



SeaWorld/Busch Gardens Geography

4-8 Classroom Activities

Latitude/Longitude Activity

OBJECTIVE

The student will identify various animals' native geographic locations. The student will determine a particular geographic location using latitude and longitude coordinates

ACTION

1. Explain that students will answer an animal puzzle by utilizing latitude and longitude. Each puzzle gives a brief description of an animal (a clue) and the latitude and longitude coordinates of its native range. The students will determine the geographic location and the animal the clue indicates.
2. Divide the class into groups of two and give each group a copy of the World Map.
3. Explain that each group will rotate through a series of twelve stations and each station contains an animal puzzle. Each group will be given five minutes to determine the geographic location indicated by the latitude and longitude coordinates and use that information, along with the clue to answer the puzzle. Then they will rotate to the next station and repeat the procedure.
4. Review the following information to help students determine the geographic location the latitude and longitude coordinates indicate.
 - Latitude (horizontal lines on the map) is measured North or South of the Equator. Points North of the Equator range from zero (at the equator) to ninety degrees North (at the North pole). These points represent the Northern Hemisphere. Ex: The United States is in the Northern Hemisphere. Points South of the Equator range from zero (at the equator) to ninety degrees South (at the South Pole). Ex: Australia is the Southern Hemisphere.
 - Longitude (vertical lines on the map) is measured East or West of Greenwich (England). The Prime Meridian (longitude zero) separates the World into Eastern and Western hemispheres. Points East of the Prime Meridian range from zero (at the Prime Meridian) to one hundred eighty degrees. Ex: Indonesia is located in the Eastern Hemisphere. Ex: Points West of the Prime Meridian range from zero (at the Prime Meridian) to one hundred eighty degrees. Ex: Brazil is located in the Western Hemisphere.

- Latitude and Longitudes lines combined create a grid to identify any location on Earth. A specific geographic location can be determined by locating where the latitude and longitude coordinates intersect.
5. First, observe the latitude coordinate and note which hemisphere it is located in (either the Northern or Southern hemisphere). Next, find the latitude degree coordinate on the map. Remember: Latitude lines will be horizontal on the map. Note: Very rarely will the exact degree coordinate be listed on a map. Students will have to infer where their coordinate is located based on the latitude degrees given. The latitude degrees given on the World map are in 30° intervals. Ex: Latitude= 45° will be located half way between 30° and 60°. Students may use their ruler to draw a light straight line that is equidistant between 30° and 60° to indicate the 45° point.
 6. Observe the longitude coordinate and not which hemisphere it is located in (either the Eastern or Western hemisphere). Next, find the longitude coordinate on the map. Remember: Longitude lines will be vertical on the map. Note: Very rarely will the exact degree coordinate be listed on a map. Students will have to infer where their coordinate is located based on the longitude degrees given. The longitude degrees given on the World map are based on 30° intervals. Ex: Longitude= 80° is located half way between 60° and 90°. A light straight line can be made equidistantly between 30° and 60° to indicate the 75° point. Then the student can estimate that 80° is just a little further up from that point.
 7. Instruct students to see where their latitude and longitude points intersect on the World map to determine the geographic location of the mystery animal given in the puzzle. Next, students will make an educated guess which animal the puzzle indicates based on the geographic information and the animal clue. The group that has the most correct answers wins the game. The teacher may check the answers using the Teacher's Guide.

ANSWERS

- Clue 1; koala *Phascolarctos cinereus*
 Clue 2: polar bear *Ursus maritimus*
 Clue 3: giraffe *Giraffa camelopardalis*
 Clue 4: american alligator *Alligator mississippiensis*
 Clue 5: Bornean orangutan *Pongo pygmaeus*
 Clue 6: king penguin *Aptenodytes patagonica*
 Clue 7: bald eagle *Haliaeetus leucocephalus*
 Clue 8: ring-tailed lemur *Lemur catta*
 Clue 9: green anaconda *Eunectes murinus*
 Clue 10: giant panda *Ailuropoda melanoleuca*
 Clue 11: hippopotamus
Hippopotamus amphibius
 Clue 12: kangaroo *Macropus fuliginosus*

MATERIALS

For each student pair:

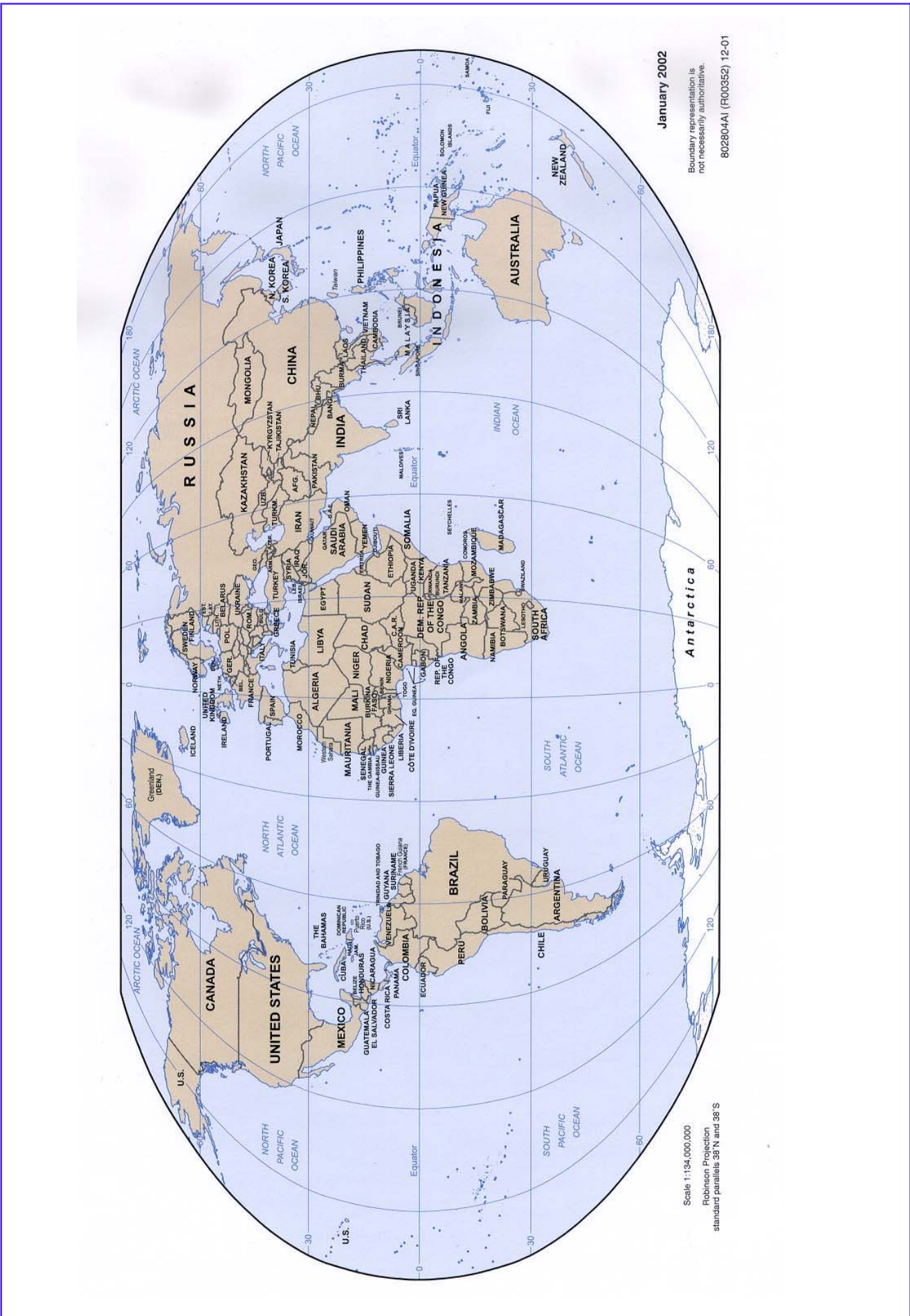
- one world map (copy from Internet or Atlas or map given on page 3)
- one ruler
- one pencil

For teacher:

- answer sheet shown to the left
- one *Animal Puzzle* Funsheet

PREPARATION

Cut each clue from the *Animal Puzzle* Funsheet and place at a station around the classroom. There will be a total of twelve stations. Determine class size and photocopy the World Map so that each pair of students may have one. See http://www.lib.utexas.edu/maps/world_map/world_pol02.jpg for a map on the Internet.



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Boundary representation is not necessarily authoritative.

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Scale 1:134,000,000

Robinson Projection
standard parallels 38°N and 38°S

Animal Puzzle Funsheet

Clue 1

I am an herbivore that has an opposable modified index finger that acts as a second thumb.

My native range coordinates are: Latitude= 25° S, Longitude= 138° E

Clue 2

I am one of the largest land carnivores and my skin is black to help keep me warm.

My native range coordinates are: Latitude= 85° N, Longitude= 100° E

Clue 3

I am a spotted herbivore that has a purplish-black tongue that can extend almost twenty inches. The purple color prevents me from burning my tongue while feeding on acacia trees.

My native coordinates are: Latitude= 15° N, Longitude= 15° E

Clue 4

I am a reptilian carnivore that was once on the endangered species list. However, my species has made a comeback and is now listed as threatened. People have to look at the shape of my snout so they don't confuse me with one of my relatives.

My native range coordinates are: Latitude= 30° N, Longitude= 80° W

Clue 5

I am an endangered species and the only great ape found on this continent. My native coordinates are: Latitude= 2° S, Longitude= 110° E

Clue 6

I am a type of bird that does not fly. Even though my name sounds like I would be the largest of all 17 species of my kind, I am actually the second largest in size.

My native coordinates are: Latitude= 80° S, Longitude= 45° E

Animal Puzzle Funsheet

Clue 7

I am a national emblem for the country that contains the coordinates given below. I have white feathers on my head, neck and tail.
My native coordinates are: Latitude= 15° N, Longitude= 120° W

Clue 8

I am an endangered primate that has a long ringed tail. All members of my species are native to the coordinates given below.
My native coordinates are: Latitude= 45° S, Longitude= 45° E

Clue 9

I am a reptile belonging to the Family Boidae. I am an excellent swimmer and very large.
My native coordinates are: Latitude= 10° S, Longitude= 70° W

Clue 10

I am an extremely endangered animal that is black and white in color.
My native coordinates are: Latitude= 37° N, Longitude= 105° E

Clue 11

I am a large mammal that secretes a pinkish-colored oil that keeps my skin moist in my hot climate. The translation of my name means river horse.
My native coordinates are: Latitude= 20° N, Longitude= 14° E

Clue 12

I am a social marsupial that lives in groups called mobs.
My native coordinates are: Latitude= 20° S, Longitude= 130° E