

Learning Latitude and Longitude with Africa

Geographic Content

- Latitude and Longitude
- Geospatial Technologies – Google Earth/ArcGIS Earth
- Geographic Themes – Place and Location
- African physical features
- African human characteristics

Literacy Strategies and Inquiry Practices

- Map Reading
- Using GPS Coordinates
- Data Supported Predictions and Arguments
- Data Mapping

Geospatial Technologies

- Google Earth
- ArcGIS Earth

Teacher Learning Goal	Students will be able to explain the methods of measuring absolute location of the planet using latitude and longitude. Students will examine the concepts of Latitude and Longitude and then practice finding different landmarks in Africa using coordinates.
Student Pre-assessment	<ol style="list-style-type: none"> 1. Answer the following series of questions dealing with the ideas of Longitude, Latitude, and Africa. <ol style="list-style-type: none"> a. What are lines of Longitude? b. What are lines of Latitude? c. What are some key physical and human characteristics of Africa?
Student Learning Resources	ArcGIS Earth – Downloaded from http://www.esri.com/software/arcgis-earth Google Earth – Downloaded From https://www.google.com/earth/ The Coordinates of Africa – Powerpoint with directions and locations (For class competition) Learning Latitude and Longitude with Africa – Handout for individual and student-paced variation Latitude and Longitude – Powerpoint with basics of Latitude and Longitude (If Needed)
Student Post-assessment	Have students compare the continent of Africa to other landforms and answer the following series of questions. <ol style="list-style-type: none"> 1. Approximately how large is the continent of Africa from North to South? (Use your answer from round 2 – question 10, and round 2- question 9 to help you) <i>Note: These are not the extreme North and South points of Africa, but will allow a general idea.</i> 2. Compare the size of Africa to the North and South size of Greenland and South America. On the map which one looks the biggest? Compare the actual size using their Northern and Southern extents of Latitude, what is the difference between them? 3. Explain something you learned about the physical or human characteristics of Africa.
Teacher Reflective Statement	

Learning Latitude and Longitude with Africa

Class Title:

Lesson Title: Learning Latitude and Longitude with Africa

Name:

Section:

Score: ____/5

Directions: In this competition you are racing against the other members of the class to try and complete the questions as quick as possible. Use Google Earth or ArcGIS Earth to find the information and familiarize yourself with the software.

Round 1: Find a Famous Landmark – Find which landmark is located at each of the following set of coordinates

1 – 29°58'44.03" North 31°08'03.08" East

Answer:

2 – 13°54'18.61" South 4°33'18.90" West

Answer:

3 - 33°48'28.13" South 18°22'16.28" East

Answer:

4 - 3°06'39.80" South 37°22'46.64" East

Answer:

5 - 9°00'00.00" North 30°44'38.64" East

Answer:

Round 2: Find the Coordinates – For each of the following landmarks write down the set of coordinates

6 – Victoria Falls, Zimbabwe

Answer:

7 – Eko Atlantic, Lagos, Nigeria

Answer:

8 – Sossusviel, Namibia

Answer:

9 – Nile River Delta, Egypt

Answer:

10 – Cape of Good Hope, Cape Town, South Africa

Answer:

Bonus: What feature is right on the western most point of the continent of Africa? (Not Including Islands)

Answer:

Learning Latitude and Longitude with Africa

Class Title:

Lesson Title: Learning Latitude and Longitude with Africa

Name: **Teacher Answers**

Section:

Score: ____/5

Directions: In this competition you are racing against the other members of the class to try and complete the questions as quick as possible. Use Google Earth or ArcGIS Earth to find the information and familiarize yourself with the software.

Round 1: Find a Famous Landmark – Find which landmark is located at each of the following set of coordinates

1 – 29°58'44.03" North 31°08'03.08" East

Answer: Great Pyramid at Giza, Egypt

2 – 13°54'18.61" South 4°33'18.90" West

Answer: Great Mosque, Djenne, Mali

3 - 33°48'28.13" South 18°22'16.28" East

Answer: Robben Island, Cape Town, South Africa

4 - 3°06'39.80" South 37°22'46.64" East

Answer: Mount Kilimanjaro, Tanzania

5 - 9°00'00.00" North 30°44'38.64" East

Answer: African Union Headquarters, Addis Ababa, Ethiopia

Round 2: Find the Coordinates – For each of the following landmarks write down the set of coordinates

6 – Victoria Falls, Zimbabwe

Answer: 17°55'27.95" South 25°51'16.59" East

7 – Eko Atlantic, Lagos, Nigeria

Answer: 6°24'40.21" North 3°24'49.23" East

8 – Sossusviel, Namibia

Answer: 24°44'52.49" South 15°17'53.83" East

9 – Nile River Delta, Egypt

Answer: 30°55'48.04" North 31°03'35.39" East

10 – Cape of Good Hope, Cape Town, South Africa

Answer: 34°21'25.30" South 18°28'25.25" East

Bonus: What feature is right on the western most point of the continent of Africa? (Not Including Islands)

Answer: Resort and Golf Course (Dakar, Senegal)