

Geography & Climate: How does it affect people?

Introduction

This module will introduce to the students how data visualization may have advantages over other representations of data. Through guided inquiry, students will interpret population distribution, physical geography and climate data, hypothesizing correlations that they infer from the data. The module may be adapted for any unit of study, and can serve as an introduction to a region, helping the students gain understanding about the geography of the region.

Note: Prior to the activity, use the *Heterogeneous Grouping Data Table* to organize students into triads. Optimally, their inquiry group has been assigned to them in advance, and they have worked together prior to the activity. This will allow the teacher to observe student interaction and make any necessary changes.

Standard Indicators

- 7.1.18 Analyze cause-and-effect relationships, bearing in mind multiple causation, including the importance of individuals, ideas, human interests, beliefs, and chance in history.
- 7.3.5 Name and locate major regions, mountain ranges, river systems, countries, and cities in Africa, Asia, and the Southwest Pacific.
- 7.3.10 Describe the restrictions that climate and land forms place on land use in regions of Africa, Asia, and the Southwest Pacific, and be able to discern how patterns of population distribution reflect these restrictions.

Materials

For the teacher:

- Heterogeneous Grouping Data Table
- Foldable instructions for a Venn Diagram, found at <http://www.dinah.com/egroup/Dinah%20Zike%27s%20e-Group3.htm>
- An example of chalk talk can be found at: <http://www.fi.edu/htlc/teachers/adeshiqbin/chalk.htm>

For the students:

- BLM 1 Geography Activity: How does it affect people?
- Atlas that displays physical geography, climate, and population distribution.
- Foldable materials: construction paper, printer paper, scissors, glue, coloring utensils.

Activity

A. Activation of Prior Knowledge

1. Distribute BLM1 to the students. Instruct the class to complete “What’s your first thought?” quietly. This can act as a pre-assessment, giving insight into student prior knowledge and direction to how the activity may be modified to better accommodate learning needs. Based on the student needs, the activity may take several class periods to complete. Collect BLM 1 at the end of the first class period to assess student prior knowledge.
2. When the class is ready to move on, direct the students to turn to their inquiry group. Direct the student to the next section BLM 1, “What’s your group’s first thought?” As each group discusses their initial thinking, recording differences in their thinking, and possibly coming to some consensus, survey each group. Based on group responses, it may be a good idea to record student ideas for use as a catalyst during the class discussion.

B. Question Generation and Inquiry

1. Inform the class that they are now going to test their initial thinking. They will be using a foldable to organize what they are learning into a format that will allow them to compare data. Instruct each group to send someone to retrieve the assembly materials (scissors, glue, and coloring utensils), paper (if available, larger paper, 12 x 18, is suggested).
2. Have the assembly materials and paper located at two different centers in the room; this will allow students to retrieve what they need without disrupting other groups. Model for the students the construction of the foldable. While the model presented on Dinah Zike's website is designed for a Venn diagram, it easily allows the comparison of any three sets of information, in this case, three maps.
3. If the students have not used a foldable before, a little time will be needed to invest in the use of this type of graphic organizer. Model each step of the foldable construction by showing the students what they are to do. By creating a new foldable for each class, through the modeling process, extras will be available in the case of student absence. Allow students to work ahead and to collaborate, to facilitate the construction of the foldable.
4. Inform the students that they will now create three separate maps of Southwest Asia: the first will show physical features (mountains, deserts, forests, hills, etc. – an opportunity for differentiating the activity may be to have the map incorporate elevation), the second will display rainfall data for the region, as well as fresh water sources, and the third will show population distribution, including major cities.
5. Student inquiry may use a variety of resources. Many textbooks include atlases with the information the students require. The internet may also prove to be a valid source. The process of gathering data and completing their foldable may take students some time; this may be alleviated to a degree by requiring time spend outside of school and time given during the course of the class period. Teacher knowledge of the student will help to decide what the best course of action is.
6. When a student completes their foldable, they should complete the "Gathering Information" questions. Once this has been completed, the student should complete the "Conclusion & Summary" independent of their inquiry group. This will allow each student to interpret the data they have collected critically, and develop their own conclusions without the biases of their peers.

C. Class Discussion

1. Begin class discussion with "chalk talk". This form of discussion is done via writing, rather than talking. In the center of the board, record the question: What relationship is there between physical geography, climate, and where people live? Students will come to the board in groups of four, recording their thinking about the topic. Other students will volunteer by raising their hand, and waiting patiently until selected by a student at the board who finished with their contribution. As the discussion develops, students should connect their ideas to others, creating a "web". Allow the activity to continue until the discussion wanes or it is clear that the students have expressed their learning.
2. With the class, review the chalk talk, going in clockwise fashion. Elaborate on any idea that is of note, and expresses comprehension of the underlying relationship between physical geography, climate, and their effect on people. Use this time as an opportunity to clarify any misperceptions that are apparent in the chalk talk activity. When the discussion closes, collect BLM 1; the "Conclusion & Summary" can be used as a post-assessment of student learning.