Reading The World

Latitude and Longitude Lesson
Grade 6: English Language Arts and Mathematics
Students Will Be Able To:

**English Language Arts**
- Read and listen for technical language
- Make connections between literature and reality
- Research and plan a travel itinerary (sequencing and scheduling)
- Create a piece of travel writing describing a place and some of the key features (geographical characteristics, tourist attractions, landmarks etc. and persuades people that it is a good place to visit.)

**Mathematics**
- Define and describe prime meridian, equator, latitude and longitude
- Locate points on a map when given latitude and longitude coordinates
- Locate US State Capitals using latitude and longitude
- Plot latitude and longitude on a map
- Use technology as an enrichment tool
- Use technology as a research tool
DBQ: Refer to the earlier ELA lesson where we read “How the Whale Got His Throat” to introduce the concept of Latitude and Longitude.

“So the Whale swam and swam to latitude Fifty North, longitude Forty West, as fast as he could swim, and on a raft, in the middle of the sea, with nothing to wear except a pair of blue canvas breeches, a pair of suspenders (you must particularly remember the suspenders, Best Beloved), and a jack-knife, he found one single, solitary shipwrecked Mariner, trailing his toes in the water.” by Rudyard Kipling
Teach students about equator, prime meridian, latitude and longitude using an orange.

1. Using a **black** marker draw the EQUATOR

2. Using a **red** marker draw THE PRIME MERIDIAN

3. Have students peel their oranges. Ask, “What do the segment lines of the orange represent?”

4. Students Should Eat Their Oranges!
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Pair and Share ASSESSMENT (ACTIVITY 1)

Essential Question: “What is Latitude and Longitude?”

- Activity 1: On the World Map Handout Outs, as a class, we will locate the latitude and longitude described in the story. Children will work together in Pairs to plot each others birthdays on the map using latitude and longitude.
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Essential Question: “What is Latitude and Longitude?”

PAIR AND SHARE (ACTIVITIES 2 & 3): STATE CAPITALS GAME

Activity 2: (Locate and Plot)
- Divide the children into 5 groups. Each group is given ten state capitals and they have to locate the latitude and longitude of each place. They are also given two maps, one with the state capital names and one with the latitude and longitude for each state. Students should plot the latitude and longitude of each of the state capitals there team needs to find on their team map.

http://www.worldatlas.com/webimage/countrys/usacaps.htm

Activity 3: (Relay Plotting)
- One the board have a big US Map with the boundaries of the states drawn on them and gridlines for latitude and longitude. As students identify the latitude and longitude of the states they go to the map and fill in BOTH the name of the state and the state capital. The first team to locate and place all 10 states wins.

http://www.worldatlas.com/webimage/countrys/usalats.htm
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Essential Question: “What is Latitude and Longitude?”

INDIVIDUAL WRITING (ACTIVITY 4):

DESTINATION VACATION

Activity 4: (Plan and Map)

• Plan your fantasy vacation. Choose a destination. Look up your destination in books and on the internet. Write one paragraph about why you want to visit that place. Draw a picture of the main attraction or place to thing you want to see while on vacation. Draw a line on a map showing your starting point and destination. **Determine and record the latitude and longitude of your destination.**

NOTE: This is an introductory activity for a lesson which will be explored in the following days. Children will learn about time zones, currency exchange and other issues related to travel. They will also research their fantasy destination and be given a time frame and budget for their vacation.

This lesson will culminate with children publishing travel brochures about their destination.
Activity 5: (Computer Skills)

- There are two computer games children can play using latitude and longitude. One is a timed activity so there will be a chart where the students can record their scores to see who completes the task first.

LINK: KIDS GEO.COM:

LINK: NATIONAL GEOGRAPHIC FOR KIDS:
http://www.nationalgeographic.com/familyx/01/crackcode.html
6th Grade Mathematical Standards

The Number System 6.NS
Apply and extend previous understandings of numbers to the system of rational numbers.

5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
   a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., \(-(-3) = 3\), and that 0 is its own opposite.
   b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
   c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

Statistics and Probability 6.SP
Develop understanding of statistical variability.

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
## RUBRIC: Destination Vacation

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Good</th>
<th>Satisfactory</th>
<th>Needs Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student completed all of the assigned tasks completely.</td>
<td>Student completed most of the assigned tasks completely.</td>
<td>Student completed some of the assigned tasks completely.</td>
<td>Student was not complete most of the assigned tasks completely.</td>
</tr>
<tr>
<td>Students used correct spelling, punctuation and sentence structure in their paragraph and there were zero errors in their writing.</td>
<td>Students used correct spelling, punctuation and sentence structure in their paragraph and there were no more than three errors in their writing.</td>
<td>Students used correct spelling, punctuation and sentence structure in their paragraph and there were no more than five errors in their writing.</td>
<td>Students used correct spelling, punctuation and sentence structure in their paragraph and there were more than six errors in their writing.</td>
</tr>
<tr>
<td>Students art work depicts something which relates to their chosen destination and includes specific detail.</td>
<td>Students art work depicts something which relates to their chosen destination.</td>
<td>Students art work depicts something which relates somewhat to their chosen destination.</td>
<td>Students art work was omitted or does not have anything to do with their chosen destination.</td>
</tr>
<tr>
<td>Correct coordinates of Latitude and Longitude were recorded.</td>
<td>At least one coordinate of Latitude and Longitude was recorded correctly</td>
<td>Coordinates were incorrect but student attempted to locate them.</td>
<td>Student made no attempt to locate the coordinates.</td>
</tr>
<tr>
<td>Coordinates of Latitude and Longitude were plotted correctly.</td>
<td>At least one of the Coordinates of Latitude and Longitude was plotted correctly.</td>
<td>An attempt was made to plot Coordinates of Latitude and Longitude correctly.</td>
<td>No attempt was made to plot Coordinates of Latitude and Longitude correctly.</td>
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</tbody>
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