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Latitude/Longitude: Message in a Bottle

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LATITUDE/LONGITUDE: MESSAGE IN A BOTTLE

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Grade Level: 6th-7th

Purpose/Overview:

Students will become more proficient in finding absolute locations by playing a board game which employs latitude and longitude coordinates to locate survivors of a shipwreck.

National Geography Standards from *Geography for Life*

Geographic Elements & Standards:

Standard 1 – The World in Spatial Terms: how to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

Oklahoma *Priority Academic Student Skills:*

Grade 6 World Studies:

- 1.2 – Identify, evaluate, and draw conclusions from different kinds of maps, graphs, charts, diagrams, timelines, and other representations such as photographs and satellite-produced images or computer-based technologies.
- 2.1 – Apply the concepts of scale, orientation, latitude and longitude, and physical regions.

Grade 7 World Geography

- 1.2 – Apply the concepts of scale, distance, direction, relative location, latitude and longitude.
- 6.1 – Evaluate and draw conclusions from different kinds of maps, graphs, charts, diagrams, and other sources and representations (e.g., aerial and shuttle photographs, satellite-produced images, the geographic information system (GIS), atlases, almanacs, and computer-based technologies).

Geographic Themes: Location

Objectives:

1. Students will review the concept of latitude and longitude.
2. Students will understand that by using latitude/longitude coordinates, absolute locations can easily be found on a map.
3. Students will become more competent in finding absolute locations by playing a board game which employs latitude and longitude coordinates to locate survivors of a shipwreck.

Materials:

1. Message in a Bottle Game Board (attached to this lesson)
2. Latitude and Longitude Cards attached to this lesson (Cut apart and put in separate envelopes labeled Latitude and Longitude)
3. 20 Castaway Markers (pennies)

Time Frame: 1 class period

Procedures:

1. Show PowerPoint "Latitude/Longitude: Message in a Bottle" to review the following concepts of latitude and longitude:
The equator (0°) is the starting point for measuring latitude.
Latitude lines are horizontal lines that run parallel to the equator; those above the equator denote north (N) latitude while those below the equator denote south (S) latitude.
The prime meridian (0°) is the starting point for measuring longitude.
Vertical longitude lines to the right of the prime meridian denote east (E) longitude while those to the left of the prime meridian denote west (W) longitude.
Latitude is always stated first. (Example: 40°N , 100°W)
 0° latitude and 0° longitude are never labeled with a direction.
Examples: 0° , 20°E and 40°N , 0° (Remember, latitude is written first.)
2. The following example is a fun way to help Oklahoma students remember to locate latitude first: if the student is an OU fan, think over and up; if the student is an OSU fan, think over and straight up.
3. Divide students into groups of two. Play "Message in a Bottle" board game. (Instructions, latitude/longitude cards and pattern for game board are attached.)
Adapted from the following website:

<http://teacher.scholastic.com/lessonrepro/reproducibles/profbooks/MessageinBottle.pdf>

Assessment:

Participation grade for playing the game "Message in a Bottle" which employs latitude/longitude skills.

Resources:

About.com: Discover the Secrets of Parallels and Meridians

<http://geography.about.com/cs/latitudelongitude/a/latlong.htm>

World map with latitude, longitude, equator and prime meridian lines

<http://www.worldatlas.com/aatlas/imageg.htm>

Illustrations of lines of latitude and longitude

<http://geographyworldonline.com/tutorial/latitudelongitude.jpg>

Extension and Enrichment

1. Latitude/longitude is a concept on which students continually need practice to maintain the skill. Give students several latitude/longitude locations for each unit of study throughout the school year.

Message In A Bottle

(Latitude/Longitude Game)

Shipwrecked! Passengers of Titanica barely escaped the sinking ship. Luckily, they were able to swim to nearby deserted islands. Waiting to be rescued, survivors tossed bottles containing their *latitude* and *longitude* coordinates into the ocean. Use the coordinates to locate and rescue as many castaways as you can!

Skill: Use latitude and longitude coordinates to locate places.

Players: 2

Materials:

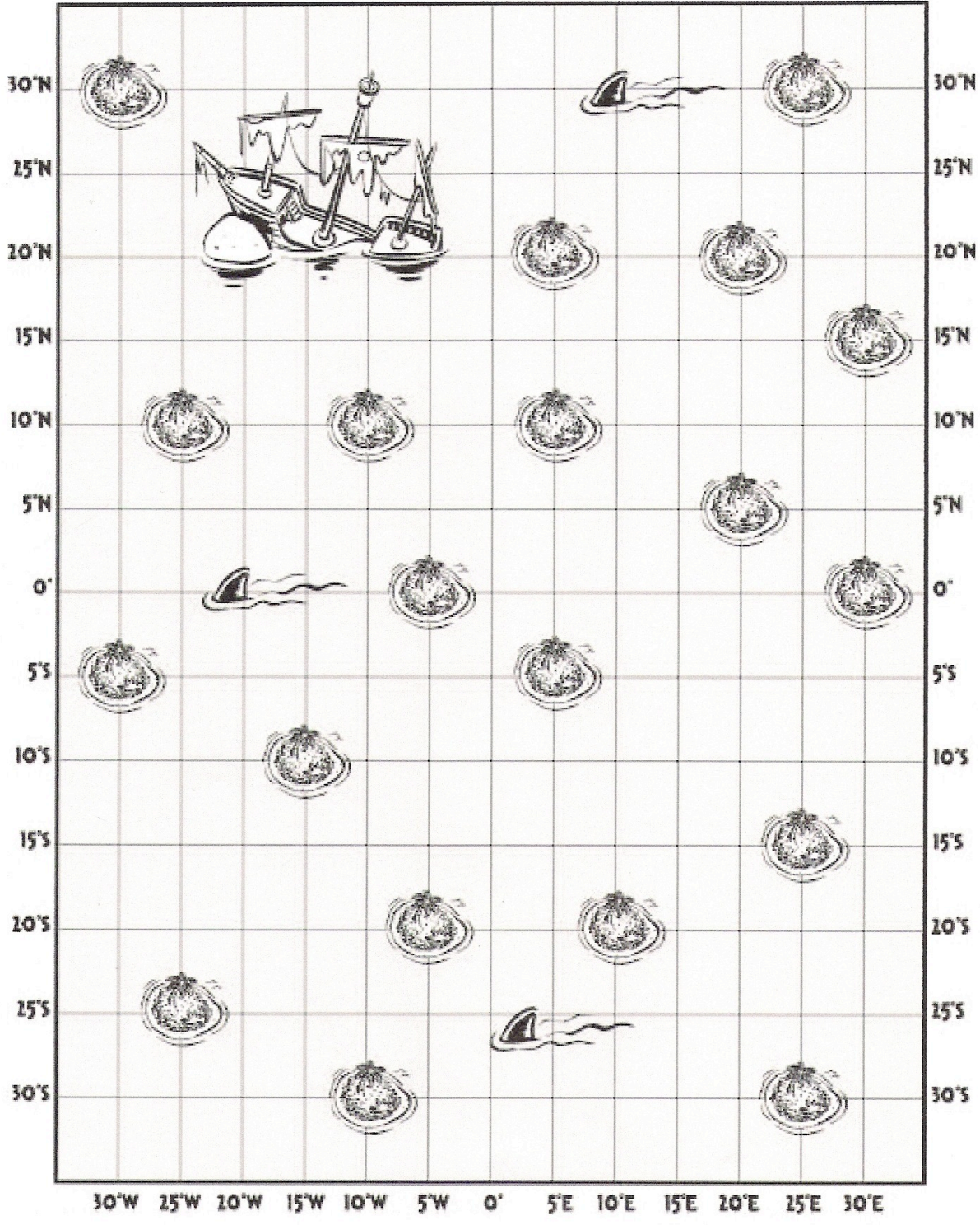
1. Message in a Bottle Game Board
2. Latitude and Longitude Cards (Cut apart and put in separate envelopes labeled Latitude and Longitude)
3. 20 Castaway Markers (pennies)

How To Play The Game:

1. Place the Castaway markers on the deserted islands on the game board.
2. Players take turns drawing one latitude card and one longitude card from the envelopes. Using the coordinates, find where the latitude and longitude lines cross. (For example, if you draw 30°S and 25°E, find where those two lines cross.) If the lines meet over an island with a Castaway marker, “rescue” or take the Castaway marker. Return the cards to the envelopes. The other player takes a turn.
3. Play continues until all Castaways have been rescued. The player who collects the most Castaway markers wins.



MESSAGE IN A BOTTLE



Latitude Cards

			30°N
25°N	20°N	15°N	10°N
5°N	0°	5°S	10°S
15°S	20°S	25°S	30°S

Longitude Cards

	30°E	25°E	20°E
15°E	10°E	5°E	0°
5°W	10°W	15°W	20°W
25°W	30°W		