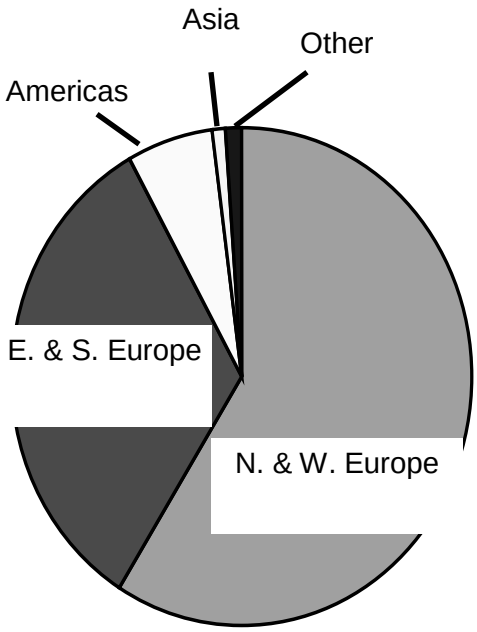




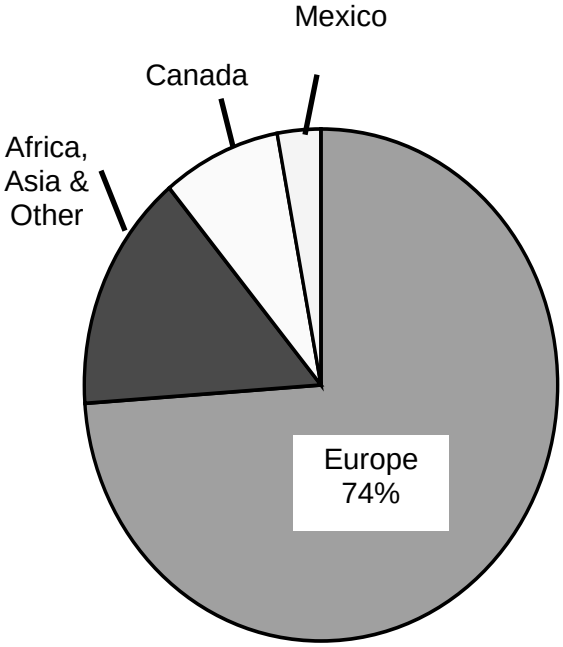
Immigration Data



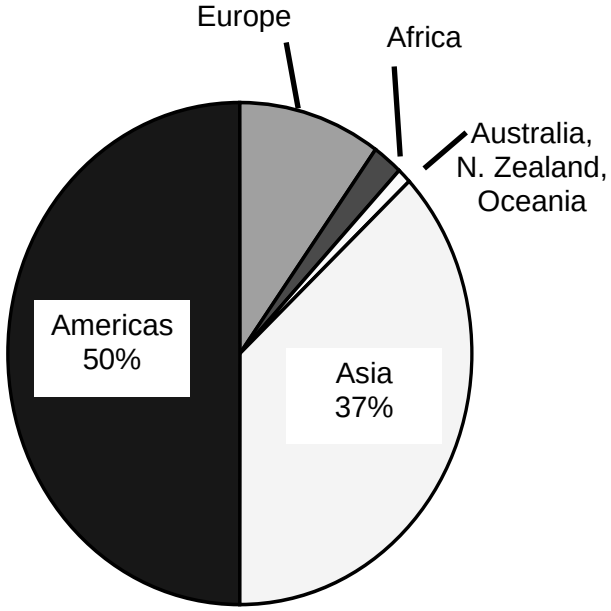
Immigration 1840 – 1860



Immigration 1880 – 1900



Immigration 1920 – 1939



Immigration 1981 – 1990

Analyzing Photographs

Source: *Americans in theRaw*. Ohio State University Humanities Department. 13 November 2005 <http://ehistory.osu.edu/osu/mmh/Immigration/AmericansinRaw.cfm>.

What Would You Pack?

Activity Sheet

Imagine you are going to immigrate to a new country. You can only take one trunk with you. List the things you would take in your trunk.

Immigrant Artifacts

1

2

3

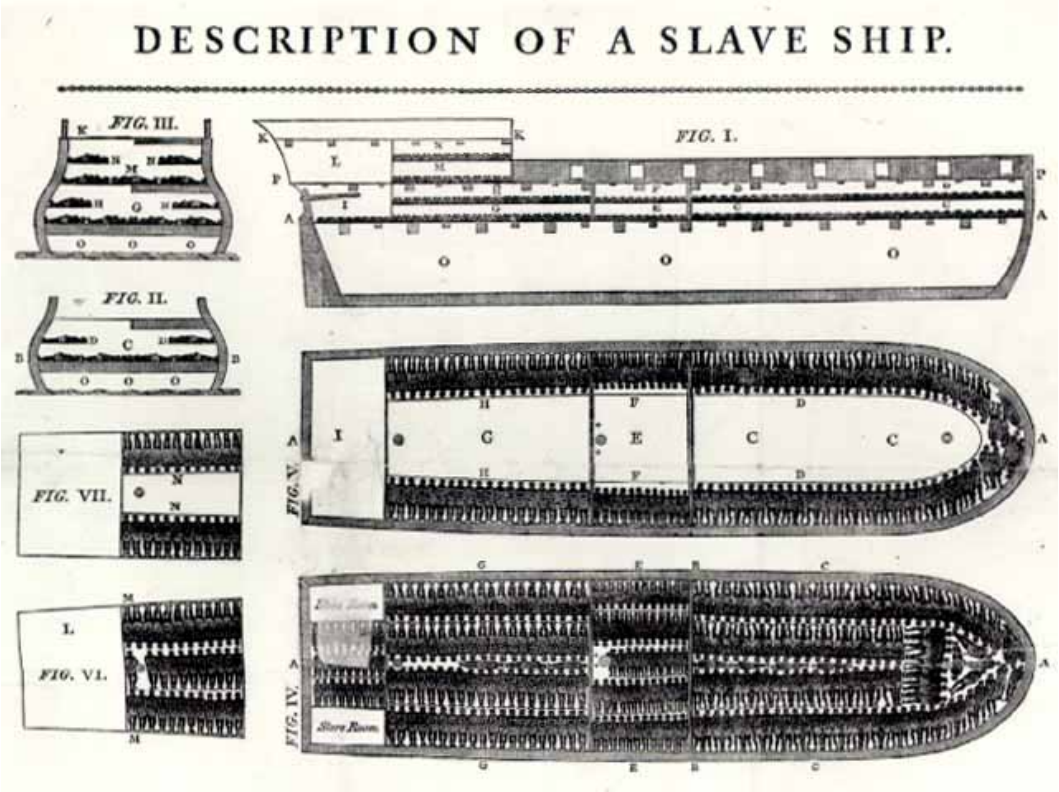
4

Immigrant Artifact Analysis Chart

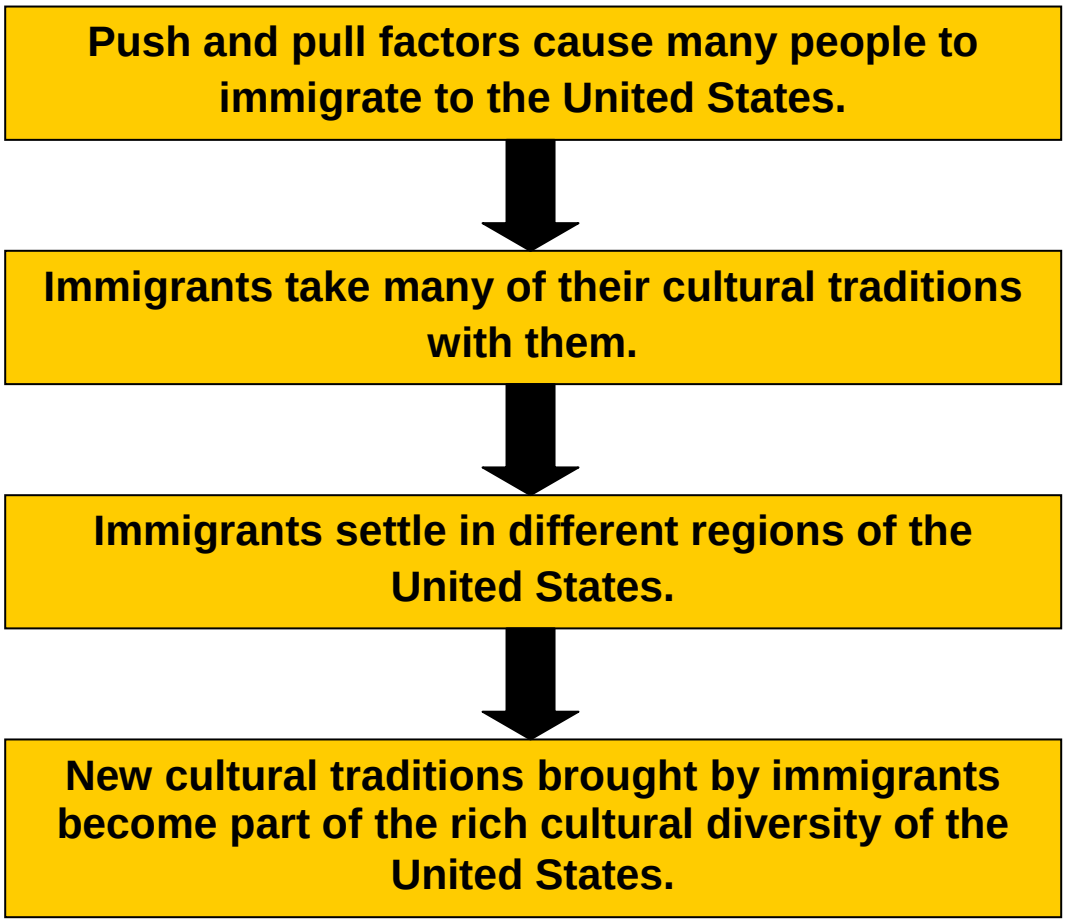
Object	What is it?	Why do you think an immigrant would bring it with them to the United States?
#1		
#2		
#3		
#4		

Image #1

Image #2



Lesson 4 Graphic Organizer



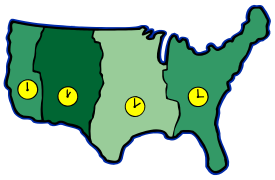
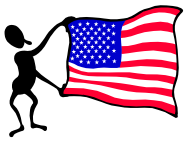
Big Ideas of Lesson 4, Unit 3

- Culture is the way of life of group of people. Immigrants brought their culture with them when they immigrated to the United States. This included traditions, foods, stories, languages, music, values and beliefs.
- Different ethnic groups settled in different regions. For example, many Mexicans settled in the southwest region of the U.S and many Chinese settled along the west coast.
- The cultural influences of these various ethnic groups are evident in these regions.
- Immigration has resulted in significant cultural diversity in the United States.

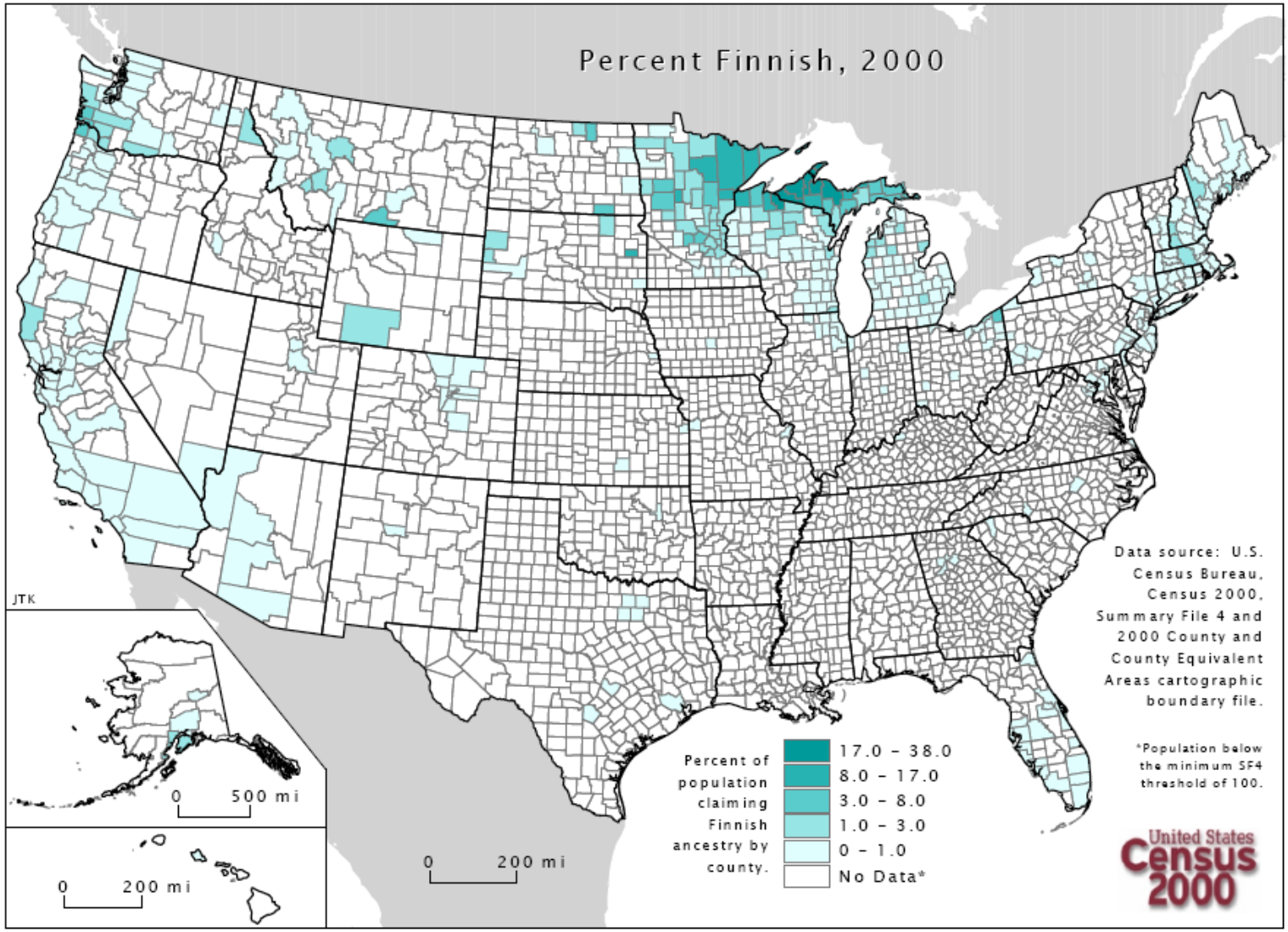
Word Cards

Word Cards from previous lessons needed for this lesson:

- Movement – Word Card #2 from Lesson 1
- Immigrate – Word Card #9 from Lesson 3

10 **region**  an area with one or more common characteristics or features ***Example*:** There are many different ways to divide the United States into regions.	**11** **culture** the way of life of a group of people ***Example*:** When people immigrated to the United States they brought their cultural traditions with them.
12 **core democratic values**  beliefs and ideas that we share as Americans ***Example*:** Justice, freedom and diversity are core democratic values.	**13** **diversity**  a core democratic value that means we value differences in people ***Example*:** Diversity in Michigan has helped make it a very special place.

MAP #1



Source: *American Ethnic Geography*. 14 November 2008 <http://www.valpo.edu/geomet/geo/courses/geo200/usa_maps.html>.

Finnish Influences in Michigan: Visuals

Annual Finnish Music Festival, Covington, Michigan

Source: Annual Finnish Music Festival. 14 November 2008 <http://www.playdembones.com/workshops.htm>.

Old Main in Hancock, the first permanent building of the country's only Finnish college, Finlandia University. It was founded in 1896 as Suomi College.

Source: *Finlandia University*. 14 November 2008 <http://hunts-upguide.com/hancock_finlandia_university_finnish_american_heritage_center.html>.

Finnish Influences in Michigan: Text

There are still active Finnish-speaking communities in many areas of the Upper Peninsula today. Some aspects of Finnish culture, such as the sauna and the concept of **sisu**, have been adopted generally by residents of the Upper Peninsula. **Sisu** is a Finnish term meaning strength of will, determination, perseverance, acting rationally in the face of adversity.

The Upper Peninsula has a distinctive local cuisine. The pasty, a kind of meat turnover originally brought to the region by Cornish miners, is extremely popular among locals and tourists alike. Finnish immigrants contributed *nisu* (a cardamom-flavored sweet bread) and *korpu* (rock-hard slices of toasted cinnamon-bread, traditionally dipped in coffee).

People of Finnish ancestry make up 16% of the Upper Peninsula's population, the highest concentration of Finns outside Europe. In addition, the Upper Peninsula of Michigan has the only Finnish-language television broadcast outside of Finland.

Source: *UP Information*. 14 November 2008 <http://www.mgh.org/uphec/up_info.html>.

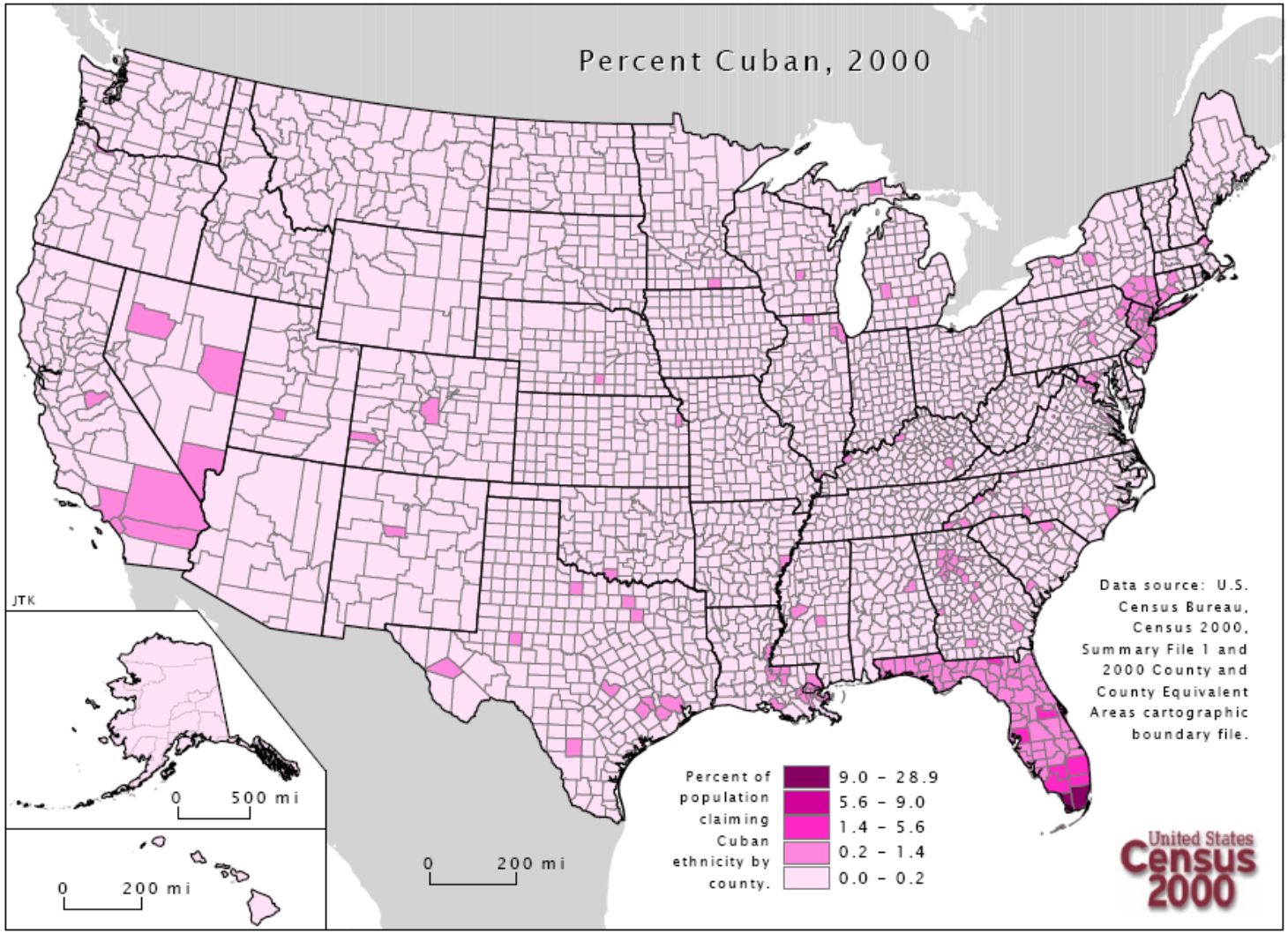
Heikki Lunta, the Finnish snow god, has used his mystical powers to create abundant snow for our region of Lake Gogebic. Heikki Luntta at times teases us with just sprinkling, but later surprises us with what we've come to expect. Deep snow! In the long run, Heikki rarely disappoints us; the last time we had less than 100 inches of snow was in 1958! “

Heikki Lunta appears in different attire each year depending on his mood. In years past he has appeared in a mixture of animal skins or in a flannel shirt and a pair of swampers, looks a bit like a Northwoods Santa.

There's even a Heikki Lunta dance and a song made to go with the crazy dance. It is believed that the "Heikki Lunta Snow Song" when played always brings snow wherever it is played.

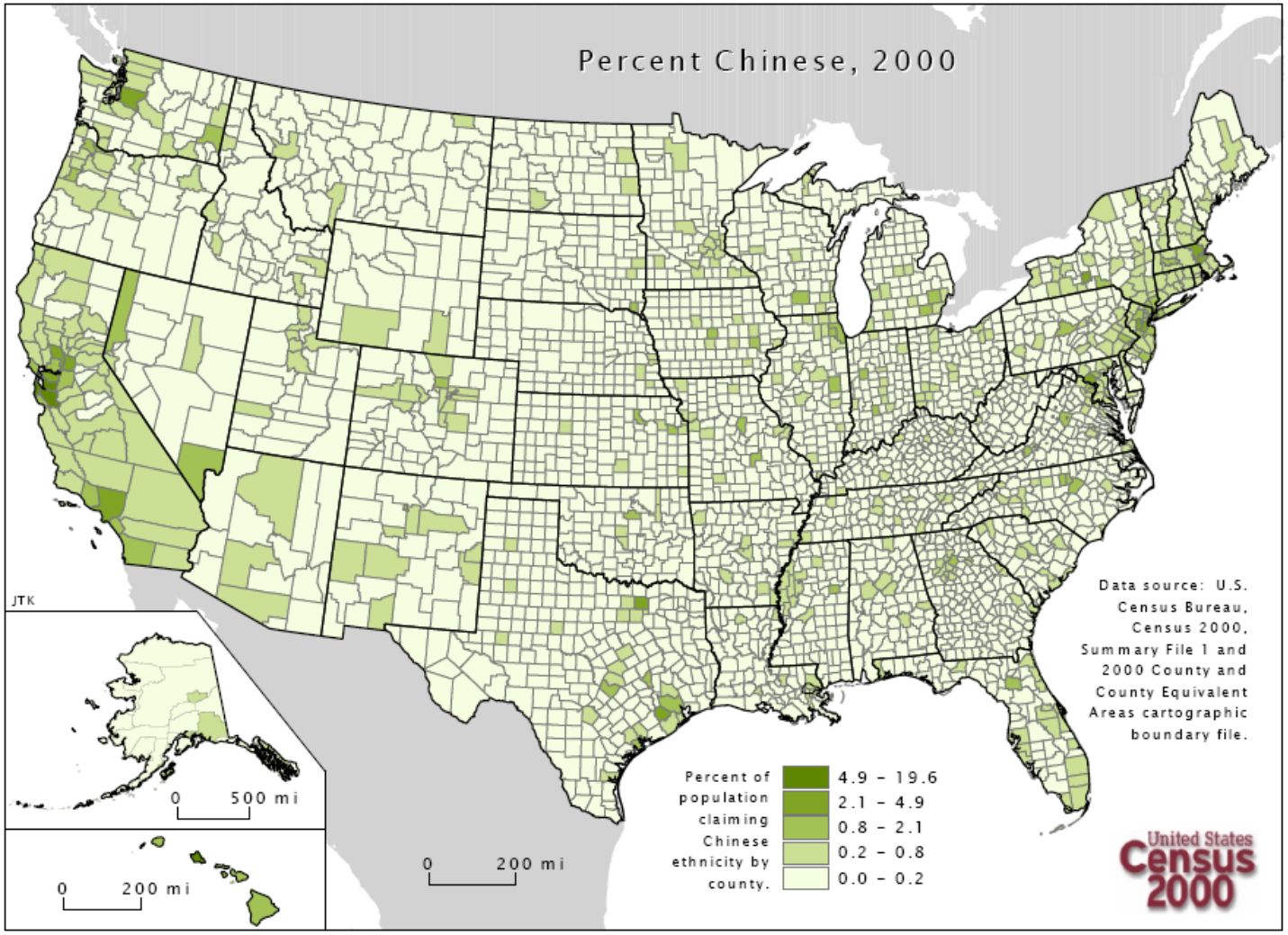
Source: *Lake Gogebic Area.* 14 November 2008
<http://www.lakegogebicarea.com/lakegogebicsnowmobile.htm>.

Map #2



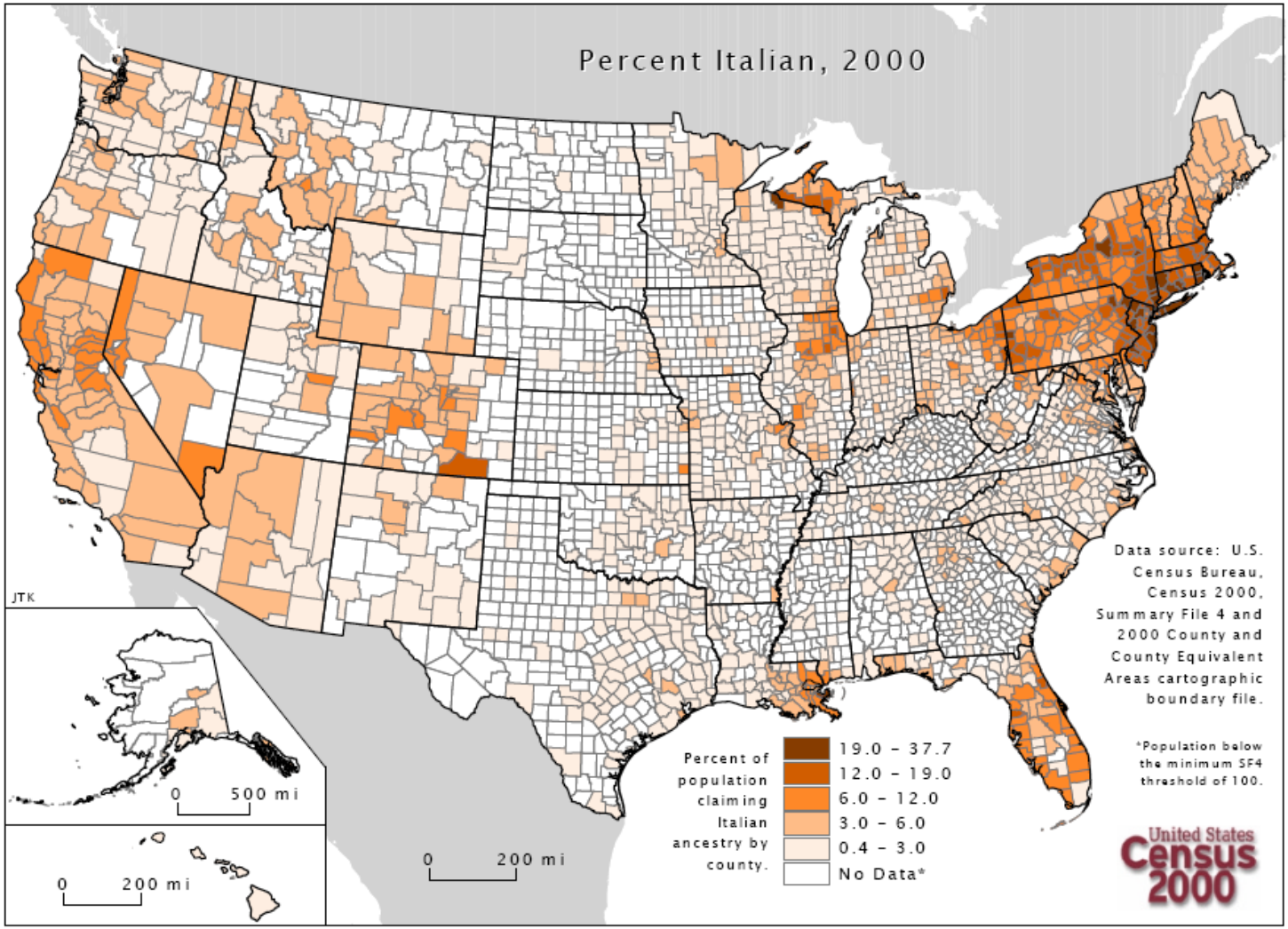
Source: *American Ethnic Geography*. 14 November 2008 <http://www.valpo.edu/geomet/geo/courses/geo200/usa_maps.html>.

Map #3



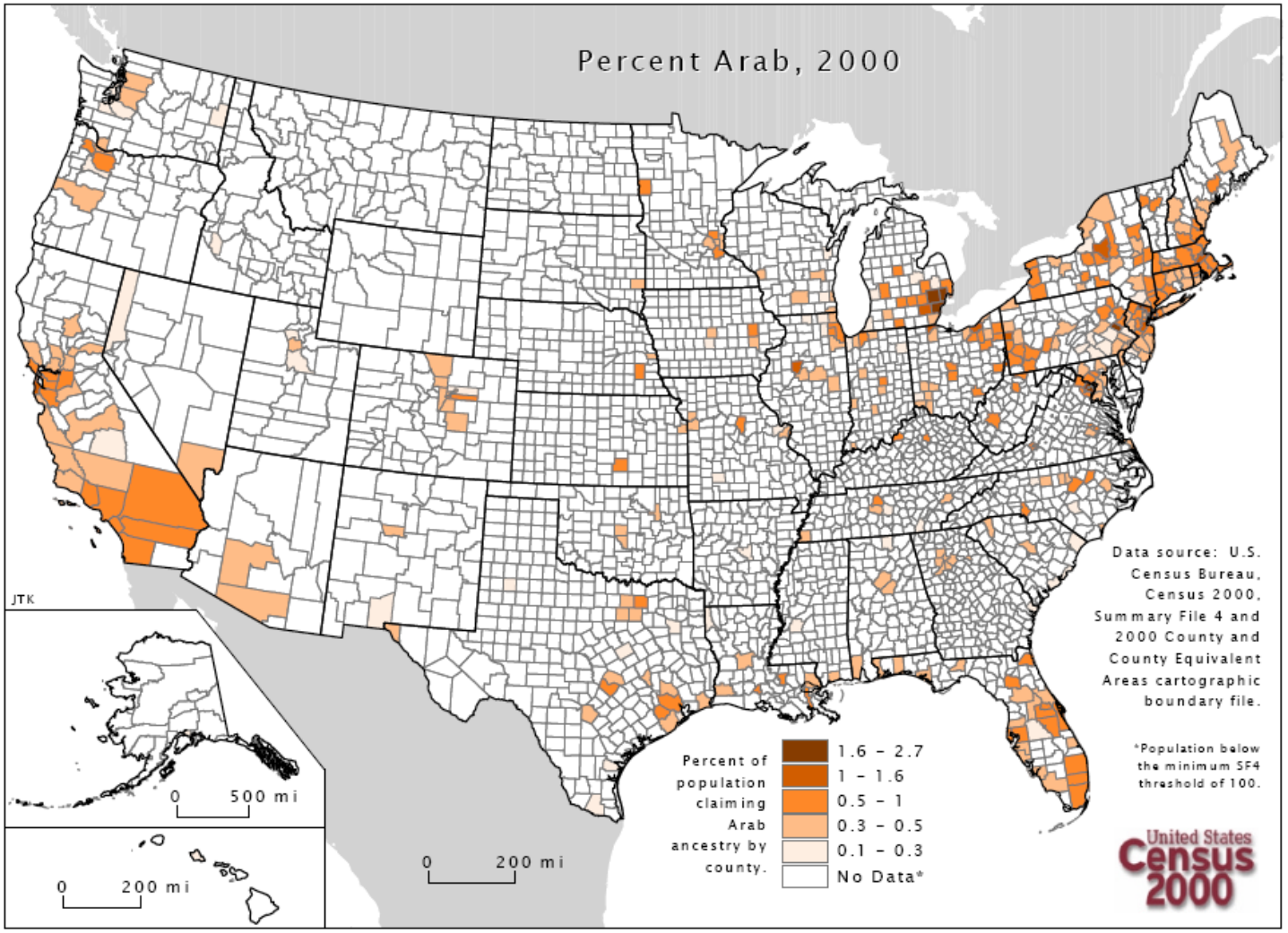
Source: *American Ethnic Geography*. 14 November 2008 <http://www.valpo.edu/geomet/geo/courses/geo200/usa_maps.html>.

Map #4



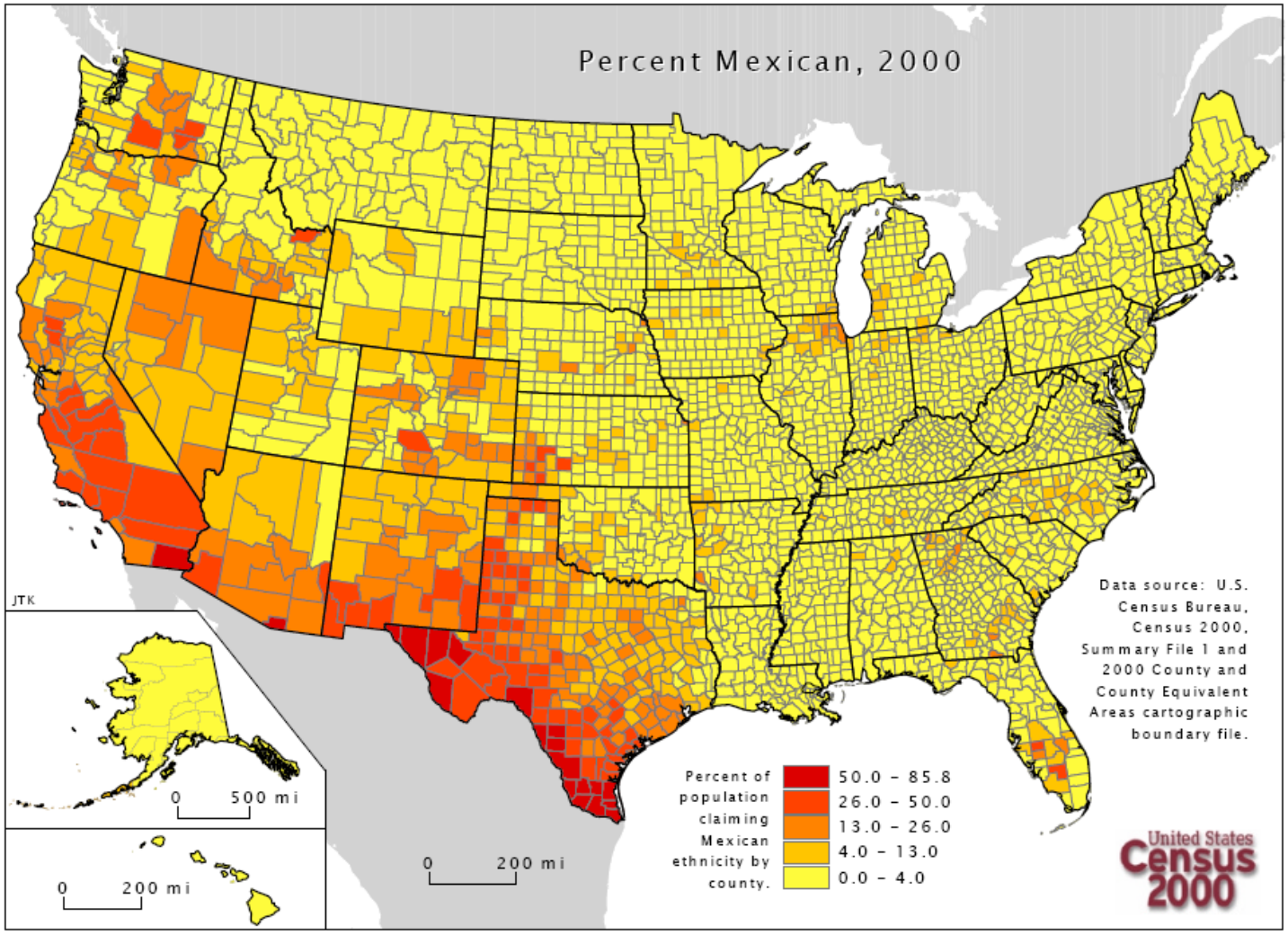
Source: *American Ethnic Geography*. 14 November 2008 <http://www.valpo.edu/geomet/geo/courses/geo200/usa_maps.html>.

Map #5



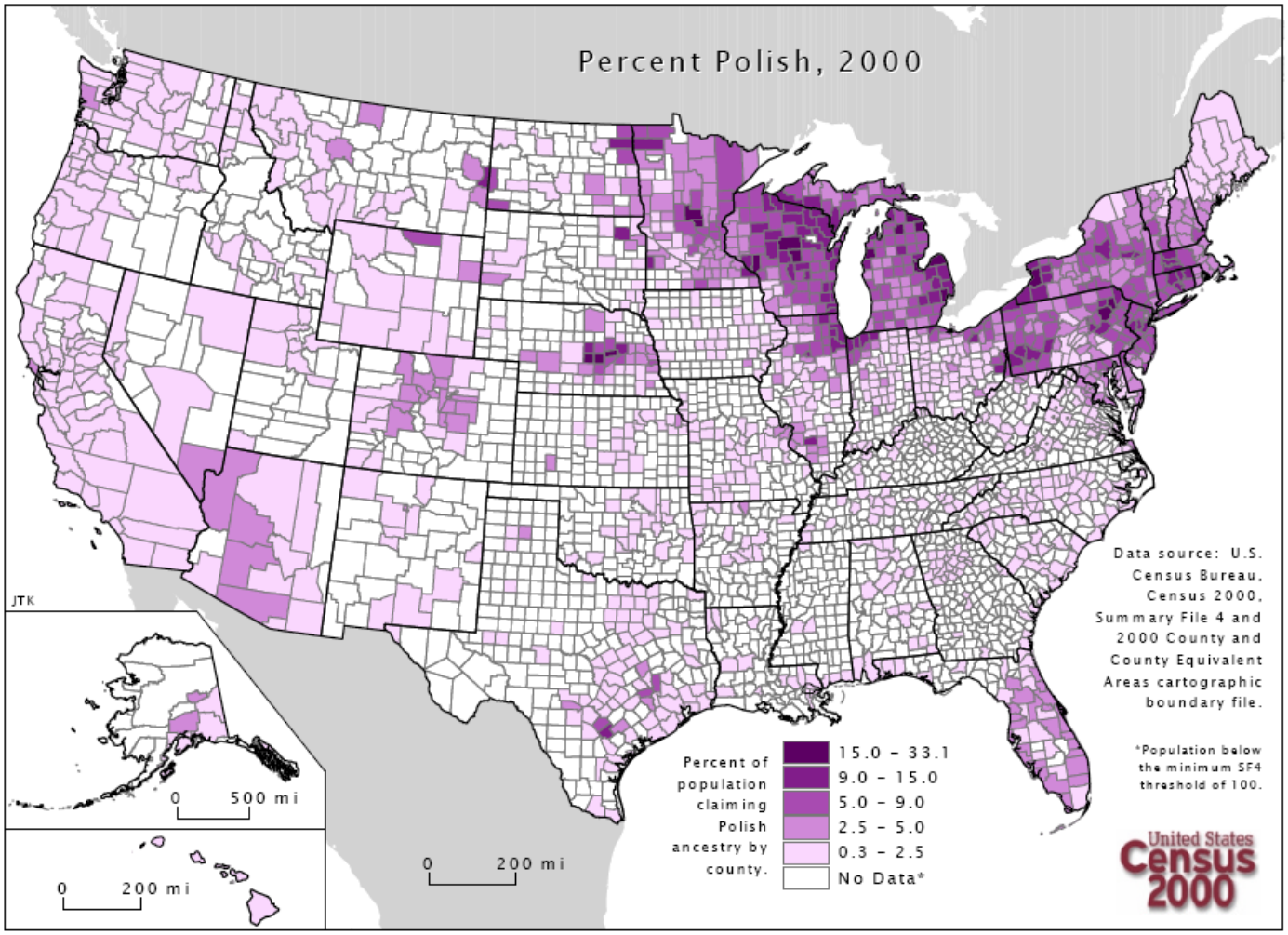
Source: *American Ethnic Geography*. 14 November 2008 <http://www.valpo.edu/geomet/geo/courses/geo200/usa_maps.html>.

Map #6



Source: *American Ethnic Geography*. 14 November 2008 <http://www.valpo.edu/geomet/geo/courses/geo200/usa_maps.html>.

Map #7

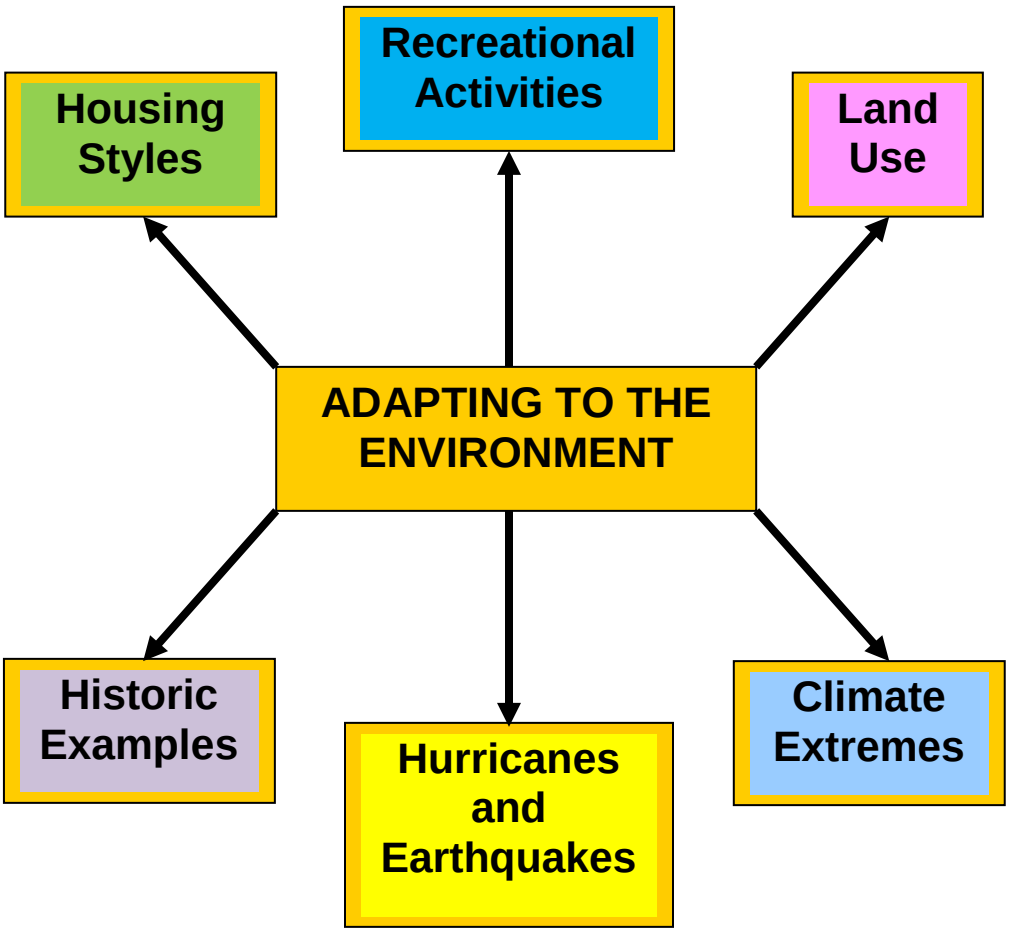


Source: *American Ethnic Geography*. 14 November 2008 <http://www.valpo.edu/geomet/geo/courses/geo200/usa_maps.html

Map Analysis Chart

MAP	What can you conclude about cultural influences based on this map?
#2	
#3	
#4	
#5	
#6	
#7	

Lesson 5 Graphic Organizer



Big Ideas of Lesson 5, Unit 3

- The geography of a place influences the culture (how people live) there.
- People have adapted to different environments of the United States. As a result, cultural characteristics such as housing styles, recreational activities, and land use varies in different regions.
- History is often the story of how people have adapted to their environment.

Word Cards

Word Cards from previous lessons needed for this lesson:

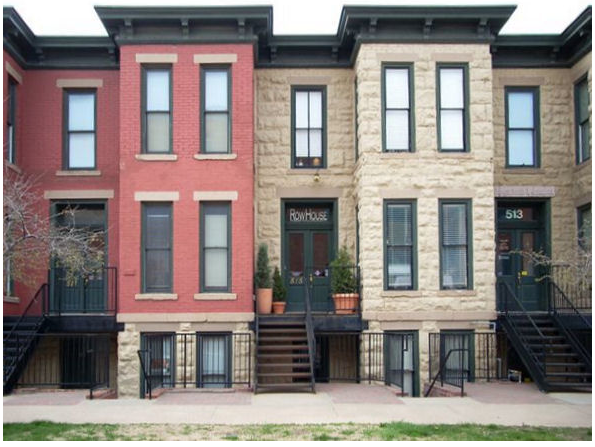
- Human/Environment Interaction – Word Card #3 from Lesson 1
- Culture – Word Card #11 from Lesson 4

14
adapting to the natural environment

when people make changes in order to fit their environment

***Example*:** People in Michigan wear warm coats, hats and mittens to fit the environment in winter.

Houses in the United States



Land Use in the United States

Adapting to a New Environment

Who?	Change in Environment	Possible Challenge
Orphans from big cities like New York going west on Orphan Trains	**From big cities in the East to small towns in the Midwest**	
Escaped slaves	**From the South to the North and places like Canada**	
African Americans	**From rural areas of the South to big cities of the North**	
Potawatomi Native Americans who were relocated	**From Michigan to states like Kansas and Oklahoma**	
Africans forced to come to the Americas	**From one continent to another**	
European immigrants	**From one country to another**	

Photographs from the Great Plains

Sod House Photos. 17 November 2008 <http://lcweb2.loc.gov/cgi-bin/query/r?ammem/ngp:@FILREQ(@field(SUBJ+@BAND(sod+buildings))+@FIELD(COLLID+ndfa)>. (search “sod buildings” and “sod school”)

Mystery Source

Bachelors Hall Neb' Fillmore Co
Apr' 13th 1873

Dear Wife and Baby

…Nebraska does a heap of blowing and since it is so dry there is lots of dust flying. yesterday and today have been terrible windy it nearly blew me off the walls of my house yesterday when I would be carrying a sod on the wall a gust of wind would come and blow my hat over my eyes and nearly capsize me my sods for my wall were pretty heavy they were from 2 1/2 to 4 ft long 4 in thick and from 10 to 12 in wide. the whole furrow as longh as I plowed it all hung together unbroken so you see we have some pretty tough sod here. don't know how I'm goin get things planted

perhaps you can't read this my arms are so numb & tired handling heavy Sod that it is hard work for me to write

from your loving Husband

Uriah Oblinger

Source: *Prairie Settlement*. 17 November 2008 <http://memory.loc.gov/cgi-bin/query/r?ammem/ps:@field(DOCID+l104)>.

Adapting to Life on the Great Plains

Problem	Adaptation	Illustration
It was hard to cut through the tough sod of the plains in order to plant crops.	**New machinery was invented like John Deere's sodbuster, a new kind of plow.**	
There was a lack of water.	**Windmills were used to pump water from the ground.**	
Irrigation of crops was not possible because there were few rivers or lakes.	**Farmers invented "dry farming". This was a special kind of farming that helped keep moisture in the soil.**	
A lot of crops like corn didn't grow well because the climate was too harsh.	**A special kind of wheat was introduced by Russian immigrants. This grew well in the Plains.**	
Wood was scarce and expensive so there was no way to fence off areas to protect crops and cattle.	**Barbed wire was invented. This was a cheap way to fence in an area.**	

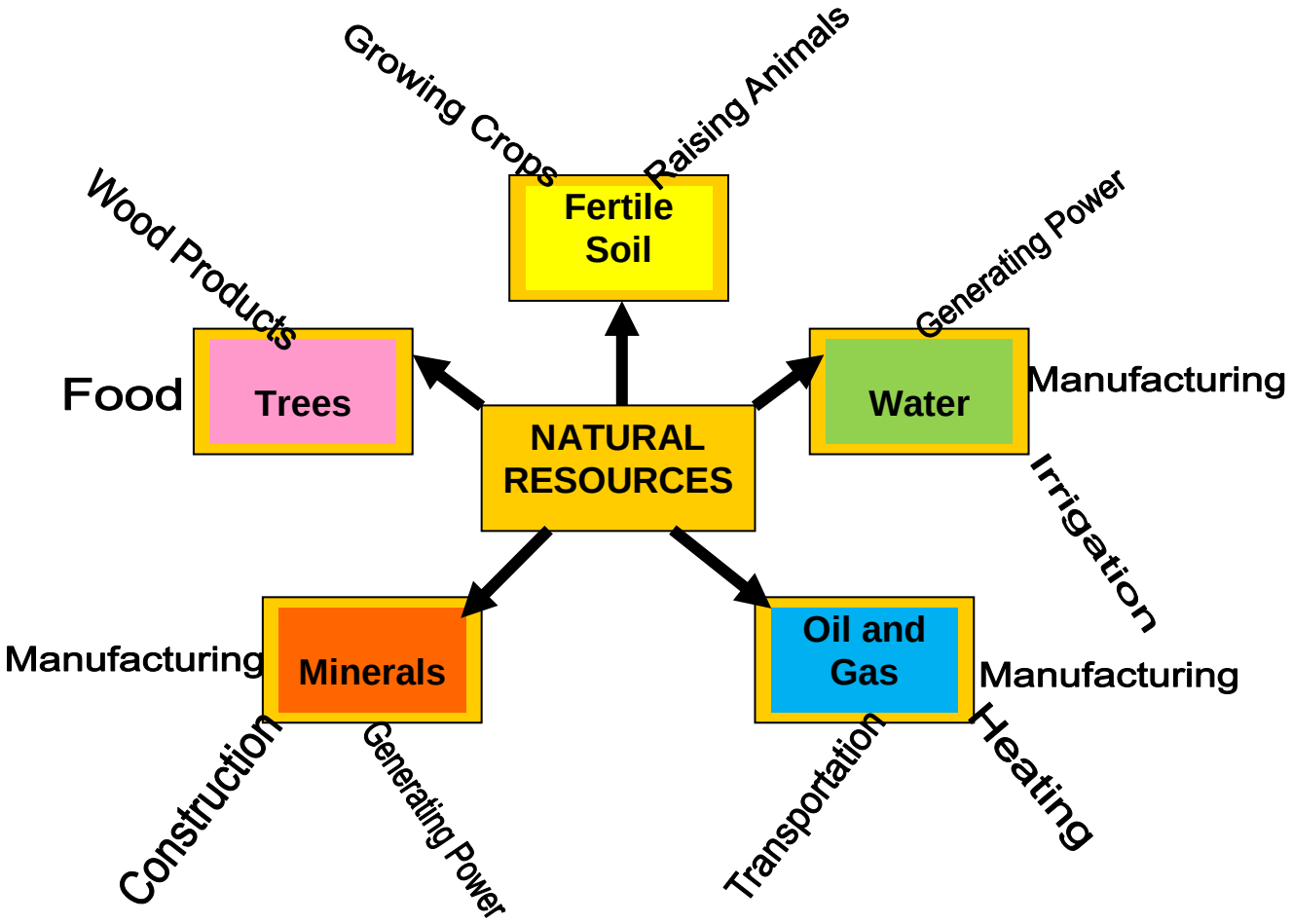
Investigation

Directions: Choose one of the following questions to investigate with a partner. Then, fill in the chart describing what you learned.

- How have people adapted to life in California in an earthquake zone?
- How have people adapted to life in a region where there are hurricanes?
- How have people adapted in the southwest to life in a dry region?
- How have people adapted to a rainy climate in the Pacific Northwest?
- How have people adapted to flooding along the Mississippi River?
- How have people adapted in areas of heavy snow?

Problem	
Adaptation	
Illustration	

Lesson 6 Graphic Organizer



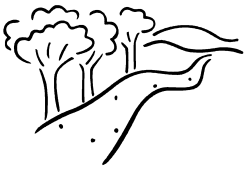
Big Ideas of Lesson 6, Unit 3
• The United States is rich in natural resources which include fertile soil, water, forests, and a wide variety of minerals. • These resources have greatly influenced the growth and development of the country. • Many important human activities have developed from the use of these resources including farming, mining, lumbering, and manufacturing.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Human/Environment Interaction – Word Card #3 from Lesson 1

15
natural resources



things in nature that people find useful

***Example*:** Water, soil and trees are natural resources.

16
fertile soil

soil that is good for growing things

***Example*:** Michigan has a lot of fertile soil in the Lower Peninsula.

17
minerals

natural resources found in the ground such as iron ore

***Example*:** Minerals are removed from the ground by mining.

18
modifying the environment

when people change the environment to fit them

***Example*:** People in many regions of the United States modified the environment by cutting down trees to clear land for farming.

Review Chart

Natural Resource	Where Found	How was it used?

What Do all of These Things Have in Common?

dye – oxygen – piano keys – rayon – books - fishing lures – inks - telephone books – varnish –atlases and maps – price tags – ping pong balls - tires – umbrella handles – signs – automobile instrument panels – space craft reentry shields – newspaper – photographic film – newspapers – posters – football helmets – toilet seats – guitars – road building materials – insulation – shatterproof glass – artificial vanilla – cork – vacuum cleaner bags – movies – stadium seats – adhesives – decorations – turpentine – camphor – waxes – fireworks – crayons – tannin – charcoal – pine oil – pitch – musical instruments – toilet paper milk cartons – flooring – bark for landscaping – cardboard – grocery bags – furniture – chewing gum – paper towels – oil spill control agents – Christmas trees – hockey sticks – cosmetics – roofs – baby foods – cider – vitamins – cooking utensils – photographic paper – lacquer – pallets – rubber gloves – mulch – clean water – golf tees – egg cartons – syrup – fence posts – toys – nail polish – toothpaste – eyeglass frames – antacids – shampoo – rubber gloves – electrical outlets – medicines – energy for electricity – plates and bowls – sausage casings – rulers – oars – houses – notebook paper – plywood – paper plates – computer casings – stain remover – coffee filters – toothpicks – movie tickets – imitation bacon – diapers – horse corrals – postcards – tax forms – sponges – shoe polish – luggage – bowling alley lanes – postage stamps – colognes – kites – bedding – irrigation piping – fruit pie filling – golf balls – game boards – pencils – dry wall – baby cribs – baseball bats – lumber – decoys – magazines – ice cream thickener – step ladders – birthday cards – broom sticks – cider – ceiling tiles – crutches – backyard play sets – axe handles – food labels – walnuts – candy wrappers – scenery – party invitations – disinfectants – cd inserts – gummed tape – fruit – railroad ties – belts – puzzles – swings – baking cups – buttons – cutting boards – benches – bird houses – stereo speakers – garden stakes – stairways – beds – tables – barrels – window frames – bulletin boards – linoleum – seesaws – fishing boats – billboards – disposable medical clothing – church pews

Informational Text Selection

Trees provide beauty, shade, oxygen, clean air and water, fruit, and nuts. Trees are also used to make wood products such as paper, furniture and lumber.

When trees are used to make lumber and plywood, there are leftover chips, bark and sawdust. The chips and sawdust are made into wood pulp for paper and other products. Not too long ago, those leftovers would have been burned as waste. Bark is used for landscaping and to generate electricity for paper and lumber mills. Modern forest product operations are very efficient at using every part of a tree. Nothing is wasted!

Wood is made of tiny fibers (cellulose) and the natural glue that holds them together (lignin). When wood is turned into pulp for paper, heat and chemicals dissolve the lignin and release cellulose fibers. By-products of this process are used in asphalt, paint, chewing gum, detergents, and turpentine.

Cellulose is used for paper and much, much more. It is a principle part of melamine dinnerware, toilet seats, tool handles and cellophane. It is also used to produce helmets, toothbrushes and electrical outlets. Other refined cellulose products include rayon fabric and ingredients in nail polish, solid rocket fuel, and industrial explosives.

Wood pulping by-products are used for many different things. These range from cleaning compounds, deodorants and hair spray, to artificial vanilla flavoring, medicines and cosmetics. Torula yeast, produced from wood sugars separated in the pulping process, is a high-protein product used in baby foods, cereals, imitation bacon, pet foods, and baked goods.

Silvichemicals (chemicals from trees) are so much a part of our civilization that we take them for granted. But they wouldn't exist without wood and wood products. Trees are truly a renewable resource!

Adapted From: *Trees*. Kentucky Division of Forestry Website. 17 November 2008 <http://www.forestry.ky.gov>.

Informational Text Selection – Lesson Review

Directions: Read the informational article carefully and then answer these questions:

1. Which of the following would be the best title for this reading selection?
   A. The Beauty of Trees
   B. How Lumber and Plywood are Made From Trees
   C. The Many Uses of Trees
   D. Life Without Trees

2. Which word means the same as “principle?” (paragraph 3)
   A. perfect
   B. main
   C. industrial
   D. refined

3. What has changed about the way people use trees?
   A. People don’t build log cabins anymore so they use trees a lot less.
   B. People make lumber and plywood now.
   C. People use trees for beauty, shade and oxygen
   D. People use every part of the tree now.

4. According to the reading, wood is made of
   A. tiny fibers and a natural glue
   B. pulp
   C. chips, bark and sawdust
   D. by-products

5. Which of the following would be the best illustration for this selection?
   A. A tall redwood tree from California with a child standing next to it
   B. A saw and an axe
   C. A tree surrounded by products that come from trees
   D. Pioneers building a log cabin

6. According to the reading, which of the following statements is true?
   A. Trees are only important because they have cellulose.
   B. Trees were more important in the past.
   C. People use trees to make many different products.
   D. People won’t use trees in the future because they will all be gone.

TREES AND HISTORY

The Maple's Place in History

The earliest French and English settlers were quick to learn the bounty of maples from the eastern Native American tribes. These pioneers were soon making their own maple sugar and syrup from the sweet sap of the sugar maple. From the red maple, they learned to make ink and dyes.

The Buckeye's Place in History

As well as the belief that its seed brought good luck, the buckeye has been believed to cure rheumatism and other, more minor ailments. Pioneering farm families also made soap from the kernels of buckeye seeds, and many a child's cradle was carved from the wood of this tree. Before the invention of synthetic materials, buckeye wood was used to make artificial limbs.

The Cottonwood's Place in History

Few sights were more welcome to America's early pioneers than the cottonwood. As they pushed westward with their wagons, these brave men and women found food for their livestock in the tree's leaves, as well as shade for themselves and timber for their dwellings. Cottonwood trunks provided dugout canoes, and the tree's bark was used to produce both food for horses and a bitter medicinal tea. In regions with few trees, the very noticeable cottonwoods often served as gathering places and trail markers and as sacred objects for several Plains Indian tribes.

The Pine's Place in History

Few trees had a more important impact on the first American explorers and settlers than the pine. The vast eastern white pine forests that met the first settlers provided these men and women lumber for their homes, schools, and churches. The towering white pines were also used for the masts of sailing ships. Native Americans and early settlers also found many medicinal uses for pine bark and resin, and pine gum was a popular sealant for houses and canoes.

The Spruce's Place in History

Native Americans and early settlers alike found many uses for the spruce. The roots of young trees were used as cords, often lacing together canoes. Early chewing gum was made from spruce resin, and non-alcoholic spruce beer was flavored with spruce leaves. Medicines were made from spruce bark and resin. The sounding boards of many pianos and violins were made from spruce.

Adapted From: *Majestic Trees of America*. Arbor Day Foundation. 17 November 2008 <http://arborday.org/trees/majTreesMain.cfm>.

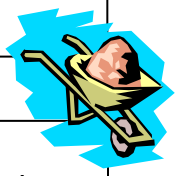
Michigan Agriculture

Climate

Michigan has many microclimates which support the growth of more than 200 food and fiber products. This makes Michigan the 2nd most agriculturally diverse state in the nation.

Soil

The Kalkaska Series of soils, which cover 750,000 acres of Michigan, were named the state soil on December 4,1990. The Kalkaska Series can be found in both the upper and lower peninsulas of the state and in 29 of the 83 counties. The soil series supports the growth of hardwood timber trees like sugar maple, yellow birch and evergreen trees.



Crops

- Michigan is the national leader in the production of tart cherries, having grown 208 million pounds or 76.9% of the U.S. total in 2005.
- In 2005, 2.25 million acres of Michigan were used for the production of corn, the leading crop. Soybeans are the state's 2nd leading crop at 2 million acres.
- Michigan ranks 3rd in the nation in apple production with over 780 million bushels produced in 2005.
- Michigan is the top producer of cucumbers grown for pickles, 2nd for celery, squash and carrots and 3rd in asparagus production.
- Michigan ranks 3rd nationally in wholesale sales of floriculture products.
- In 2005, Michigan led the nation in the value of sales for 13 crops, including: Potted Easter Lilies, Potted Spring Flowering Bulbs, Potted Geraniums Potted Petunias, Hanging Baskets, Geraniums and Impatiens.

Animals

About 312,000 dairy cows produced 6,735 million pounds of milk in 2005. This ranks Michigan 8th nationally in annual milk production. Michigan's hog production totaled 470.5 million pounds in 2005. Michigan ranks thirteenth in the nation in terms of hogs. There were over 1 million heads of beef cattle in the state as of Michigan January 1, 2006 with an estimated value of $1.27 billion.

General Information

About one-million Michigan residents are employed in production agriculture and food processing. Over 53,000 farms in Michigan produce over $60 billion in commodities each year in annual gross farm sales. The export value of Michigan products in 2005 was $960 million. Top exports included products from: soybeans, grain, vegetables, fruits, wheat, and dairy**.**

Adapted from:
A Look at Michigan Agriculture.
<http://www.agclassroom.org/kids/stats/michigan.pdf>.

Investigating Agriculture in a State

State: _____

Climate	
Soil	
Crops	
Animals	
General Information	

Summarizing Chart

State	Crops	Animals	Other Information

Water Use Prediction Sheet

	Your Prediction	Actual
What is most of the fresh water in the U.S. used for?		**Irrigation and making electrical power**
Which state uses the most water?		**California**
Which three states use the most water for irrigation?		**California Nebraska Texas**
What are three states that use water for aquaculture, or fish farming?		**Arkansas Mississippi Louisiana**
For what purpose can salt water be used?		**Cooling power plants Industry Mining Drinking**
What percentage of water is used in the U.S. for industry?		**5%**

Water Use Questions and Answers

Q: What is most of the freshwater in the U.S. used for?

A: In 2000, about 346,000 million gallons per day of fresh water was withdrawn from our surface- and ground-water sources, such as rivers, lakes, reservoirs, and wells. About 79% of that water was used for irrigation and the production of electric power.

Q: Which states use the most water?

A: In 2000, California alone accounted for almost 11 percent of all freshwater used in the United States. After California was Texas, Idaho, and Illinois, which together accounted for 28 percent of all fresh water used in the U.S. Most of the water used in California was for crop irrigation.

Q: Which states used the most water for irrigation?

A: Agriculture is a big business in the United States, and a lot of water is used to produce our food. In 2000, farmers used water to irrigate about 61,900,000 acres of land. That is about 96,700 square miles, which you can think of as a big, square plot of land about 311 miles on a side. California led the nation in acres irrigated, about 10,100,000, which was over 16 percent of the national total. Nebraska was next, irrigating about 7,420,000 acres, followed by Texas at about 6,490,000 acres. Agricultural irrigation is much more common in the dry Western United States than in the East.

Q: How much water is used to produce power in the U.S.?

A: The United States produces a lot of electrical power, and water is important in that production. In 2000, about 136,000 million gallons of fresh water and 59,500 million gallons of salt water each day were used in the thermoelectric power-production process. Why do power plants need so much water? The water is mainly used to cool the reactors of nuclear plants, and for condenser cooling in fossil-fuel (such as coal, oil, etc.) power plants.

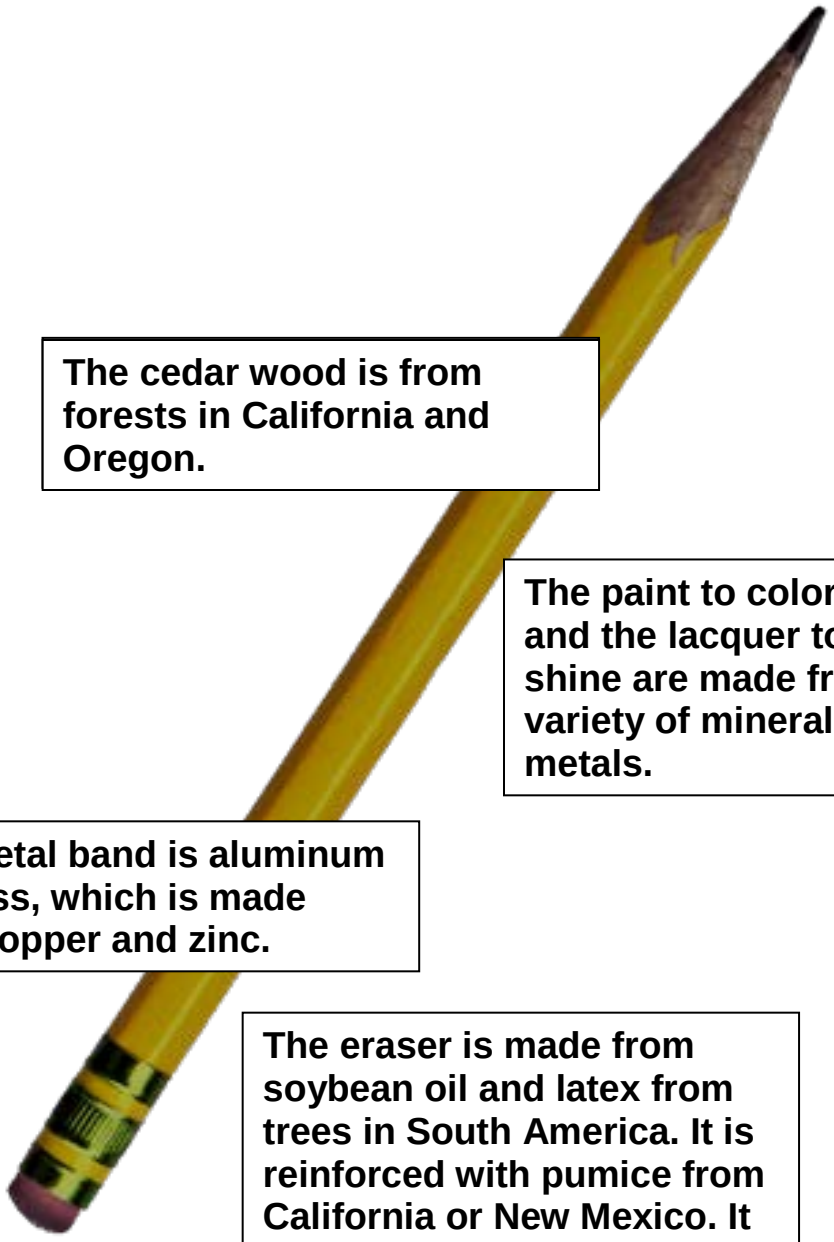
Q: What is fish farming?

A: Fish farming is a big business in some places. There are large catfish farms in Arkansas and Mississippi. In 2000, Idaho used about 1,970 million gallons of water per day to grow trout, and accounted for a large percentage of the world's farm-raised trout. In Louisiana, more than 50 times more water is used for fish farming than is used for animals that produce meat, poultry, and milk.

Q: What can salt water be used for?

A: Salt water has some uses. In 2000, the U.S. used about 62 billion gallons per day of salt water, which was about 15 percent of all water used. But salt water can only be used for certain purposes. The main use was for thermoelectric power-plant cooling. As for the other uses, about 8 percent of water used for industrial purposes was salt water, and about 43 percent of all water used for mining purposes was salt water. Also, salt water can be desalinated for use as drinking water by putting it through a process to remove the salt from the water. The process costs so much that it isn't used very much right now.

What's in a Pencil?



The graphite comes from Montana and is reinforced with clays from Kentucky and Georgia.

The cedar wood is from forests in California and Oregon.

The paint to color the wood and the lacquer to make it shine are made from a variety of minerals and metals.

The metal band is aluminum or brass, which is made from copper and zinc.

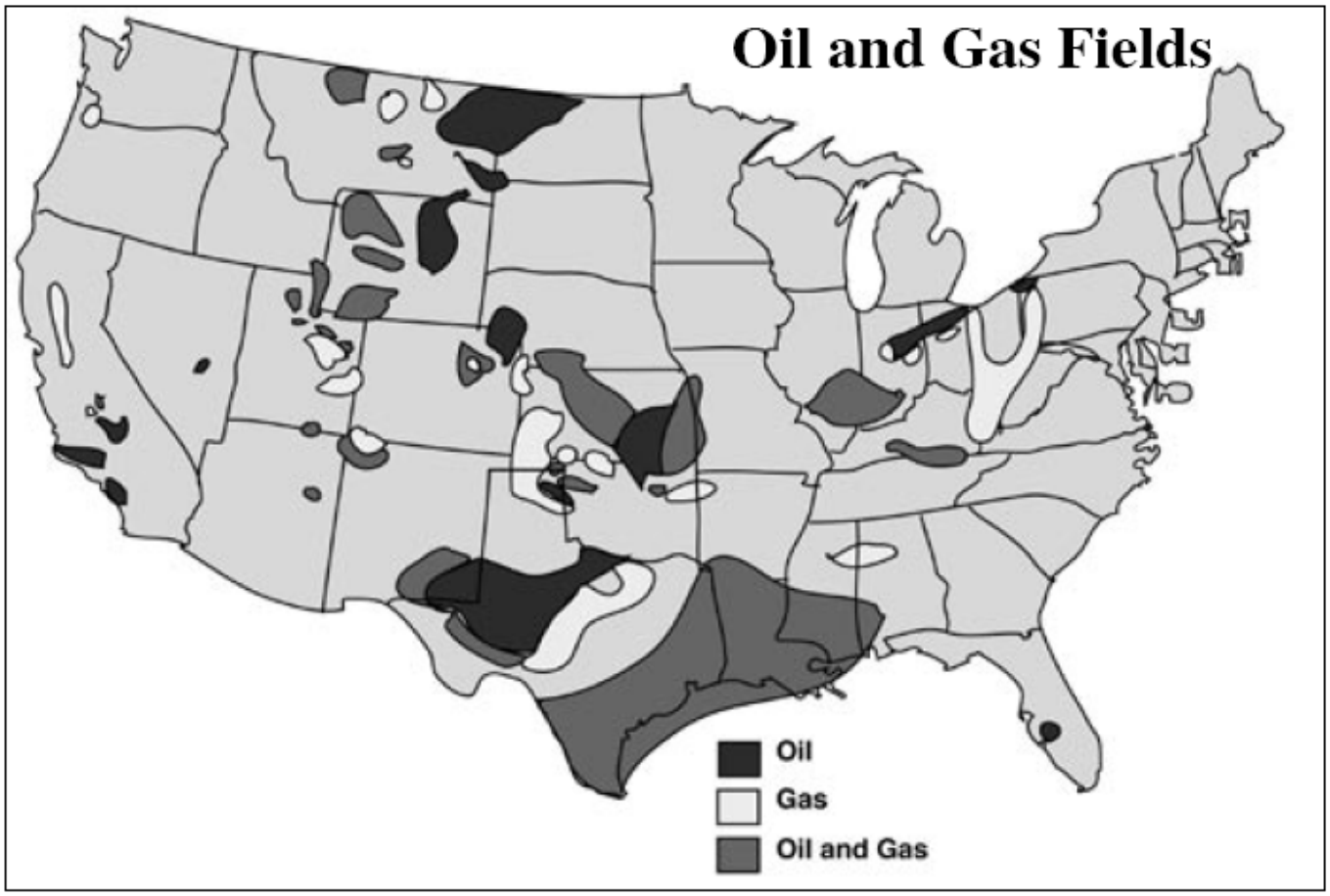
The eraser is made from soybean oil and latex from trees in South America. It is reinforced with pumice from California or New Mexico. It also has sulfur, calcium, and barium.

Adapted from: *What's in a Pencil Besides Wood?.* Mineral Information Institute Website. 17 November 2008 <http://www.mii.org/pdfs/every/pencil.pdf>.

State Mineral Production

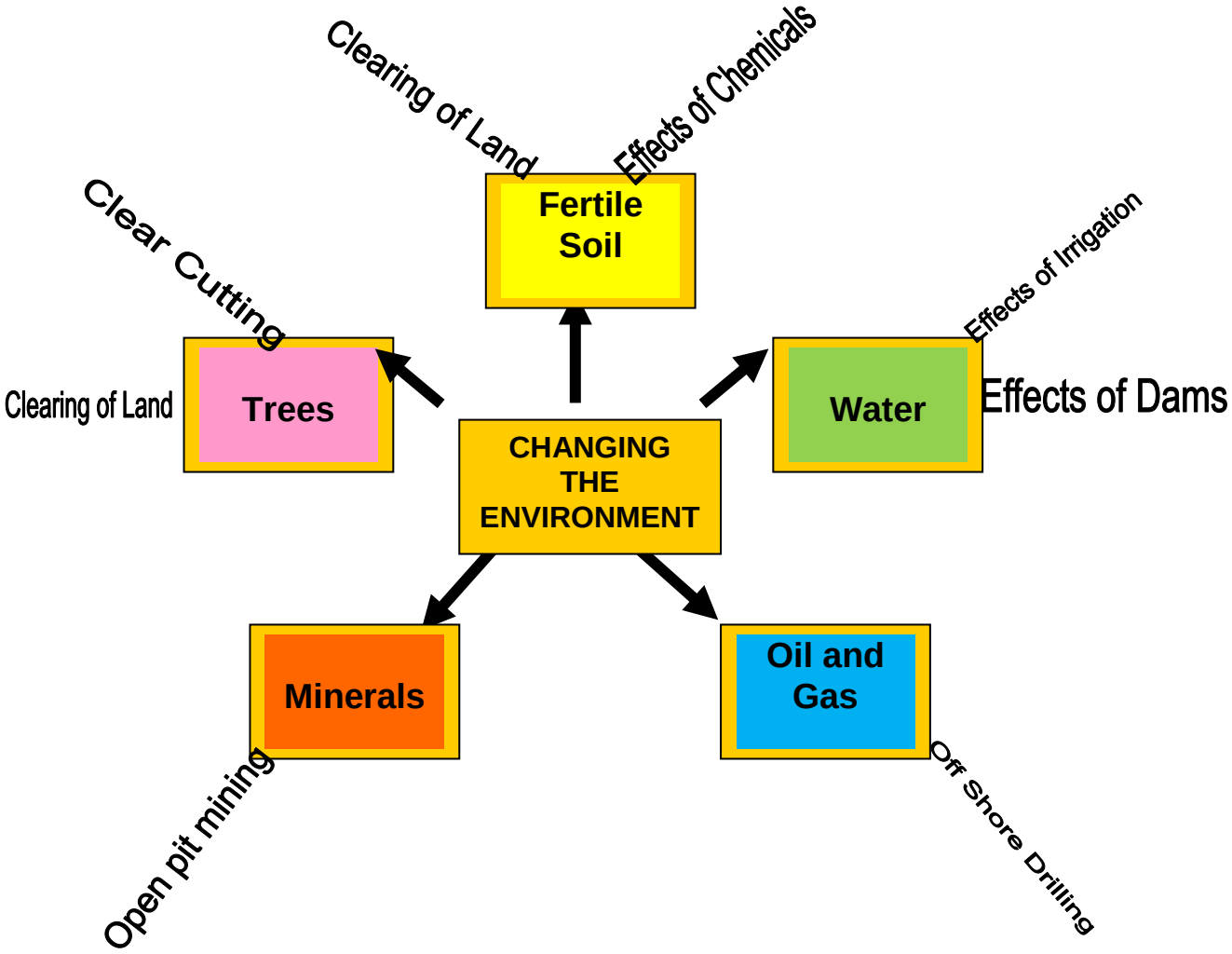
	Rank*	List of the *major* minerals produced in that state
Alabama	17	Coal, stone, cement, lime, sand and gravel, crude oil & natural gas.
Alaska	15	Crude oil, zinc, gold, lead, silver, coal, sand and gravel, natural gas.
Arizona	1	Copper, sand and gravel, cement, molybdenum, stone, coal.
Arkansas	29	Bromine, stone, cement, sand and gravel, coal, crude oil.
California	3	Crude oil, sand and gravel, cement, boron, stone, natural gas, soda ash, coal.
Colorado	26	Coal, crude oil & natural gas, sand and gravel, cement, stone, gold, molybdenum.
Connecticut	45	Stone, sand and gravel, clays (common), gemstones.
Delaware	50	Sand and gravel, magnesium compounds, gemstones.
Florida	4	Phosphate rock, stone, cement, sand and gravel, crude oil, titanium concentrates.
Georgia	6	Clays (kaolin), stone, cement, clays (fuller's earth), sand and gravel.
Hawaii	43	Stone, cement, sand and gravel, gemstones.
Idaho	31	Phosphate rock, silver, sand and gravel, molybdenum, gold.
Illinois	18	Coal, stone, cement, sand and gravel, crude oil, lime.
Indiana	21	Coal, stone, cement, sand and gravel, lime.
Iowa	30	Stone, cement, sand and gravel, gypsum (crude), lime.
Kansas	25	Crude oil & natural gas, cement, salt, stone, helium, coal.
Kentucky	28	Coal, stone, lime, cement, sand and gravel, crude oil, clays (ball).
Louisiana	32	Crude oil & natural gas, salt, sulfur (Frasch), sand and gravel, stone, coal.
Maine	46	Sand and gravel, cement, stone, peat.
Maryland	34	Stone, cement, sand and gravel, coal.
Massachusetts	40	Stone, sand and gravel, lime, clays (common).
Michigan	9	Iron ore, cement, sand and gravel, stone, crude oil, magnesium compounds.
Minnesota	7	Iron ore, sand and gravel, stone.
Mississippi	41	Crude oil, sand and gravel, cement, clays (fuller's earth), stone.
Missouri	10	Coal, stone, cement, lead, lime, zinc.
Montana	27	Coal, crude oil, palladium, copper, gold, cement, platinum.
Nebraska	42	Cement, sand and gravel, stone, lime.
Nevada	2	Gold, sand and gravel, silver, lime, diatomite.
New Hampshire	47	Sand and gravel, stone, gemstones.
New Jersey	38	Stone, sand and gravel, greensand marl, peat.
New Mexico	14	Crude oil & natural gas, coal, copper, potash, sand and gravel, cement, perlite.
New York	16	Stone, cement, salt, sand and gravel, zinc.
North Carolina	19	Stone, phosphate rock, sand and gravel, feldspar.
North Dakota	48	Coal, crude oil, sand and gravel, lime, stone, clays (common).
Ohio	13	Coal stone, sand and gravel, crude oil, salt, lime, cement.
Oklahoma	33	Crude oil & natural gas, stone, cement, sand and gravel, helium (Grade-A), coal.
Oregon	37	Stone, sand and gravel, cement, diatomite, lime.
Pennsylvania	11	Stone, cement, sand and gravel, lime.
Rhode Island	49	Stone, sand and gravel, gemstones.
South Carolina	23	Cement, stone, cement, sand and gravel, gold.
South Dakota	36	Gold, cement, sand and gravel, stone.
Tennessee	20	Stone, zinc, cement, sand and gravel, clays (ball), coal.
Texas	5	Cement, stone, sand and gravel, coal, lime, salt.
Utah	8	Copper, crude oil, magnesium metal, gold, sand and gravel, cement.
Vermont	44	Stone, sand and gravel, talc and pyrophyllite, gemstones.
Virginia	22	Coal, stone, cement, sand and gravel, lime, clays (fuller's earth).
Washington	24	Sand and gravel, stone, magnesium metal, cement, gold.
West Virginia	39	Coal, stone, cement, sand and gravel, lime, salt.
Wisconsin	35	Stone, sand and gravel, lime.
Wyoming	12	Coal, crude oil & natural gas, soda ash, clays, helium (Grade-A), cement, stone.

* Rank in value, not counting coal, oil and natural gas



Source: *Oil and Gas Fields Map*. Mineral Information Institute. 17 November 2008 <http://www.mii.org/pdfs/study/StudyoftheEarth.pdf>.

Lesson 7 Graphic Organizer



Big Ideas of Lesson 7, Unit 3

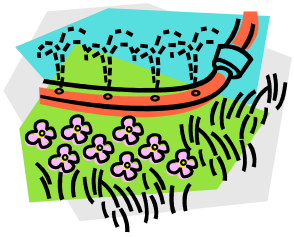
- When people use natural resources for human activities like farming, mining, lumbering, and manufacturing, they modify (or change) the environment.
- Changes to the environment have positive and negative effects.
- Environmental issues relating to changes in the environment include irrigation of desert areas, urban growth, construction of dams, open pit mining, and clear cutting of forests.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Human/Environment Interaction – Word Card #3 from Lesson 1
- Natural Resources – Word Card #15 from Lesson 6
- Modifying the Environment – Word Card #18 from Lesson 6

19
irrigation



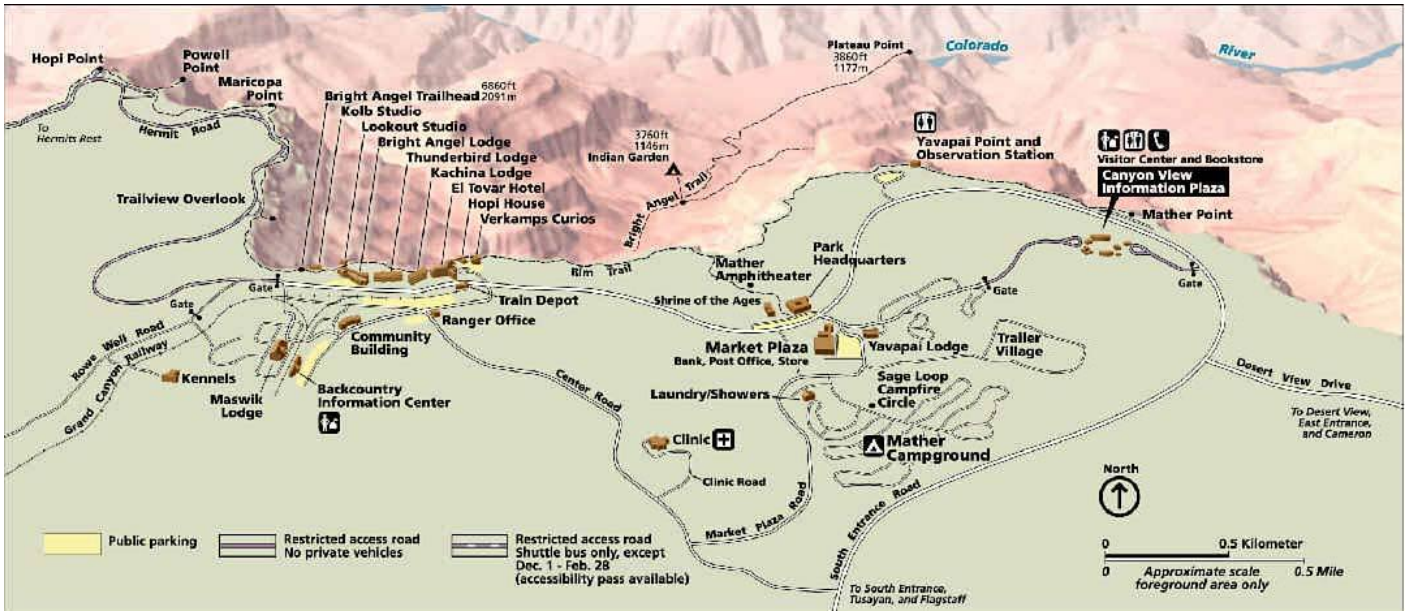
supplying dry land with water by using things like ditches and pipelines

***Example*:** Irrigation is an example of how people modify to a dry environment.

MICHIGAN ENVIRONMENTAL HISTORY TIMELINE

Industry and farming continued to grow. New chemicals like PCBs and DDT were used. Air and water pollution increased.	A lumbering boom began. Mature forests were clear-cut for logging. Acres of stumps were left behind. Sawmills left streams and bays clogged with sawdust. By 1900, 92% of the native forests of Michigan had been logged.	American Indians used the natural resources they found, but did not change the environment in major ways.
Europeans came for fur-trading. As a result the number of fur-bearing animals was greatly reduced.	In the 1900s manufacturing became increasingly important. The number of factories increased.	The water quality in the Great Lakes decreased. This is especially true of Lake Erie, which was declared a “dead lake” in the 1960s.
Factories began to dump waste into rivers. This polluted one river after another.	As manufacturing grew, so did cities. Urban problems included the dumping of sewage into lakes and rivers.	In the early 1800s, people began to settle in Michigan for farming. They cleared forest land. As land was plowed, the soil was exposed and wasted away quicker.

Grand Canyon South Rim Village Map



Source: http://www.nps.gov/grca/planyourvisit/upload/north-rim-map.pdf

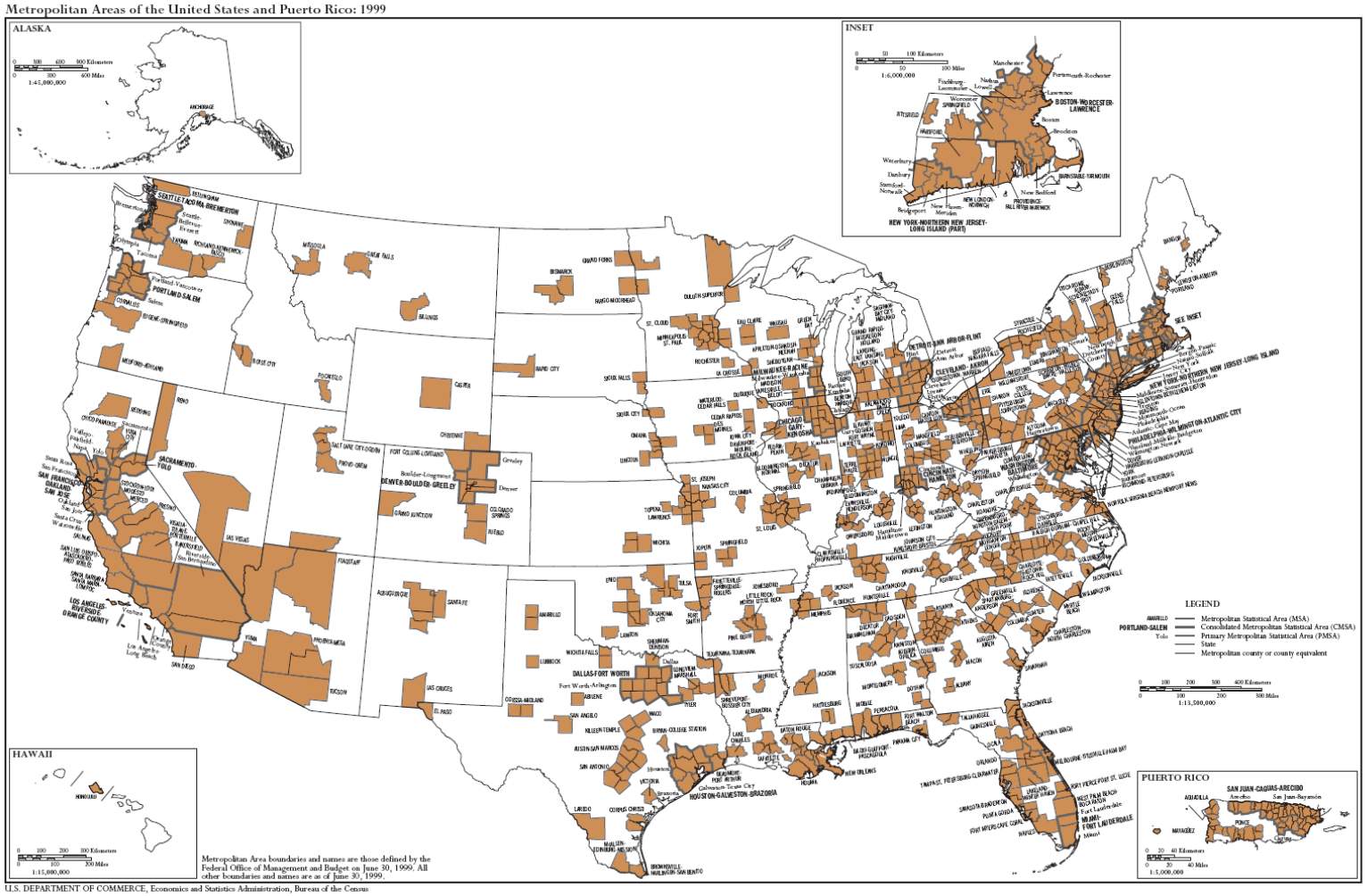
1910

Source: <http://www.latimes.com/travel/la-trw-westerncanyons-pg,0,6099700.photogallery?index=2>.

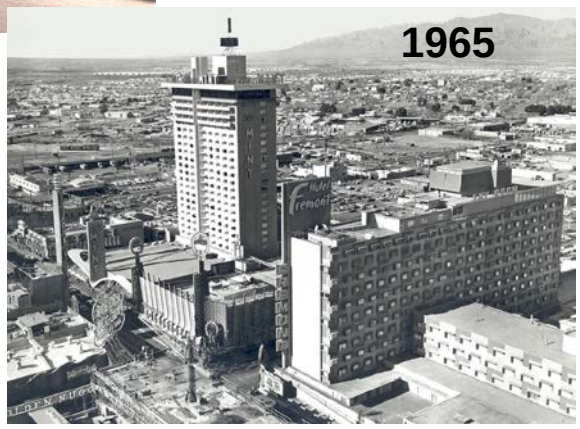
NOW

Source: <http://www.silverspurtours.com/gfx/grand-canyon-village.jpg>.

Metropolitan Areas of the United States

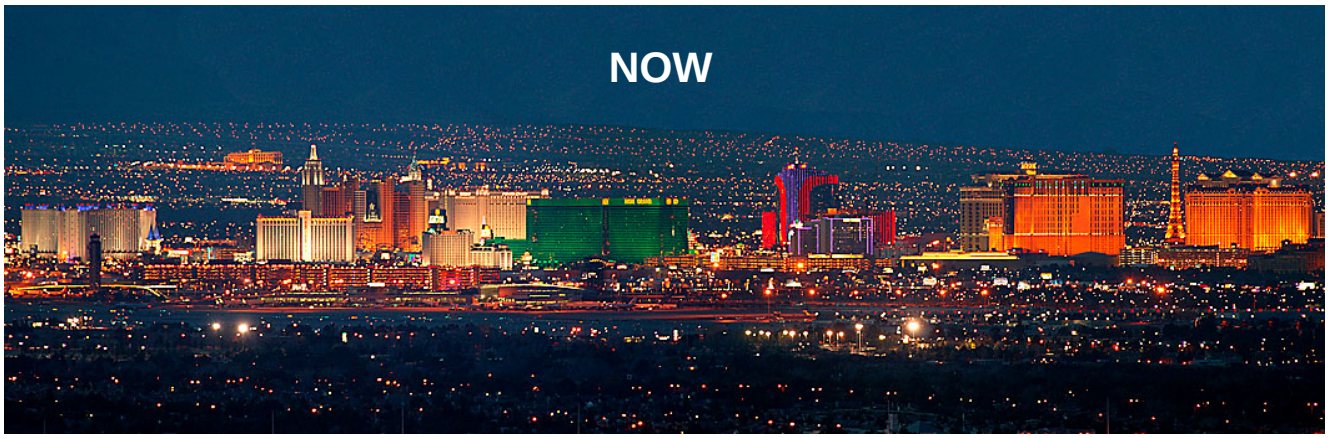


Source: <http://www.lib.utexas.edu/maps/united_states/us_metro_area_99.pdf>.

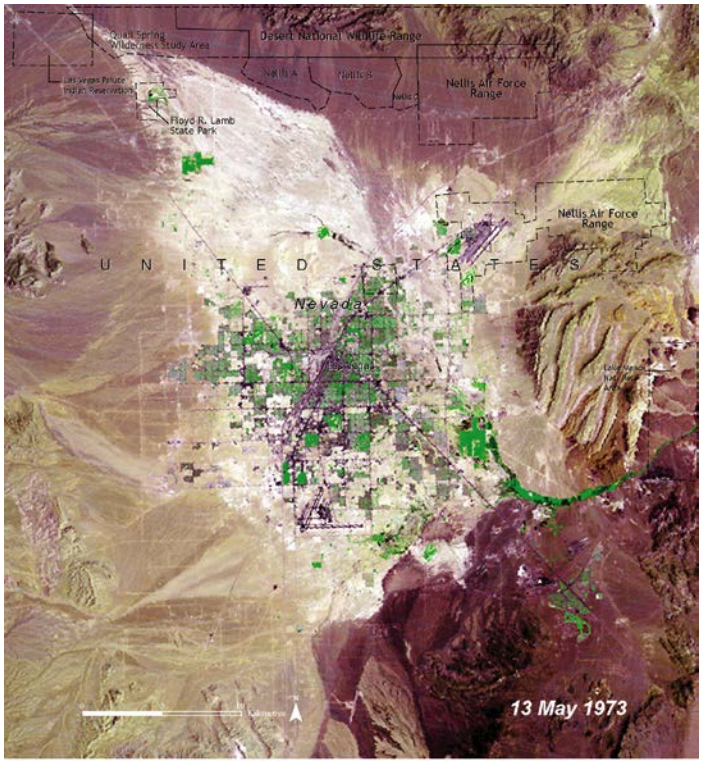


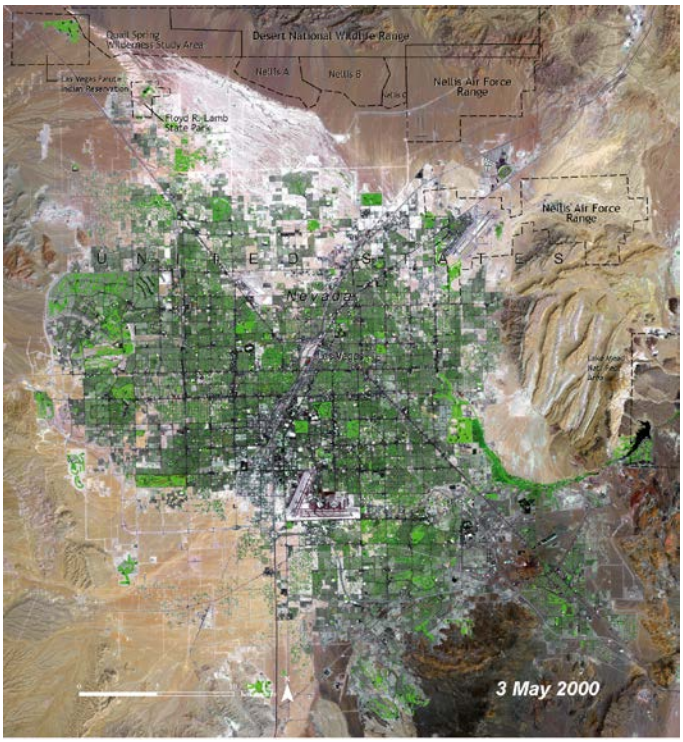
Photographs of Las Vegas

Source: <http://www.earlyvegas.com/early_downtown_vegas.html>.



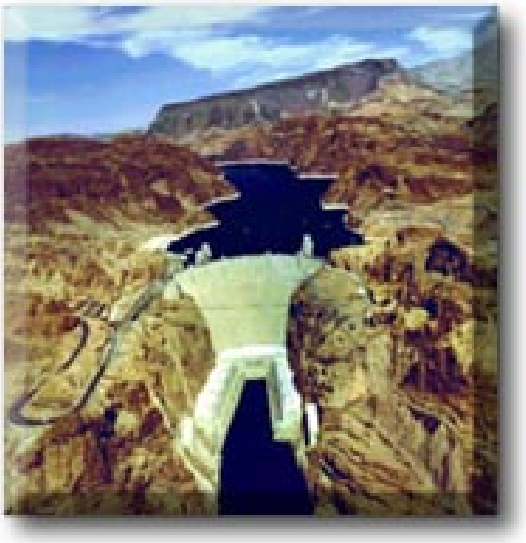
Satellite Images of Las Vegas





Source: <http://edcwww.cr.usgs.gov/earthshots/slow/tableofcontents>.

Hoover Dam and Lake Mead

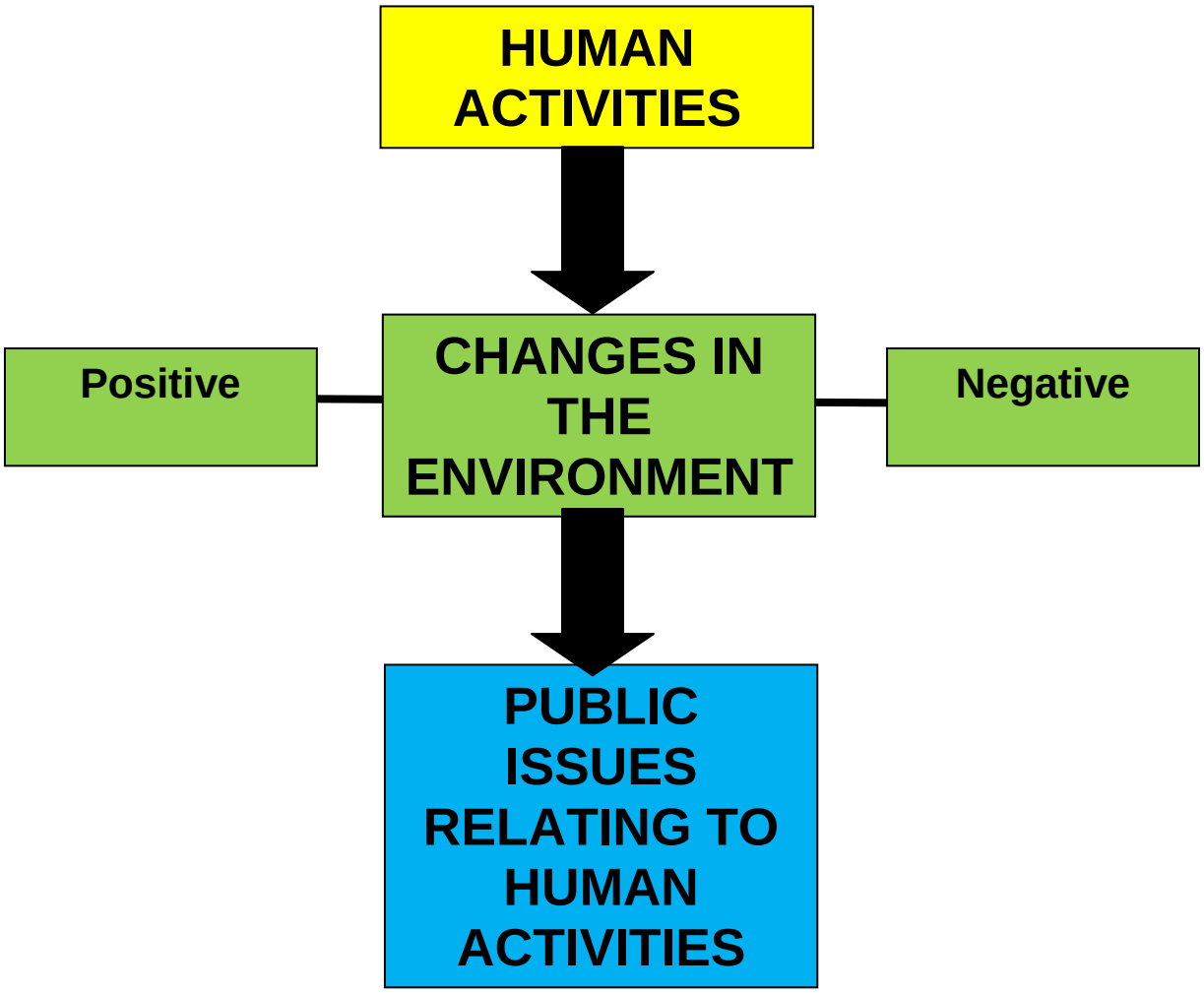


Source: <http://www.hprcc.unl.edu/nebraska/Lake-Mead-2007.html>

Gathering Information

Topic	
What changes were made to the environment?	
Positive Consequences	
Negative Consequences	

Lesson 8 Graphic Organizer



Big Ideas of Lesson 8, Unit 3

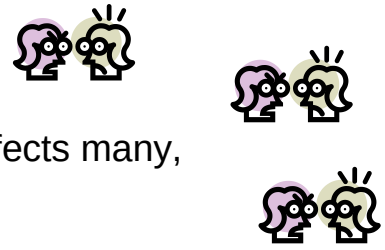
- Human activities such as mining, drilling for oil, constructing dams, diverting water, and expanding cities result in changes to the environment.
- Since environmental changes can have negative consequences, people often disagree about how to control these activities.
- Disagreements about how to solve problems caused by environmental changes may become public issues.

Word Cards

Word Cards from previous lessons needed for this lesson:

- Human/Environment Interaction – Word Card #3 from Lesson 1
- Modifying the Environment – Word Card #18 from Lesson 6

19
public issue



an issue that affects many, many people

***Example*:** Public issues are often related to environmental issues like offshore drilling and water diversion.

Newspaper Article #1

Mark Sayre, Investigative Reporter

White Pine County Fights Water Pipeline

Updated: Sep 15, 2006 10:28 AM EDT

Las Vegas is growing by the minute, and so is our need for water. Officials say we need another source to draw from, and they want to pipe it in from rural Nevada counties.

Water officials are considering a pipeline from White Pine County but not everyone there is thrilled about the idea.

In White Pine County along the Nevada Utah border, residents are not giving up hope that they can stop what they are calling Clark County's water grab.

Baker, Nevada with a population of 175 sits above one of the ground water basins Southern Nevada wants to tap.

Residents there are objecting to the pipeline. They plan to speak out when state officials plan take testimony on Friday about the pipeline plan.

"Because we have no money and we cannot compete with the Southern Nevada Water Authority, the media and these public comments are the only way we have any real impact," said Denys Koyle, White Pine County resident.

Residents are not mincing any words about how they feel about the SNWA.

"They are going suck every nice place in the state dry," said Cecelia Shipp, Utah resident.

The SNWA wants to tap six underground basins in Lincoln and White Pine Counties and build a 250-mile pipeline to Las Vegas. Despite assurances to Southern Nevada officials to the contrary, residents here fear such a plan will draw down their water basins which they depend on for livestock, crop and survival.

"They just see us as their solution and we do not see us as their solution. I am sure if there was a closer basin they would have picked that first," Said Tonia Harvey, White Pine County resident.

The testimony on Friday will be heard by the state water engineer who will make the final decision on the pipeline plan. He will also hear directly from White Pine County leaders next week as they head to Carson City.

Source: *White Pine County Fights Water Pipeline.* Las Vegas Now. 23 November 2008 <http://www.lasvegasnow.com/global/story.asp?s=5412769>.

Looking at Both Sides of an Issue

Public Issue: _____

_____

YES	NO

Analyzing Quotations

"I think a large-scale diversion of water from the Great Lakes is fairly likely sooner than later," said Noah Hall, an environmental law professor with Wayne State University in Michigan. "There are a lot of frightening developments out West and in the Southeast and the climate change models don't offer much hope."

David Naftzger, executive director of the Council of Great Lakes Governors, said a water grab is virtually assured.

"Look at a map showing water shortages and population growth and see how they match up," he said. "Now look at us and you can see a concern that, as time moves on, those areas will be looking at the Great Lakes to bring them water -- either through a tanker, pipeline or natural channels."

Newspaper Article #2

Pact puts plug on Great Lakes water diversion

Posted Oct 14, 2008 @ 08:00 AM

Rochester, N.Y. —

It is now federal law that water in the Great Lakes and St. Lawrence River Basin cannot be diverted to other parts of the country or the world — other than what is included in previous agreements.

President George Bush on Oct. 3 signed the Great Lakes-St. Lawrence River Basin Water Resources Compact, which had been ratified by the eight affected states — including New York — and the Canadian provinces of Ontario and Quebec.

More than 10 years in the making, the compact prohibits most new and increased diversions of water and calls for registration of water withdrawals of 100,000 gallons a day or more in any 30-day period.

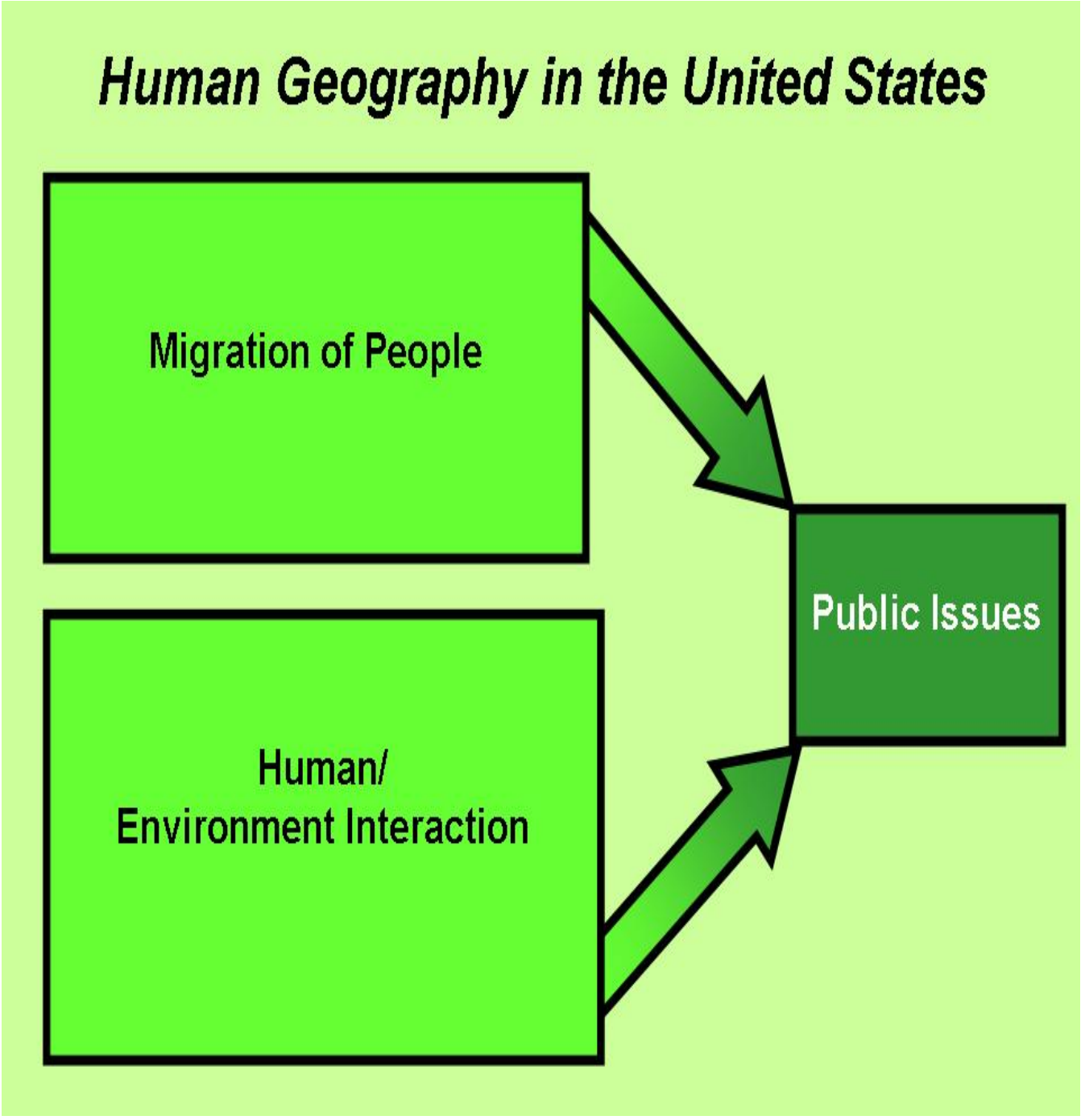
“Overall, the compact is intended to sustain, over long term, the current water supplies and levels of the Great Lakes,” said Don Zelazny, Great Lakes programs coordinator with the state Department of Environmental Conservation.

“It’s going to accomplish that by banning any new or increased diversions of water, which would be a major threat to the system,” he said. “The fact that we were able to get all eight states and two provinces to agree to a ban and how we would manage the resource was a pretty significant step.”

The other states are Illinois, Indiana, Michigan, Minnesota, Ohio, Pennsylvania and Wisconsin, all of which border at least one of the five great lakes: Ontario, Erie, Huron, Michigan and Superior.

Source: *Pact puts plug on Great Lakes water diversion.* MPNnow.com. 23 November 2008 <http://www.mpnnow.com/news/x502300365/Pact-puts-plug-on-Great-Lakes-water-diversion>.

Unit 3 Graphic Organizer



Unit 3 Vocabulary Words