

Where in the Latitude Are You? A Longitude Here.

Grade Level: 5th Grade

Written by: Donna Bonds, Southern Heights Elementary, Lisa Fields, Mills Elementary, Nancy Powell
Hobbs, New Mexico

Length of Unit: 8 Lessons, 3 weeks with on going yearly activities

I. ABSTRACT

Students will gain an understanding of map and globe terminology. Students will distinguish between the different imaginary lines dividing the earth, and regions of the United States. Students will be using different types of activities and assessments including paper/pencil, art, games, and fun hands-on activities that promote an entertaining way to learn important skills needed for life. Students will be so involved they won't realize they are learning. The unit is set up to be used as a whole or in parts to ease in the instruction and learning of geography.

II. OVERVIEW

A. Concept Objectives

1. Students will analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues. (NM Geography II-A)

B. Content from the *Core Knowledge Sequence* (Grade 5 World Geography, pp. 112,113,& 114)

Basic Geography Skills *Core Knowledge Sequence p. 112*

1. Read maps and globes using longitude and latitude, coordinates, degrees.
2. Tropic of Cancer and Tropic of Capricorn: relation to seasons and temperature
3. Climate Zones: Arctic, Tropic, Temperate
4. Time Zones (Review from 4th grade): Prime Meridian(0 degrees); Greenwich, England; 180° Line (International Date Line)
5. Arctic Circle (imaginary lines and boundaries) and Antarctic Circle
6. From a round globe to a flat map: Mercator projection, conic and plane projections.

United States Geography *Core Knowledge Sequence p. 114*

7. Regions and their characteristics: New England, Mid-Atlantic, South, Midwest, Great Plains, Southwest, West, Pacific Northwest

C. Skill Objectives

1. The student will be able to divide the globe into various spatial relations.
2. The student will be able to identify climate zones of the earth.
3. The student will be able to identify and locate the natural resources of the earth.
4. The student will be able to identify and locate various time zones around the earth.
5. The student will be able to compare and contrast a flat map and globe.
6. The student will be able to recognize the regions of the United States.

III. BACKGROUND KNOWLEDGE

A. For Teachers

1. Core Knowledge Foundation. *Core Knowledge Sequence*. Charlottesville, VA: Core Knowledge Foundation, 1998 ISBN 1-890517-7.
2. Hirsch Jr., E.D. *What Your Fifth Grader Needs to Know: Fundamentals of a Good Fifth-Grade Education*. New York: Dell Publishing, 1993, ISBN 0-385-31464-7.
3. Pearson Learning Core Knowledge. *History and Geography 5th Grade Edition*.

United States of America: Pearson Education, Inc. , 2002, ISBN 0-7690-5026-3.

- B. For Students
 - 1. The students will have a basic knowledge of geography and maps from prior Core Knowledge lessons in Kindergarten, 1st Grade, 2nd Grade, 3rd Grade, and 4th Grade.
 - 2. The students will have a basic knowledge of landforms from prior Core Knowledge lessons in Kindergarten, 1st Grade, 2nd Grade, 3rd Grade, and 4th Grade.

IV. RESOURCES

- A. Hirsch Jr., E.D. *What Your Fifth Grader Needs to Know: Fundamentals of a Good Fifth-Grade Education*. New York: Dell Publishing, 1993, ISBN 0-385-3164-7.
- B. Pearson Learning Core Knowledge. *History and Geography 5th Grade Edition*. United States of America: Pearson Education, Inc., 2002, ISBN 0-7690-5026-3.
- C. http://www.education-world.com/soc_sci/geography/indes.shtml Education World.
- D. <http://www.maps.com/> Maps.com
- E. Nelson, Tom. *Math in Geography*. Monterey, CA: Evan-Moor, 1994, ISBN1-55799-331-9.

V. LESSONS

Lesson One: The important lines of the world. Part I (This activity takes about 3 days, 1 to 2 hours per day)

- A. *Daily Objectives*
 - 1. Concept Objective
 - a. The student will analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues.(NM Geography II A)
 - 2. Lesson Content
 - a. Tropic of Cancer, Tropic of Capricorn, Equator
 - b. Arctic Circle (imaginary lines and boundaries) and Antarctic Circle
 - c. Prime Meridian(0 degrees); Greenwich, England; 180° Line (International Date Line)
 - 3. Skill Objectives
 - a. The student will be able to divide the globe into various spatial relations.
 - b. The student will distinguish between tropics, Prime Meridian, and Equator.
- B. *Materials*
 - 1. Pre-assessment (Appendix A)
 - 2. globe
 - 3. maps with longitude and latitude lines
 - 4. many newspapers (torn in strips)
 - 5. glue
 - 6. water
 - 7. flour
 - 8. 9” balloons
 - 9. blue paint
 - 10. black markers (fine point)
 - 11. string, enough for each student cut in about 1 yard lengths.
 - 12. paint brushes

13. rectangular plastic pans or bowls (1 for every 4 students)
 14. wax paper
 15. Important Lines of the World Checklist (Appendix B)
- C. *Key Vocabulary*
1. Prime Meridian: zero degree meridian (longitude) that passes through Greenwich, England.
 2. International Date Line: an imaginary line that goes through the Pacific Ocean at 180 degrees longitude.
 3. Equator: an imaginary line that divides the earth into northern and southern hemispheres. It is the zero degrees latitude.
 4. Tropic of Cancer: 23° 27' north of the equator. The farthest point north at which the sun can shine directly overhead.
 5. Tropic of Capricorn: 23° 27' south of the equator. The farthest point south at which the sun can shine directly overhead
 6. Arctic Circle: the frigid zone located directly on the center of the north pole
 7. Antarctic Circle: the frigid zone located directly on the center of the south pole.
- D. *Procedures/Activities*
1. Teacher will administer the pre-assessment to all students. While students are completing the pre-assessment the teacher will begin to mix up the glue mixture and pour into rectangular pans. The amount of mixture needed is based upon the number of students. The glue mixture is 1 part glue, 2 parts water, 1 part flour.
 2. After collecting all pre-assessments, teacher will give each student one 9" balloon, one bowl of glue mixture per four students and a pile of newspaper strips. The students will blow the balloon up as large as possible without busting.
 3. A strip of newspaper is dipped into the glue mixture and laid on the balloon. This procedure is repeated until the balloon is entirely covered 3 to 4 times.
 4. The balloons should be placed on wax paper to dry over night.
 5. At the beginning of the next day's lesson have students paint their entire balloon blue and dry on wax paper. This may be done through out the day if time to allow time to dry.
 6. After all balloons are painted and drying the teacher will introduce the vocabulary words.
 7. Using a globe and a map the teacher will point out each line beginning with the Equator and working toward the Arctic and Antarctic Circles. The teacher will then introduce the Prime Meridian and International Date Line.
 8. Students will retrieve their balloons and using the string as a guide will draw the lines on their "globe". The string should be wrapped around the "globe" in the center. Once the string is in place, take the black magic marker and follow along the string creating a line around the globe. It is easier to start with the Equator and then the Prime Meridian and International Date Line. Students will continue until all appropriate lines are drawn. Student globes should be kept in a safe place for use in future lessons.
- E. *Assessment/Evaluation*
1. The Important Lines of the World Checklist (Appendix B) should be used to evaluate the students' work on their globes.

Lesson Two: Where the heck am I? (This activity will take 1 day, 1 to 2 hours)

A. *Daily Objectives*

1. Concept Objective(s)
 - a. The student will analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to

explain the past, present, and future in terms of patterns, events, and issues.(NM Geography II A)

2. Lesson Content
 - a. Read maps and globes using longitude and latitude, coordinates, degrees.
3. Skill Objective(s)
 - a. The student will be able to identify location using longitude, latitude, coordinates, and degrees.
- B. *Materials*
 1. Plastic drop cloth with longitude and latitude grid lines. (This can be made easily by using a painter's plastic drop cloth, a thick magic marker, and yardstick. The lines just need to be the same width apart in both directions. Tape drop cloth to floor, using tape and yardstick measure out lines and draw. After lines are drawn add degree numbers to both sets of lines.) This can also be done by the students to incorporate a math activity.
 2. globe
 3. map with longitude and latitude lines
 4. Slips of paper with longitude and latitude locations that can be located on drop cloth.
 5. checklist (Appendix C)
 6. Longitude/Latitude Assessment (Appendix D)
- C. *Key Vocabulary*
 1. Longitude: (meridians) imaginary lines going from the north to the south, but dividing the globe east and west. These lines are measured in degrees.
 2. Latitude: (parallels) imaginary lines going from the east to the west, but dividing the globe north to south. They are called parallels because they never touch. These lines are measured in degrees.
 3. Degree: One three-hundred sixtieth of a circle.
- D. *Procedures/Activities*
 1. Review previous learned vocabulary. Introduce new vocabulary
 2. After discussing terminology practice with students finding latitude and longitude on a map in the classroom.
 3. Once the students are comfortable with finding different locations on a map by longitude and latitude take them to a large room (if you can use your classroom by moving back the desks and chairs it is fine, depends on how large your drop cloth is). Spread the drop cloth on the floor and tape it at the corners to keep it from moving.
 4. Slips of papers with locations on them should be placed in a bucket that can be drawn out by each student. Each student will pull out a slip of paper, find the location on the drop cloth and proceed to that location. This exercise can also be done in reverse by placing different objects on the drop cloth and having students write down the location of each item.
- E. *Evaluation/Assessment*
 1. There are two ways to evaluate the student. It can be done by teacher observation with a simple checklist (Appendix C) or have the students complete the paper/pencil assessment (Appendix D).

Lesson Three: Important Lines of the World. Part II (This activity will take 3 days, approximately 1 hour each day.)

- A. *Daily Objectives*
 1. Concept Objective(s)
 - a. The student will analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to

explain the past, present, and future in terms of patterns, events, and issues.(NM Geography II A)

2. Lesson Content
 - a. Read maps and globes using longitude and latitude, coordinates, degrees.
3. Skill Objective(s)
 - a. The student will be able to divide the globe into various spatial relations.
 - b. The student will draw longitude and latitude lines on globe.
 - c. The student will use longitude and latitude lines to place continents on globe in appropriate places.

B. *Materials*

1. Student globe (from lesson 1)
2. black markers
3. string (from lesson 1)
4. green paint
5. brown paint
6. paint brushes
7. globe
8. maps
9. outline maps of continents for each student or group (they should be sized appropriately for the student's globe)
10. Important Lines of the World Checklist (Appendix B)

C. *Key Vocabulary*

1. Review vocabulary from previous 2 lessons.

D. *Procedures/Activities*

1. After reviewing the vocabulary from the previous 2 lessons, have each student get his/her globe. Students need their string, markers, paint, and outline maps.
2. Review the lines already placed upon the globe (Equator, Prime Meridian, etc)
3. Tell the students they are now going to place the rest of the longitude and latitude lines on the globe. Students need to find the halfway point the Prime Meridian and the International Date Line. This will be the 90° lines. Be sure to keep the string in place and straight. Students can help one another or use a small piece of tape to keep string in place. Once the string is in place, follow the string with a black magic marker to create a line. This procedure should continue to create the 45° lines. Halfway between the 90° lines, use the string to create a line around the globe. Depending upon student ability, have the students draw lines into 15° increments. This can be done easily by simply dividing the space between the 45° marks into thirds.
4. The students are now ready to label the longitude lines. Explain to the students about the number of degrees in a circle. There are 360° in a circle, that number divided by two is 180°. This is how the earth's longitude lines are numbered. The Prime Meridian is 0° and the International Date Line is 180°. Appendix F is an example of how the globe should be numbered.
5. Once the longitude lines are complete have the students complete the procedure again to do the latitude lines. One major difference is the numbers only go to 90°. The Equator is 0° and the North and South Poles are 90°. Once this is complete the globe should have a grid.
6. Using a globe or map as a reference, have students notice where each continent is place in relation to longitude and latitude lines. The outline maps can be very helpful to the students. The students should cut out the outline maps and carefully tape them to their globe or hold it on the globe to trace around. After all the

continents are traced on the globe, have students paint the continents brown and green.

E. *Evaluation/Assessment*

1. The “Important Lines of the World Checklist (Appendix B)

Lesson Four: Flat Map or Globe (This activity will take 1 day and approximately 1 hour)

A. *Daily Objectives*

1. Concept Objective(s)
 - a. The student will analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues.(NM Geography II A)
2. Lesson Content
 - a. From a round globe to a flat map: Mercator projection, conic and plane projections.
3. Skill Objective(s)
 - a. The student will be able to compare and contrast a flat map and globe

B. *Materials*

1. Mercator projection map
2. Conic Projection map
3. Globe
4. Ruler or yardstick
5. Flat map/Globe Assessment (Appendix E)

C. *Key Vocabulary*

1. Mercator projection a cylindrical map projection in which the longitude and latitude appear as lines crossing at right angles and in which areas appear greater farther from the equator.
2. Conic Projection- a projection of the globe onto a cone with its point over one of the earth’s poles.

D. *Procedures/Activities*

1. Explain to students that flat maps can show all or part of the earth. If it is showing a small part of the earth it can be very accurate, but a large part of the earth becomes distorted. Some of the areas have to be split or stretched. One flat map is called a Mercator Projection map. The shape of land areas is correct but the size of some is distorted. The distortion becomes greater as you move away from the equator.
2. Explain to the students that a Conic projection is flat map that is a little more accurate in size and shape.
3. Explain to the students that a globe will allow you to see everything in relative proportion. Although a globe does make it more difficult because you can only see one side of it at a time.

E. *Evaluation/Assessment*

1. Flat Map/Globe Assessment (Appendix E)

Lesson Five: Time Zones around the World. (This activity should take 1 day, approximately 1 hour, with ongoing activities)

A. *Daily Objectives*

1. Concept Objective(s)
 - a. The student will analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues.(NM Geography II A)

2. Lesson Content
 - a. Time Zones (Review from 4th grade): Prime Meridian(0 degrees); Greenwich, England; 180° Line (International Date Line)
 3. Skill Objective(s)
 - a. The student will be able to identify and locate various time zones around the earth.
- B. *Materials*
1. Cheap Paper Plates (not Styrofoam)
 2. brads
 3. markers
 4. tag board (any color)
 5. Flat map with time zones (1 large)
 6. Flat map to hand out to students (preferably with longitude lines)
 7. Time Zone Assessment (Appendix F)
- C. *Key Vocabulary*
1. Review previous lessons vocabulary.
- D. *Procedures/Activities*
1. Begin the discussion with students by asking if they know anyone that lives in another state or time zone. Explain how the earth rotates around the Sun and there is always daylight or darkness somewhere in the world.
 2. Ask if there is a student that remembers the number of degrees in a circle. Remind the students that the globe is marked in longitude lines in 15° increments. The number of degrees in a circle 360° divided by 15° is equal to what? It is equal to 24. The number of time zones located on the earth.
 3. Explain to the students that time begins at the Prime Meridian or at 0°. Which is located in Greenwich, England. The students can be given a flat map with or without the time zones to look at.
 4. Tell the students that when you move to the right from the Prime Meridian you add one hour every 15° and if you move to the left from the Prime Meridian you subtract one hour every 15°.
 5. Once you cross the International Date Line you change days. When flying East and you cross the Date Line, you should change to the previous day and date. When flying West and you cross the Date Line, you change to the next day and date. One way you lose a day and one way you gain a day.
 6. Hand out one paper plate, one brad, tag board and marker to each student. Have the students make a clock by drawing the numbers in appropriate places on the plate, cutting out a big hand and little hand from the tag board, and using the brad to fasten the hands to the clock in the middle.
 7. Once the clocks are complete assign each student a “time zone”. You can make this more challenging by assigning countries and having the students find the correct time zone.
 8. A few times give an example of “ In Greenwich, England it is 5:00 am. What time is it in your time zone or country?” Do this periodically through the day. You can use any time zone as a reference, ask all the students are call on different ones. This would be a great time filler for the minutes before lunch or going home. This activity can also be done all year long to keep the information fresh.
- E. *Evaluation/Assessment*
1. Time Zone Assessment (Appendix F)

Lesson Six: Climate Zones (This activity will take 1 day, approximately 1 to 2 hours)

A. *Daily Objectives*

1. Concept Objective(s)
 - a. The student will analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues.(NM Geography II A)
 2. Lesson Content
 - a. Climate Zones: Arctic, Tropic, Temperate
 3. Skill Objective(s)
 - a. The student will be able to identify climate zones of the earth
- B. *Materials*
1. White construction paper 11x 17 (one for each student)
 2. Red tissue paper (one for each student)
 3. Blue tissue paper (one for each student)
 4. Green tissue paper (one for each student)
 5. Color book outline world map
 6. Pencil
 7. Glue
 8. Map of world with longitude and latitude lines
- C. *Key Vocabulary*
1. Tropic Zone: The region of the earth's surface lying between latitudes 23° 27' north and 23° 27' south. These represent the farthest point north and south at which the sun can shine directly overhead.
 2. Temperate Zone: Either of the two intermediate latitude zones on the earth between the Tropic of Cancer and the Arctic Circle and the Tropic of Capricorn and the Antarctic Circle.
 3. Frigid Zone: The regions located on the centers on the north and south poles.
- D. *Procedures/Activities*
1. Have students examine a map looking for the Tropic of Cancer and Tropic of Capricorn lines, as well as the Arctic and Antarctic Circles.
 2. Write the three climate zones across the board. Have students talk about them and guess what type of weather they would expect in each zone. Talk with them about the zones and what weather is in each. Write under each zone the characteristic weather.
 3. Discuss with the students the different land areas in the world and the type of weather. Pick several different areas in the world have students pick what climate zone they belong in.
 4. After class discussion, pass out white construction paper, red, blue, and green tissue paper, and outline world map.
 5. Have students glue the world map on the center of the white construction paper. Tell the students the tissue paper is going to represent the 3 climate zones. Ask them to identify which color will be for what climate zone and why. (Red- Tropic, Green- Temperate, Blue-Frigid)
 6. Have students glue the strips of tissue paper onto the world outline map into the appropriate areas. The outline of the continents should show through the tissue paper.
- E. *Evaluation/Assessment*
1. Vocabulary Assessment (Appendix G)

Lesson Seven: Natural Resources (This activity will take 3 days and approximately 1 to 2 hours)

- A. *Daily Objectives*
1. Concept Objective(s)

- a. The student will analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues.(NM Geography II A)
 - 2. Lesson Content
 - a. natural resources of the earth
 - 3. Skill Objective(s)
 - a. The student will be able to identify and locate the natural resources of the earth.
- B. *Materials*
 - 1. Poster Board
 - 2. White craft paper
 - 3. Blue craft paper
 - 4. Green craft paper
 - 5. Red Craft paper
 - 6. Black Craft paper
 - 7. Glue (fast drying if possible)
 - 8. Sculpting a Continent Terms (Appendix H)
 - 9. Sculpting a Continent Rubric (Appendix I)
- C. *Key Vocabulary*
 - 1. Have students use continent terms and make a geographic dictionary
- D. *Procedures/Activities*
 - 1. Pass out Continent Terms (Appendix H). Students should look the words up in a dictionary and make a geographic dictionary.
 - 2. Have students look at different maps with different types of land formations. Discuss how each one is important to the other.
 - 3. Divide class into groups, no larger than four. Each group is to have a poster board for a base. They are to cover the base with blue paper for the ocean. Tear out a shape for the continent in brown. Center it on the “ocean”. You can demonstrate how to make sculptures with paper by putting scraps of paper under cones and other shapes to support the extensions, then gluing the edges. (Practice by making your own model for an example)
 - 4. Have the students demonstrate their understanding of the terms by building as many of the terms as possible on their continent. Using the “terms” sheet cut out the boxes with terms and glue them as close to their locale as possible.
 - 5. There are forty terms and it would be difficult to use all of them, but challenge them to try.
- E. *Evaluation/Assessment*
 - 1. Sculpting a Continent Rubric (Appendix I)

Lesson Eight: United States Regions (This is an activity to do throughout the year)

- A. *Daily Objectives*
 - 1. Lesson Content
 - a. The student will analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues.(NM Geography II A)
 - 2. Concept Objective(s)
 - a. Regions and their characteristics: New England, Mid-Atlantic, South, Midwest, Great Plains, Southwest, West, Pacific Northwest
 - 3. Skill Objective(s)
 - a. The student will be able to recognize the regions of the United States.

- B. *Materials*
1. Internet
 2. encyclopedias
 3. student social studies book
 4. Publisher or can do manually on paper
 5. Power Point
 6. Pearson Social Studies Book
- C. *Key Vocabulary*
1. New England- Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut
 2. Mid-Atlantic- New York, New Jersey, Pennsylvania, Delaware, Maryland
 3. South- West Virginia, Virginia, South Carolina, North Carolina, Kentucky, Tennessee, Georgia, Arkansas, Louisiana, Mississippi, Alabama, Florida.
 4. Midwest- Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri
 5. Great Plains- North Dakota, South Dakota, Nebraska, Kansas
 6. Southwest- Oklahoma, Texas, New Mexico, Arizona
 7. West- Montana, Wyoming, Colorado, Utah, Idaho, Nevada, California, Hawaii
 8. Pacific Northwest- Oregon, Washington, Alaska
- D. *Procedures/Activities*
1. Decide what region you want to start with. Divide the class evenly among the states in that region. For example, there are six states located in The New England Region. If you have 24 students, 4 students would be assigned to each state. If you have an odd number put more in the larger states.
 2. Explain to the students they have been hired by the tourist board in their state to design a brochure or a Power Point to let others know what they have to offer.
 3. Students are to pick a city in their state and do research on it. (Make sure one student takes the capital)
 4. Have students use Publisher to design a tri-fold brochure. If you do not have access to Publisher, do the following:
 5. Give students a white piece of paper. Show them how to do a tri-fold. Have them draw pictures, cut out pictures from magazines, and write their information on their paper. It may be easier to start with this method to get students used to designing a brochure. Try to have examples of professional brochures. If you do not have Power Point you could do posters.
 6. After the brochures are designed the students of each state must get up and do a presentation for their state.
- E. *Evaluation/Assessment*
1. Brochure Rubric (Appendix J)

VI. HANDOUTS/WORKSHEETS

Appendices A-J are included with this unit

VII. BIBLIOGRAPHY

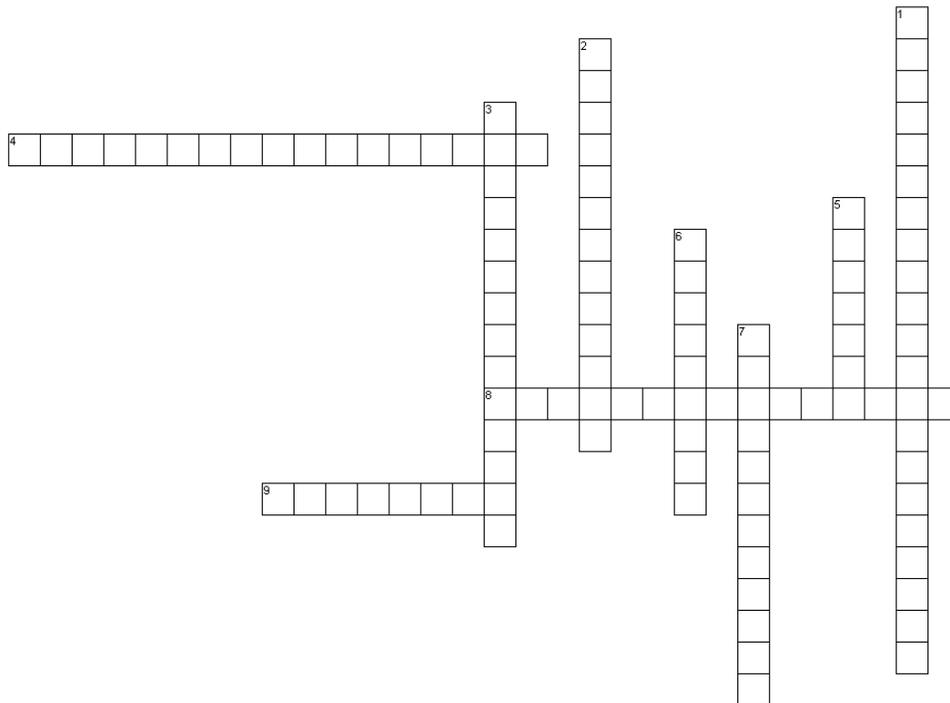
Core Knowledge Foundation. *Core Knowledge Sequence*. Charlottesville, VA: Core Knowledge Foundation, 1998 ISBN 1-890517-7.

Hirsch Jr., E.D. *What Your Fifth Grader Needs to Know: Fundamentals of a Good Fifth-Grade Education*. New York: Dell Publishing, 1993, ISBN 0-385-31464-7.

Nelson, T. *Math in Geography*. Monterey, CA: Evan-Moor Publishing. 1994. ISBN 1-55799-331-9.

Pearson Learning Core Knowledge. *History and Geography 5th Grade Edition*. United States of America: Pearson Education, Inc. , 2002, ISBN 0-7690-5026-3.

Appendix A Where in the Latitude Are You?
Vocabulary Pre-assessment



Across

- 4. Imaginary tropic boundary line south of the equator
- 8. Frigid zone south of the equator
- 9. Imaginary lines going from the east to the west, but dividing the globe north to south

Down

- 1. An imaginary line that goes through the Pacific Ocean at 180 degrees longitude
- 2. Zero degrees longitude that passes through Greenwich, England
- 3. Imaginary tropic boundary line north of the equator
- 5. An imaginary line that divides the earth into northern and southern hemispheres. It is zero degrees latitude
- 6. Imaginary lines going from the north to the south, but dividing the globe east and west
- 7. Frigid zone north of the equator

Appendix B Where in the Latitude Are You?

Important Lines of the World Checklist

_____ Draw Equator*

_____ Draw Prime Meridian and International Date Line*

_____ Draw Arctic Circle*

_____ Draw Antarctic Circle*

_____ Label these five lines*

_____ Add 45° longitude lines

_____ Label longitude lines

_____ Add 45° latitude lines

_____ Label latitude lines

_____ Add longitude lines at every 15°

_____ Label longitude lines

_____ Add latitude lines at every 15°

_____ Label latitude lines

_____ Add continents

_____ Africa

_____ South America

_____ North America

_____ Australia

_____ Asia

_____ Europe

* Use only these during first assessment, and all on second assessment

Appendix C- Where in the Latitude Are You?

Drop Cloth Checklist

This is a sample of a checklist. Depending on if you have the students draw the grid and what items they must find you should develop your own.

Place a check mark next to each item placed correctly on the grid.

_____ math book

_____ pencil

_____ eraser

_____ chair

_____ dictionary

_____ notebook

Appendix D Where in the Latitude Are You?

Latitude and Longitude Assessment

As you have been learning, latitude and longitude are imaginary lines that span the globe to help find locations. These lines allow you to find your exact location on the globe. To be certain you are using these lines correctly complete the following exercise below. Each picture is located a certain latitude/longitude point. When writing the location of a particular place the latitude is written first and the longitude is written second. For example the location is 20° South and 15° East. This is usually written out in a short form 20° S and 15° E.

Give the latitude and longitude of the shapes positioned on the grid below.

15° 30° 45° 60° 75° 90° 105° 120° 135°

90°			♥				
75°							
60°							
45°					😊		
30°							
15°							
0°			🎵				

1. Tree _____ 2. Heart _____

3. Smiley face _____ 4. Musical Notes _____

Flat Map/Globe Assessment

True or False

- T F 1. A Mercator projection shows all the continents.
- T F 2. Greenland appears smaller than Australia on a Mercator projection.
- T F 3. On a Mercator projection longitude lines remain the same distance apart and never meet.
- T F 4. On a globe you can view all the continents at the exact same time.
- T F 5. It is impossible to show the entire round surface of the earth on a flat map.
- T F 6. There are many different kinds of map projections.
- T F 7. On a Mercator projection, latitude lines remain the same distance apart and never meet.
- T F 8. A Conic projection is more accurate than a Mercator projection.
- T F 9. A globe shows all continents in correct location and proportion.
- T F 10. The information needed will depend upon which type of map you use.

Appendix F Where in the Latitude Are You?

Time Zone Assessment

1. If it is 9:00 am in New York City, what time is it in the following cities:

Santa Fe, New Mexico _____

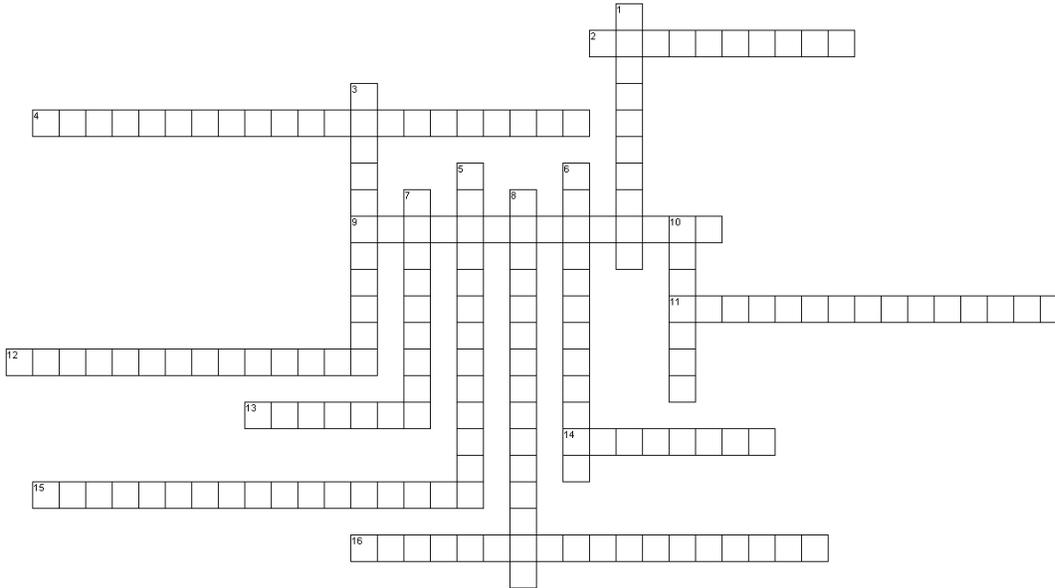
Anchorage, Alaska _____

London, England _____

Sydney, Australia _____

2. If you are leaving Los Angeles, CA and traveling west, when you cross the International Date Line will you gain a day or lose a day?
3. How does the time change across the globe when using the longitude lines for reference?

Vocabulary Assessment



Across

2. the region of the earth's surface lying between latitudes that represent the farthest north and south the sun can shine directly overhead
4. an imaginary line that goes through the Pacific Ocean at 180 degrees longitude
9. imaginary tropic boundary line north of the equator
11. Frigid zone south of the equator
12. either of the two intermediate latitude zones on the earth between the Tropic of Cancer and Arctic Circle or Tropic of Capricorn and Antarctic Circle
13. the pattern of weather in a place over a long period of time
14. imaginary lines going from the east to the west, but dividing the globe north to south
15. imaginary tropic boundary line south of the equator
16. a flat map showing correct shape of land but some distorted size

Down

1. regions located directly on the centers of the North and South poles
3. areas divided according to prevailing climate and latitude
5. zero degree longitude that passes through Greenwich, England
6. Frigid zone north of the equator
7. imaginary lines going from the north to the south, but dividing the globe east and west
8. a projection of the globe onto a cone with its point over one of the earth's poles
10. an imaginary line that divides the earth into northern and southern hemispheres. It is zero degrees latitude

Appendix H Where in the Latitude Are You?

Sculpting a Continent Terms

Basin	Lake	Marsh	Rain forest
Bay	Fjord	Mesa	Reservoir
Canal	Foothill	Mountain Range	Source
Canyon	Glacier	Mouth	Strait
Cape	Gulf	Peak	Stream
Channel	Harbor	Peninsula	Swamp
Cliff	Highland	Plain	Tributary
Continent	Hill	Plateau	Tundra
Delta	Isthmus	Port	Valley
Divide	Lowland	Prairie	Volcano

Appendix I - Where in the Latitude Are You?

Sculpting A Continent Rubric

Name _____ Date _____

Number of Terms Used	Possible Points	Actual Points
40 terms	100	
30-35 terms	95	
29-25 terms	90	
24-20 terms	85	
19-15 terms	80	
14-10 terms	70	
9-5 terms	60	
Participation	20	
Any extra term used	5 points	

Final Grade _____

Appendix J Where in the Latitude Are You?

Where in the Latitude are we???
Regions PowerPoint Presentation/Brochure Rubric

Name _____ Region _____

Group Members: _____

<i>Category</i>	4	3	2	1
Attractiveness	Makes excellent use of font, color, graphics, etc. to enhance presentation.	Makes good use of font, color, graphics, effects, etc. to enhance presentation.	Makes use of font, color, graphics, effects, etc. but occasionally these detract from the presentation content.	Use of font, color, graphics, effects, etc. but these often distract from the presentation content.
Core Knowledge Content	Covers topic in-depth with details and examples. Subject knowledge is excellent.	Includes essential knowledge about the topic. Subject knowledge appears to be good.	Includes essential information about the topic but there are 1 to 2 factual errors.	Content is minimal or there are several factual errors.
Originality	Product shows a large amount of original thought. Ideas are creative and inventive.	Product shows some original thought. Work shows new ideas and insights.	Uses other people's ideas (giving them credit), but there is little evidence of original thinking.	Uses other people's ideas, but does not give them credit
Mechanics	No misspellings or grammatical errors.	Three or fewer misspellings and / or grammatical errors.	Four misspellings and / or grammatical errors.	More than four errors in spelling or grammar.
Sources	Source information collected for all graphics, facts, and quotes are all documented in desired format.	Most source information collected for all graphics, facts and quotes documented in desired format.	Source information collected for graphics, facts, and quotes documented but not in desired format.	Very little or no source information was collected.
Requirements	All requirements are met and exceeded.	All requirements are met.	One requirement was not completely met.	More than one requirement was not completely met.
Grading Criteria	4 = A+ 3.5 = A 3 = B 2.5 = C 2 = D 1 = F			
	<div style="border: 1px solid black; width: 60px; height: 40px; display: inline-block;"></div>			Total