

## **The Gang of 14**

### *A Game for Teaching World Climates*

#### **Description:**

This game helps students learn about world climate types, climatic data, climographs, and climate classification in an interesting and engaging manner. Students will try to “round up” a gang of spies located in 14 cities around the world. Fourteen sets of clues, one for each city, will help the student find the location. This spy ring, known as “The Gang of Fourteen,” has placed a large bomb in a fifteenth city. None of the 14 spies knows the location of the bomb, but each has a partial clue to its whereabouts. Each time the students find one of the Gang of Fourteen, they receive that spy’s information about the city where the bomb is located. Teams of students work to solve this problem of international espionage, and the first group to correctly locate the bomb is the winning team.

#### **Grade Level:**

High School

#### **Class Time Required:**

One class period

#### **Learning Outcomes (objectives):**

When students finish this activity they will be able to:

1. Demonstrate knowledge of the Köppen system of climate classification, and the controls of climate, by using this information to determine place locations.
2. Locate places through analyzing climatic data shown on a climograph.
3. Read and interpret a climograph.
4. Locate places through the longitude and latitude coordinate system.

#### **TEKS, World Geography Studies:**

3A explain weather conditions and climate in relation to annual changes in Earth-Sun relationships

3B describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes

4A explain how elevation, latitude, wind systems, ocean currents, position of a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

8B describe the interaction between humans and the physical environment and analyze the consequences of extreme weather and other natural disasters such as El Niño, floods, tsunamis, and volcanoes

9A identify physical and/or human factors such as climate, vegetation, language, trade networks, political units, river systems and religion that constitute a region

21B locate places of contemporary geopolitical significance on a map

21C create and interpret different types of maps to answer geographic questions, infer relationships, and analyze change

22C use geographic terminology correctly

#### **National Geography Standards:**

1. Knows how to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.
2. Knows and understands the physical and human characteristics of place.
3. Knows and understands that physical processes shape patterns of the earth’s surface.

**Skills:** This learning activity requires the student to:

- Ask geographic questions
- Acquire geographic information
- Organize geographic information
- Analyze geographic information
- Answer geographic questions

**Fundamental Themes:**

Location

Place

Human Environmental Interaction

Movement

Region

**Related Learning Opportunities:**

Math

History

Current events

Earth Science

**Classroom Procedures:**

Successful student participation requires previous knowledge and mastery of several basic geographical skills. To play, students must be able to locate a place by longitude and latitude, and to interpret climatic station data displayed on a climograph, a graph of annual temperature curves and monthly precipitation totals. Students use *Goode's World Atlas*, pages with the climatic zones, for a description of world climate types, and to assist in place location. It is not necessary for students to memorize Köppen's system, as a description of world climatic types and climatic controls will be sufficient for students to compete in this activity. The teacher should group students as necessity dictates: Groups of three work well.

*Scenario – Read the following set of instructions to the students:*

1. "Your group is trying to locate a bomb placed in an unknown city by the Gang of Fourteen, a notorious spy ring."
2. "No spy knows the precise location of the bomb, but each spy in the Gang of Fourteen has a partial clue to its location."
3. "I will now give you a set of climographs which will help you locate members of the spy ring."  
*Note: Teacher now hands out the climographs.*
4. "Each set of clues I will pass out refers to one of the cities featured on these climographs."  
*Note: Teacher will need to print out enough clues (usually 10 sets of each) on paper or cardstock. Cut the strips where only one clue is on each strip then laminate them for use in each class.*
5. "A set of clues will be revealed every 2 minutes. Your group may work on any set of clues in any order."
6. "As soon as your group can correctly match a set of clues to one of the cities listed on the sheet of climographs, write the name of the city next to the clue set number on your group's sheet of paper. Present it to me. *Note: Students come up to the teacher in an orderly manner.*
7. "If you have correctly identified the city, then you have captured the member of the Gang of Fourteen hiding in that location and that spy has revealed his/her information about the location of the bomb to you."

8. "I will hand you the new clue for you to take back to your group. Be sure no other group gets access to this secret information." *Note: I usually take the climograph city clue from them when they come up to reveal that city. This helps me get the clues ready for the next class. Students will need to piece together the different spy clues to find the location of the bomb.*
9. "After eight rounds and you think that your group can correctly identify the city in which the bomb is located, write the name of the city on the bottom sheet of your paper and bring it up to me any time during the game. There is no penalty for an incorrect guess. The first team to correctly identify the city in which the bomb is located wins the game." *Note: I tell the students that they can start guessing the location of the bomb after the eighth clue. This will give the groups more practice working with the atlas and climographs. **Reminder to teacher: the bomb is not in any of the cities listed on the climographs.***
10. "Each group should now open their *Goode's World Atlas*, and large world map. Have your answer sheet ready with all the group members' names on it."
11. "I will now reveal clue number one and will reveal a new set of clues at two minute intervals." *Note to teacher: No attempt has been made to equalize levels of difficulty among the clue sets. Some of the clues may prove to be challenging. It is intended that once sets of clues have been revealed, they will be available to groups until the activity ends. You may also have some groups that have some difficulty at first and may have to go and work with them to get them started. Usually they will get the hang of it and work together as a group. As students identify the cities represented by the clue set, they have "captured" one of the members of the Gang of Fourteen hiding in that city. As a reward, you will give them the spy information associated with the appropriate clue set. **Answer: The spy information will lead the winning team to find the hidden bomb in Casablanca, Morocco.***
12. Some suggestions to help the teacher avoid problems during the activity.
  - a. Have everything ready to go before class starts. Move your desks where 3 to 4 students will be sitting at each group.
  - b. Either assign their groups before they come into class or give them a number when they come in the door and they will sit where that number is displayed at the table.
  - c. Make sure all backpacks, books, purses, etc. are pushed under the table so the path is clear around the desks and no one is tripping over anything.
  - d. When you pass out the climograph sheets also give each group the sheet for them to write down their answers/guesses.
  - e. At the very beginning before you start the scenario have the group pick a transcriber (the one that writes the answers on the sheet), a runner (only one member from each group needs to bring up the clue to the teacher), which group member will work with the atlas and which one works with the large map. (ideally they will all work together to find the answers to the clues)
  - f. Remind them that they are in competition with each group so they must guard their clues carefully.
  - g. **Important:** Last but not least, inform them that if anyone gives the answer to any other class during the day that this will be the last "game" that we play. This works well because you can tell if the answer has been given out if they are able to get the correct answer before the 12<sup>th</sup> clue.

### Materials:

*Goode's World Atlas*

Large political World Map (usually 3' x 2 1/2') NGS has these maps for a reasonable price

Sets of clues for finding the Gang of 14

Sets of clues for spy information for the Gang of 14

Finding the Gang of Fourteen answer sheet

*Optional:* Both sets of clues can be cut into strips to pass out (set of 10 for each)

**Evaluation:**

Students can be evaluated on their success or failure in determining correct locations. In cases where a set of data does not sufficiently discriminate between two locations, students can be evaluated as successful if they can justify their response.

**Extensions:**

Have students develop their own “Gang of 14” applied to different cultures of the world. Using types of dress, housing, transportation, money, food, etc.

**References:**

Espenshade, Edward B. Jr. Ed., 2008, *Goode’s World Atlas*. Rand McNally, New York.

Montgomery, Richard, Peggy Weyel, and James Petersen, 1988, “The Gang of Fourteen – A Game for Teaching about World Climates.” *Journal of Geography*, vol. 87, no. 5, pp. 174-178.

*Note:*

This lesson was originally developed by Rick Montgomery and Peggy Weyel working with James Petersen of Southwest Texas State University (aka Texas State), at a Texas Alliance for Geographic Education (TAGE) Summer Institute in 1987. The activity was later refined and reviewed for publication in the *Journal of Geography* (as cited above)

This version has been further modified, expanded, and brought up-to-date in terms of the National Standards in Geography, and new World Geography TEKS by Linda L Hammon.

*\*Lesson from Texas Alliance for Geographic Education Summer Institute 1987*

## Clues to Finding the Gang of 14

### Set #1

1. The city is located between 40°N and 50°N, elevation is over 1000 ft.
2. Rainfall (precipitation) is less than 30 inches per year
3. Temperature range is from about 20°F (low) to almost 80°F (high)
4. Climate is humid continental with a warm summer

### Set #2

1. Site is located in the western hemisphere, below 1000 feet elevation
2. Rainfall in June averages almost 4 inches
3. Temperature averages 50°F in October
4. Climate is mid latitude steppe

### Set #3

1. Located between 25°N and 35°N, less than 50 feet above sea level
2. Moderate rainfall can be expected year round, a bit more in the summer
3. Temperature averages include: December, 50°F and May, 72°F
4. Climate is humid subtropical

### Set #4

1. This city is located in the eastern hemisphere, elevation near sea level
2. Rainfall rates are lowest in the summer months.
3. Temperature range (warmest month minus coldest) exceeds 30°F
4. Climate type is Mediterranean

### Set #5

1. Located between 30°S and 40°S, below 1000 feet elevation
2. December is warmer than July, and winters are wetter than summer
3. Temperature range (warmest month minus coldest) is less than 25°F
4. Climate type is Mediterranean

### Set #6

1. Located in the southern hemisphere, at or below 1000 feet elevation
2. Precipitation is 10 inches or less for the year
3. No month averages above 32°F
4. Climate type is ice cap

### Set #7

1. Elevation is between sea level and 200 feet
2. Average annual temperature does not exceed 30°F
3. Precipitation averages less than 20 inches in every month
4. Climate has at least four months that average above freezing

**Set #8**

1. Elevation is not over 1000 feet
2. This location has an extremely large annual range of temperature
3. Precipitation amounts are less than 2 inches for each month
4. The climate is classified as sub-arctic

**Set #9**

1. Elevation is not higher than 500 feet, latitude is 56°N
2. Temperature variation over the year is small
3. Rainfall occurs throughout the year, constantly moist
4. The climate type is marine west coast

**Set #10**

1. This site is in the northern hemisphere
2. Elevation is 1000 feet
3. Average annual temperature is 71°F
4. September is the wettest month of the year

**Set #11**

1. This site is in North America
2. Average annual rainfall is less than 10 inches
3. This place is in a warm desert, and no month averages below 40°F
4. July through September are the wettest months

**Set #12**

1. The longitude indicates that this place is in the eastern hemisphere
2. Elevation is less than 500 feet
3. The difference between the warmest and coldest months exceeds 40°F
4. Four months have no measurable rainfall

**Set #13**

1. This place is located within the tropics
2. The annual fluctuation of temperature is low
3. Although four months are dry, average annual rainfall is over 30 inches
4. Summer is the rainy season

**Set #14**

1. Site lies within 10 degrees of the equator
2. This place has very even temperatures, warm all year
3. Every month averages at least 4 inches of precipitation
4. The wettest month exceeds 20 inches

## Gang of Fourteen Spy Information

**Set #1:** This place is: **Omaha, Nebraska.**

Spy information is: Bomb is west of the Prime Meridian.

**Set#2:** This place is: **Pierre, South Dakota.**

Spy information is: Many people in the city speak French.

**Set #3:** This place is: **Charleston, South Carolina.**

Spy information is: Sorry, this spy was silenced before revealing anything.

**Set #4:** This place is: **Corinth, Greece.**

Spy information is: Bomb is in a coastal city.

**Set #5:** This place is: **Adelaide, Australia.**

Spy information is: Spy lies about the bomb being in South America.

**Set #6:** This place is: **Little America, Antarctica.**

Spy information is: Spy is too cold to talk, try again when she thaws out.

**Set #7:** This place is: **Vayach, Russia.**

Spy information is: Bomb is ten degrees north of the Tropic of Cancer.

**Set #8:** This place is: **Verkohoyansk, Russia.**

Spy information is: The spy is a tough guy and refuses to talk.

**Set #9:** This place is: **Fort William, Scotland.**

Spy information is: OOPS, this spy escaped.

**Set #10:** This place is: **Monterrey, Mexico.**

Spy information is: Bomb is in a city on the Atlantic Ocean.

**Set #11:** This place is: **El Paso, Texas.**

Spy information is: Bomb is in a city with a Spanish name.

**Set #12:** This place is: **Baghdad, Iraq.**

Spy information is: I know nothing, I saw nothing.

**Set #13:** This place is: **Ouagadougou (Wagaduga), Burkina Faso.**

Spy information is: Bomb is on the same continent as Ouagadougou.

**Set #14:** This place is: **Amboina, Indonesia.**

Spy information is: City is located 7 ½ degrees from the Prime Meridian.

# Finding the Gang of 14

Period \_\_\_\_\_

Group members: \_\_\_\_\_

\_\_\_\_\_

Clue #1: \_\_\_\_\_

Clue #2: \_\_\_\_\_

Clue #3: \_\_\_\_\_

Clue #4: \_\_\_\_\_

Clue #5: \_\_\_\_\_

Clue #6: \_\_\_\_\_

Clue #7: \_\_\_\_\_

Clue #8: \_\_\_\_\_

Clue #9: \_\_\_\_\_

Clue #10: \_\_\_\_\_

Clue #11: \_\_\_\_\_

Clue #12: \_\_\_\_\_

Clue #13: \_\_\_\_\_

Clue #14: \_\_\_\_\_

## *Location Guesses:*

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Climographs for the Gang of Fourteen



