

Lesson Title: Climatic Regions of the United States and the Activities to do.

Lesson Author: Stephan Betins – sbetins@cape.k12.de.us

Lesson Description: This lesson requires the students to label climatic regions, discuss what activities you would do in those climates, and explain why it is possible to participate in those activities. The students will create a choropleth map. (“Choro” means place. “Pleth” means value.)

Grade Level: 4-5

Standard: Geography 2 - Environment

End of Cluster Expectations (Benchmarks): Students will apply knowledge of the climate of the United States to understand how human society is affected by the physical environment.

Assessments: (DSTP type) 1 constructed response and 1 multiple choice attached. This assessment should give evidence of the student’s ability to choose from different climate types.

Focus Question: Where is a good location to hold The Winter Olympics in the United States?

Objective(s): By the end of this lesson the students will be able to

- Use charts and graphs to determine climate and how we are affected by it.
- Use pictures (see visuals 1-2-3) to determine how climate allows what is seen in the photo.
- Create a choropleth map using climatic scales.
- Explain why some crops and activities are localized to specific areas due to climate.

Link to Additional Standards: Geography 1.

Prior Knowledge and Skills: Students will need to know the definition of *topography- the physical or natural features of an item*. They will need to have a basic understanding of the different types of climates of the world and of the United States. The students will also need to have an understanding of what a *region* (a geographical area(s) that has similar features) is. The students will also need to know how to read a map and graph.

Time to Complete: two 45-minute - 1 hour periods

Materials/resources needed:

- *Visual 1 – Desert Region (Hot/Warm)
- *Visual 2 – Seasonal Region (Moderate)
- *Visual 3 – Arctic Region (Cold)
- Overhead Projector
- Overhead Markers (yellow, orange, red)
- *Handout 1 – U.S. map with state borders

*Handout 2 – Average State Temperatures

*Handout 3 – Chart of Activities

Three different colored highlighters per group (yellow, orange, red)

Pencils

Loose-leaf paper for each student

***transparencies needed of these items**

Procedure Steps:

1. Using visuals 1, 2, & 3 on the overhead projector, review the different types of extreme climates. Ask questions such as what is growing here? (*cactus, trees, nothing*). What activities can you do here? (*swimming, skiing, hiking*). Guide the students' thinking to realize that there are extremely different vegetation types and activities to do in each of the regions on the transparencies.
2. Label each transparency according to the type of region. Visual 1 is the warm/hot region, visual 2 is the moderate region, and visual 3 is the arctic/cold/cool region. Discuss the vocabulary of cold/cool, warm/hot, and moderate. The point of this step is NOT to get a good definition – it is just to review the different types of climates
3. Discuss what the temperature range for each climate zone would be and label each transparency accordingly. Cold/Cool = 0-55; moderate = 56-70; warm = 71-90. The students will need this information for steps 8-10.
4. Discuss how different climate regions produce very different crops. (For example, Florida [hot] is able to produce oranges while Washington State [cool] produces some of the best apples.)
5. Divide the students into groups of three by counting off by threes. For example, 1,2,3 is one group, 1,2,3 is another group, 1,2,3 is another group, etc...
6. Distribute **Handout 1 – US Map** and **Handout 2 – Average State Temperatures**. (Teacher should have a transparency copy.) Using this map the students will highlight (by coloring in the states) the different regions of the US according to the temperatures on handout 2.
7. Explain to the students what a choropleth map is a place value map that shows temperatures, topography, regions, etc... Explain that higher numbers get darker colors and lower numbers get lighter colors. Ask – “Given yellow and black as colors, what colors would 13 and 72 get?” (*13=yellow; 72=black*).
8. Discuss and brainstorm titles for the map. *Suggested titles may be Average State Temperatures or Temperature Regions of the United States*. You will write the title on your transparency and the students will write the title on their map.
9. Using the transparency of the US map and the students having their copies, demonstrate where they need to write the temperature ranges.
10. You will write 71-90 on the overhead in the blank next to warm and color the box next to warm red. The students will write 71-90 on the warm blank and highlight the box next to the word warm in red.
11. You will write 56-70 on the overhead in the blank next to moderate and color the box next to moderate orange. The students will write 56-70 in the moderate blank and highlight the box orange.
12. You will write 0-55 on the overhead in the blank next to cold and color the box next to cold yellow. The students will write 0-55 in the cold blank and color the box yellow.

13. The students will use the definitions of cold, moderate and warm from step 3 and use the chart to determine each states color.
14. As you monitor the activity make sure the students are highlighting the proper spaces on the map (the middle states are moderate, the southern states are warm, and the northern states and a few of the middle states are cold). Make sure that the students realize that the lines between each type of climate are not actually at the state border. There are other factors, such as altitude, nearness of large bodies of water, etc. that affect the type of climate in a region. For this exercise students will use the **average** temperature in a state.

The list below shows which states will be yellow, orange, and red.

Yellow

Alaska, Colorado, Illinois,
 Kansas, Maine,
 Massachusetts, Michigan,
 Minnesota, Montana,
 New Hampshire, New York,
 North Dakota,
 Rhode Island, Vermont,
 Wisconsin, Wyoming

Orange

California, Connecticut,
 Delaware, Idaho, Indiana,
 Iowa, Kentucky, Maryland,
 Missouri, Nebraska,
 New Jersey, New Mexico,
 Ohio, Oregon, Pennsylvania,
 South Dakota, Utah,
 Virginia, Washington,
 West Virginia

Red

Alabama, Arizona, Arkansas,
 Florida, Georgia, Hawaii,
 Louisiana, Mississippi,
 Nevada, North Carolina,
 Oklahoma, South Carolina,
 Tennessee, Texas

15. The creation of the choropleth maps will take the end of **day 1 and the beginning of day 2.**
16. Add a compass rose to the left of your overhead map and have the students add one to theirs. (see map key)
17. When they have completed their maps, take a few minutes to discuss with the students. What do they realize? (*the north is colder, the middle is moderate, and the south is warmer.*) Why do you think this? (*The north is closer to Canada and the North Pole which is an arctic climate. The south is closer to the Equator. The middle is the buffer zone between the two regions.*) Are there different activities to participate in inside of each region? (*yes*). Like what? (*Let the students tell you which activities there are. For example – cold=skiing, moderate = hiking, warm=swimming outdoors*)
18. Distribute **Handout 3 – Chart of Activities**. (Teacher should have transparency copy.) Using this chart the students will fill in what types of activities are possible in different climates. (*For example, the cold climate should have activities like skiing, tobogganing, ice skating; moderate should have activities like hiking and farming, warm should have activities like outdoor swimming and tree climbing.*)
19. On the loose-leaf paper each student is responsible for writing down why the activities are available in certain regions. The responses should be descriptive and include reasons for the selection. For example: *“There are more days of cold weather, so there is likely to be more snow, and more snow means skiing.”* As you monitor this part, make sure that the activities being listed are reasonable and climate-related.
20. After the students complete their charts discuss the various activities of the regions. Ask such questions as:
 “Why would people be more likely to go swimming in California than in Maine?”
 (warmer climate and warmer water). “If the temperature in Florida was much like that of

Maine what activities would be available then?" (skiing, ice skating, winter activities).
Which region has autumn as a distinct season?" (moderate). If the moderate became hot
year round would the leaves still fall?" (no).

21. Have the students create questions to ask their classmates.

22. Closure

Generalizations- have the students make some generalizations about what they learned
from this lesson. (*For examples:*

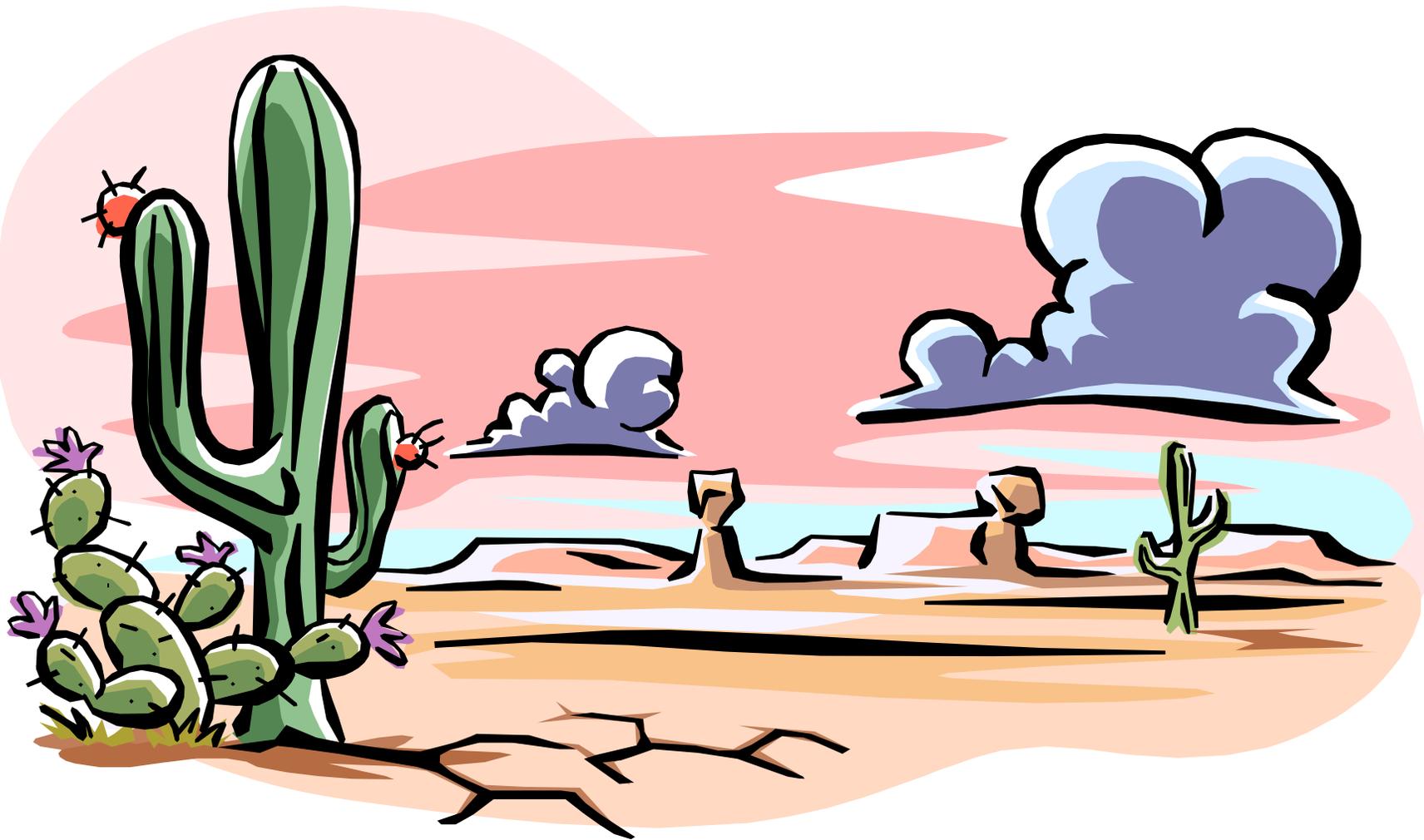
- a. *That people can participate in different activities in the different climates.*
- b. *That the further from the equator the colder the climate.)*

Tips for the Teacher:

For step 1 – you may want to have pictures of different climates for verification and response.
If the students have trouble locating the abbreviated states having a copy or a wall map of the US
with full state names can help.

Citations:

All visuals were taken from Microsoft Corporation's Clipart
Map – www.nationalgeographic.com/xpeditions







Name (Author) _____ Date _____ Grade _____

(title)



Legend (key): _____ warm _____ moderate _____ cold

Name (Author) _____ Date _____ Grade _____

Average Temperatures of the United States
(title)



Average State Temperatures

State	Average Temperature °F	State	Average Temperature °F
Alabama	73	Montana	54
Alaska	45	Nebraska	61
Arizona	82	Nevada	81
Arkansas	72	New Hampshire	54
California	70	New Jersey	61
Colorado	54	New Mexico	59
Connecticut	59	New York	55
Delaware	57	North Carolina	72
Florida	79	North Dakota	55
Georgia	72	Ohio	64
Hawaii	79	Oklahoma	72
Idaho	63	Oregon	61
Illinois	55	Pennsylvania	61
Indiana	61	Rhode Island	55
Iowa	61	South Carolina	73
Kansas	54	South Dakota	57
Kentucky	66	Tennessee	72
Louisiana	77	Texas	75
Maine	54	Utah	63
Maryland	57	Vermont	54
Massachusetts	54	Virginia	57
Michigan	55	Washington	57
Minnesota	45	West Virginia	70
Mississippi	75	Wisconsin	54
Missouri	64	Wyoming	54

Name _____ Date _____

Type of Climate →	Cold	Moderate	Warm
Activities Available at this Climate			

Name _____ Date _____

Social Studies Assessment – Constructed Response
 Lesson Title: Climatic Regions of the United States

Cluster: Gr. 4-5
 Geog. Standard 2

Benchmark Statement: Students will apply knowledge of climate and vegetation of the United States to understand how human society is affected by the physical environment.

The Times Newspaper

Drastic Climate Change!

Scientists expect that the climate of the Southeast will quickly resemble the climate of Maine.

Type of Vegetation	Climate for Growing
Cotton	Hot
Corn	Moderate
Soybeans	Moderate
Pineapple	Hot
Blueberries	Cold
Bananas	Tropical

You are a cotton farmer in Georgia. Georgia is currently the leading producer of cotton. Now that the climate has changed use the table above and choose a crop that you will be able to farm. Explain why you made your choice.

Rubric

- 2 – This response gives a valid crop with an accurate and relevant explanation.
- 1 – This response gives a valid crop with an inaccurate, irrelevant or no explanation.
- 0 – Inaccurate response.

Name _____ Date _____

Social Studies Assessment – Multiple Choice
Lesson Title: Climatic Regions of the United States

Cluster: Gr. 4-5
Geog. Standard 2

Benchmark Statement: Students will apply knowledge of climate of the United States to understand how human society is affected by the physical environment.

Data

For Sale in South Florida

**Campsite with four cabins,
located near the ocean.**

Prompt: Harry Higgins wants to start a surfing camp. Camp sessions will be held from September through June. Why might this property serve his needs?

- a. The climate of the region is dry.
- b. The climate of the region is cool.
- c. The climate of the region is warm.
- d. The climate of the region is humid.

Social Studies Assessments – Key
Lesson Title: Climatic Regions of the United States

Cluster: Gr. 4-5
Geog. Standard 2

Benchmark Statement: Students will apply knowledge of climate and vegetation of the United States to understand how human society is affected by the physical environment.

Possible Desired Responses for Short Answer

I would choose to plant blueberries because blueberries can withstand the cooler temperatures of the new climate.

OR

I would choose to plant blueberries because blueberries grow well in Maine.

Multiple Choice Assessment
Correct answer is C