

Lesson Plan

Lesson: Latitude and Longitude

Length: Up to 1 hour

Age or Grade Level Intended: 5th grade

Academic Standard(s): 5.3.1 The World in Spatial Terms: Demonstrate that lines of latitude and longitude are measured in degrees of a circle, that places can be precisely located where these lines intersect, and that location can be stated in terms of degrees north or south of the equator and east or west of the prime meridian.

Performance Objective(s):

After discussion, students will correctly identify 10 different cities on a world map in degrees north or south of the equator and east or west of the prime meridian with 90 percent accuracy.

Assessment:

Students will be given a picture of world map with lines of latitude and longitude, as well as the equator and prime meridian shown on it. 10 cities will also be identified on the picture. Using the knowledge and skills they obtained in previous discussions, students will correctly label, in degrees north or south of the equator and east or west of the prime meridian, the 10 cities identified on the map.

Advance Preparation by Teacher:

The teacher will ensure that a large world map with latitude and longitude lines, the equator, and the prime meridian labeled on it is available. The teacher will also bring in an orange and a small knife to help demonstrate the directions of the lines of latitude and longitude to the students. A proper number of copies of the assessment page from the social studies workbook will also be made for the students to fill out following the discussion.

Procedure:

Introduction/Motivation:

Ask the students if they have ever heard of the terms latitude and longitude before. How about the equator or the prime meridian? If so, what are lines of latitude and longitude used for? What directions do the equator and prime meridian run, respectively? From there, ask students how they think people locate places on a map if they are unsure of where it is? Take ideas, and then explain to them that there is a way to identify a cities

exact location using degrees latitude and longitude. After learning this, they will be able to easily identify the places they have been, or any future places they might travel.

Step by Step Plan:

1. Ask students if they have ever heard of the terms latitude and longitude. If so, ask them what they know about them? (Bloom's Knowledge)
2. Explain to students the difference between the terms latitude and longitude. This ensures the whole class has an understanding. Using an orange, cut a line both across, as well as up and down on the orange to show the students the different directions
3. On the world map, show the students that the equator, which is in the middle of the map horizontally, represents zero in terms of the north and south directions. Also show them the prime meridian, which runs through the middle of the map vertically, and represents zero in terms of east and west.
4. From there, show the students the degree lines that run across maps, and the increments that they go in. On most maps, the increments are in multiples of 10 degrees. Explain to students that by using latitude and longitude, a person has the ability to find a location on a map in exact degrees north or south of the equator and east or west of the prime meridian.
5. Do an example for the class. For example, choose the city London, and show the class how to find the cities exact location in terms of degrees. Choose a second city and repeat the process. When choosing a third city, let the children use the books and maps they have in front of them and have them walk you through the process of how to find the cities location in terms of degrees. Repeat this process a second time. (Bloom's-Knowledge) (Gardner-Visual-Spatial)
6. Take volunteers to come up to the map in the front of the room and locate a city on the large world map given by the teacher. Repeat this process up to three times. (Bloom's-Application) (Gardner-Interpersonal)
7. Hand out the pre-made world map worksheet with the cities labeled on it. After each student gets their worksheet, ensure that they know how to locate the equator, prime meridian, and lines of latitude and longitude on their new map. From here, have students see if they can locate the cities that are labeled on the map. (Gardner-Intrapersonal)

8. Pick up worksheets and discuss answers.

Closure:

After discussion of the answers, ask students what they have learned today and how it will be able to benefit them in the future. Explain some of the times when knowing a places location in terms of degrees help people (ex: military when landing in a certain place or air dropping supplies.)

Adaptations/Enrichment

Students with ADHD: Allow the students to be one that comes up to the front of the class and locates a city on the large world map. Allow the student to pick the next volunteer by going to their desk and giving them a high-five.

Students with Learning Disability in Listening Comprehension: Restate the process to the students as needed. Make sure to state the process of finding a city by its latitude and longitude on a map slowly, and repeat following each new step.

Self-Reflection:

How many of the students successfully could identify cities on a world map in terms of degrees? How many students could successfully identify the equator and prime meridian and the directions they run on a map? Did the use of a manipulative, such as the orange help the students overall understanding of the concept? How did the students overall react to your teaching of the topic? Excited? Bored? Confused? How can I build and become better from this?