

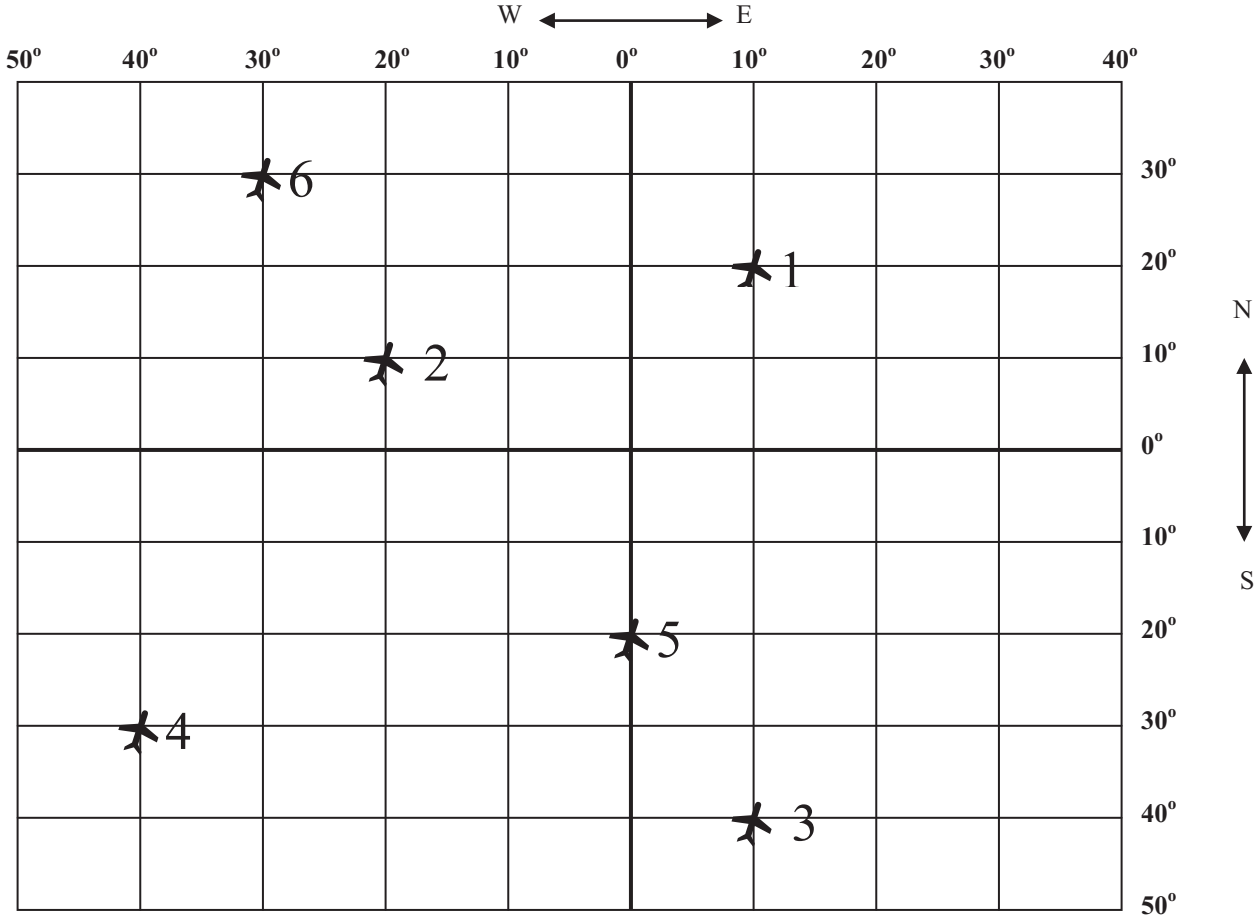


USING LATITUDE

AND LONGITUDE Pt 1

Name _____

Date _____



Latitude spans west and east like rungs on a ladder, (think **flat**)
and like a ladder, step up one or more latitude lines and you go north,
step down one or more latitude lines and you go south.

- COLOR THE LATITUDE LINES ORANGE

Longitude spans north and south like fence posts, (think **LON**don Bridge is falling **down**)
and like a fence you would count them sideways,
to the right is to the east, and to the left is to the west.

- COLOR THE LONGITUDE LINES PURPLE

The latitude and longitude lines on the above chart are 10° (degrees) apart. Degrees is the
system that is used to number latitude and longitude. The numbering starts at
0° in both directions. (0° never has **N, S, E or W**)

- COLOR OVER THE 0° LINES WITH RED
- Write the coordinates (where the lines meet) of the airplanes on the chart. Write the
latitude lines **N** or **S** first; write longitude lines **E** or **W** second. The first is done for you.

1. **20° N** by **10° E**

4. _____ by _____

2. _____ by _____

5. _____ by _____

3. _____ by _____

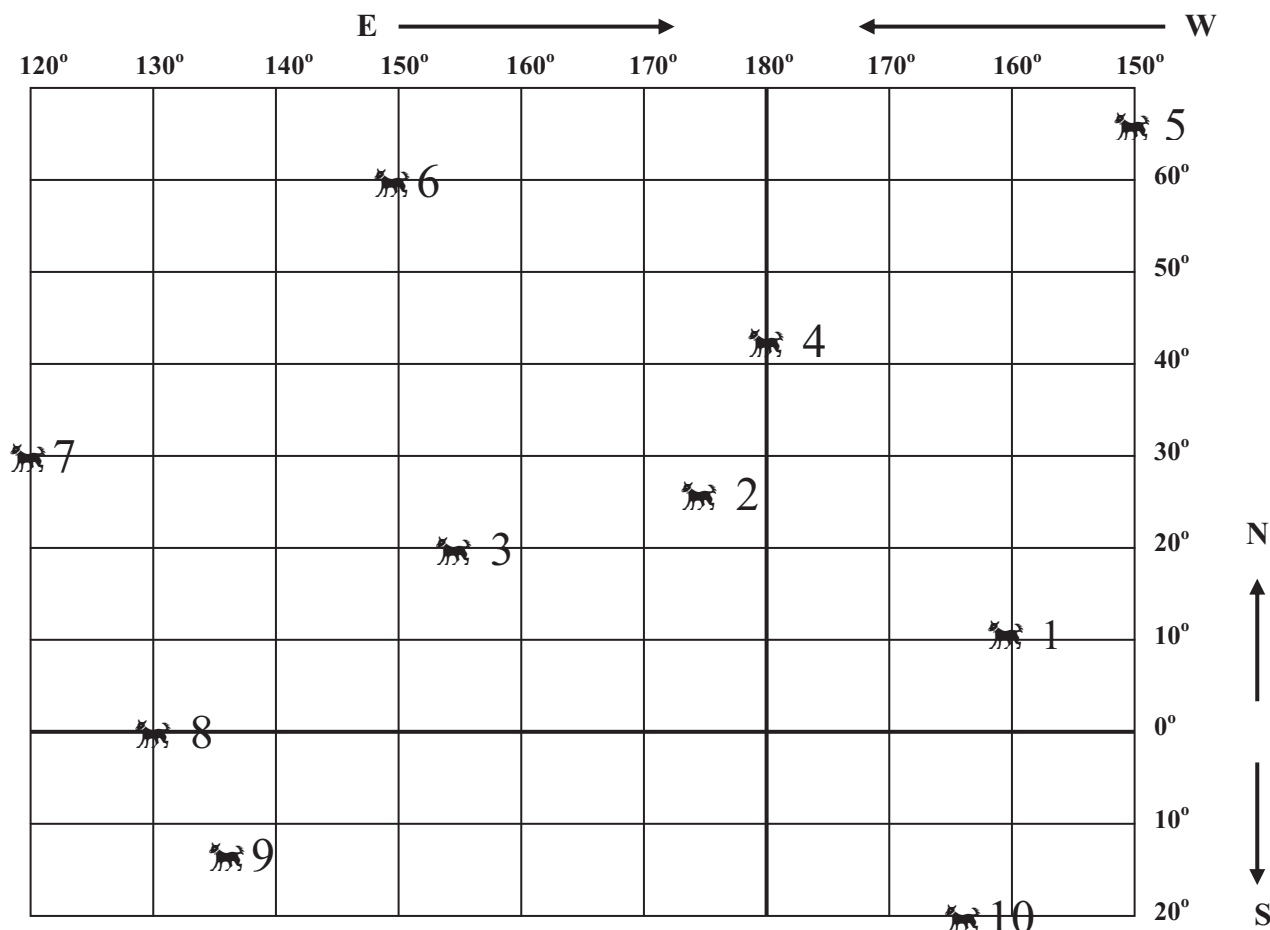
6. _____ by _____



USING LATITUDE AND LONGITUDE Pt 2

Name _____

Date _____



Latitude lines are numbered 0° to 90° from the Equator north to the North Pole or south to the South Pole.

Longitude lines are numbered from the Prime Meridian east or west, meeting at the International Date Line at 180° .

- Write the coordinates (where the lines meet) of the dogs on the chart. Write the latitude lines **N** or **S** first; write longitude lines **E** or **W** second. 0° and 180° never have **N**, **S**, **E**, or **W**.
- Some of the coordinates are between the marked lines. You will have to interpolate (estimate) what those points will be. Study the first two, which are done for you.

1. 10° N by 160° W
2. 25° N by 175° E
3. _____ by _____
4. _____ by _____
5. _____ by _____

6. _____ by _____
7. _____ by _____
8. _____ by _____
9. _____ by _____
10. _____ by _____



THE EARTH IS A SPHERE - 1

Name _____

Date _____

One way the earth is divided is by remembering it is a sphere, and dividing that sphere into two parts.

There is an imaginary line that goes east and west around the middle of the earth and divides the earth into two equal parts - north and south. This line is called the Equator. It is at 0° (zero degrees) latitude. (Latitude lines are easier to remember if you think of them as **flat**, which kind of rhymes with **lat** - itude.)

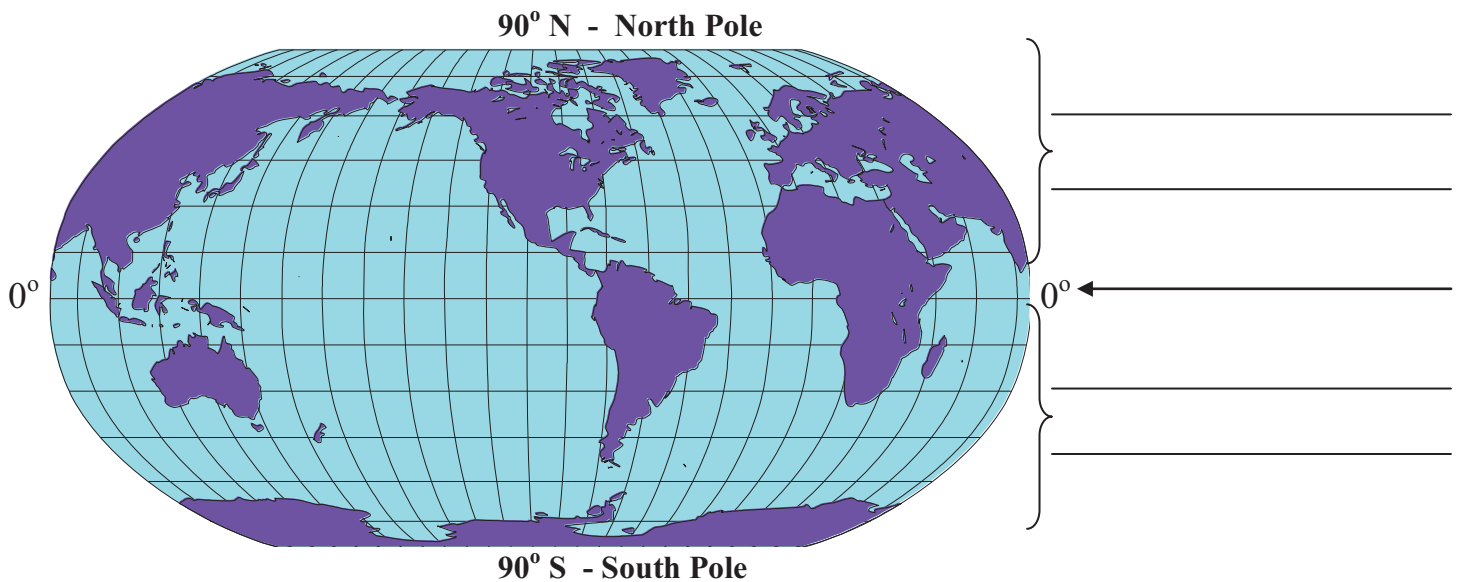
1. Label the **Equator**.

The half of the earth between the Equator and the North Pole is called the Northern Hemisphere.

2. Label the **Northern Hemisphere**.

The half of the earth between the Equator and the South Pole is called the Southern Hemisphere.

3. Label the **Southern Hemisphere**.



4. If you go completely around the earth, how many degrees would that be?

From the Equator on the east side, north to the North Pole is _____ degrees.

Continuing from the North Pole south on the west side to the Equator is _____ degrees.

Then, from the Equator south to the South Pole along the west side is _____ degrees.

And finally, from the South Pole back to the Equator on the east side is _____ degrees.

Total _____ degrees.

5. Look at the latitude lines on the **map above**. How many degrees are there between one line of latitude and the next one? (Count how many spaces there are between 0° and 90° . Then divide 90° by that number.) Circle the correct number.

a. 10° b. 15° c. 20° d. 30°

6. In which hemisphere is the United States? _____

7. In which hemisphere is most of Asia? _____

8. In which hemisphere is Australia? _____

9. In which hemisphere is the Pacific Ocean? (*tricky answer*) _____

10. In which hemisphere is Antarctica? _____

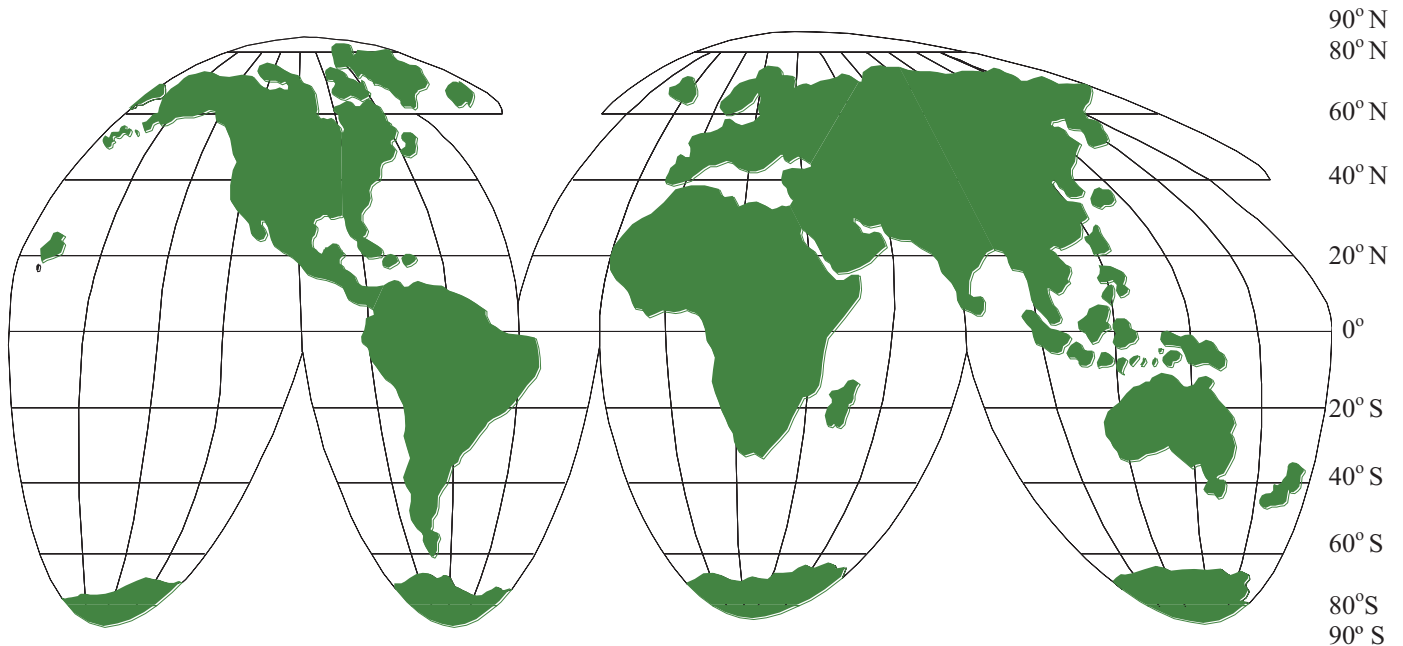


THE EARTH IS A SPHERE - 2

Name _____

Date _____

The map below has cut-outs so that we remember the earth is a sphere and a sphere cannot be flattened onto a piece of paper and retain its proportions. To keep the continents close to their true size as the drawing gets further north or south, the map maker put V shaped cuts in the ocean.



1. The Northern Hemisphere is between which two latitudes? _____ and _____
2. The Southern Hemisphere is between which two latitudes? _____ and _____
3. The North Pole is at _____° latitude, and the South Pole is at _____° latitude.
4. The Equator is at _____°. Color the Equator red.
5. Write the names of the continents the Equator passes through. _____ , _____ and _____
6. Through which oceans does the Equator pass? _____ , _____ and _____
Which ocean does the Equator NOT pass through? _____
7. Which latitude line passes through the United States - 40° N or 40° S? _____
8. Is there more land mass in the Northern or Southern Hemisphere? _____
9. How many degrees difference is there between the following pairs of latitude lines?
 - a. 20° N and 20° S _____
 - b. 60° S and 20° S _____
 - c. 90° N and 20° S _____
 - d. 20° N and 40° S _____
 - e. 40° N and 40° S _____
 - f. 40° S and 80° N _____
10. What is another name for 90° north? _____
11. Though latitude lines are numbered north and south, they are drawn _____ and _____.

Bonus: Around the earth at the equator is the same number of degrees as from pole to pole. The two hemispheres created by the **Prime Meridian** (0° longitude) and the **International Date Line** (roughly 180°) are the _____ Hemisphere and _____ Hemisphere.

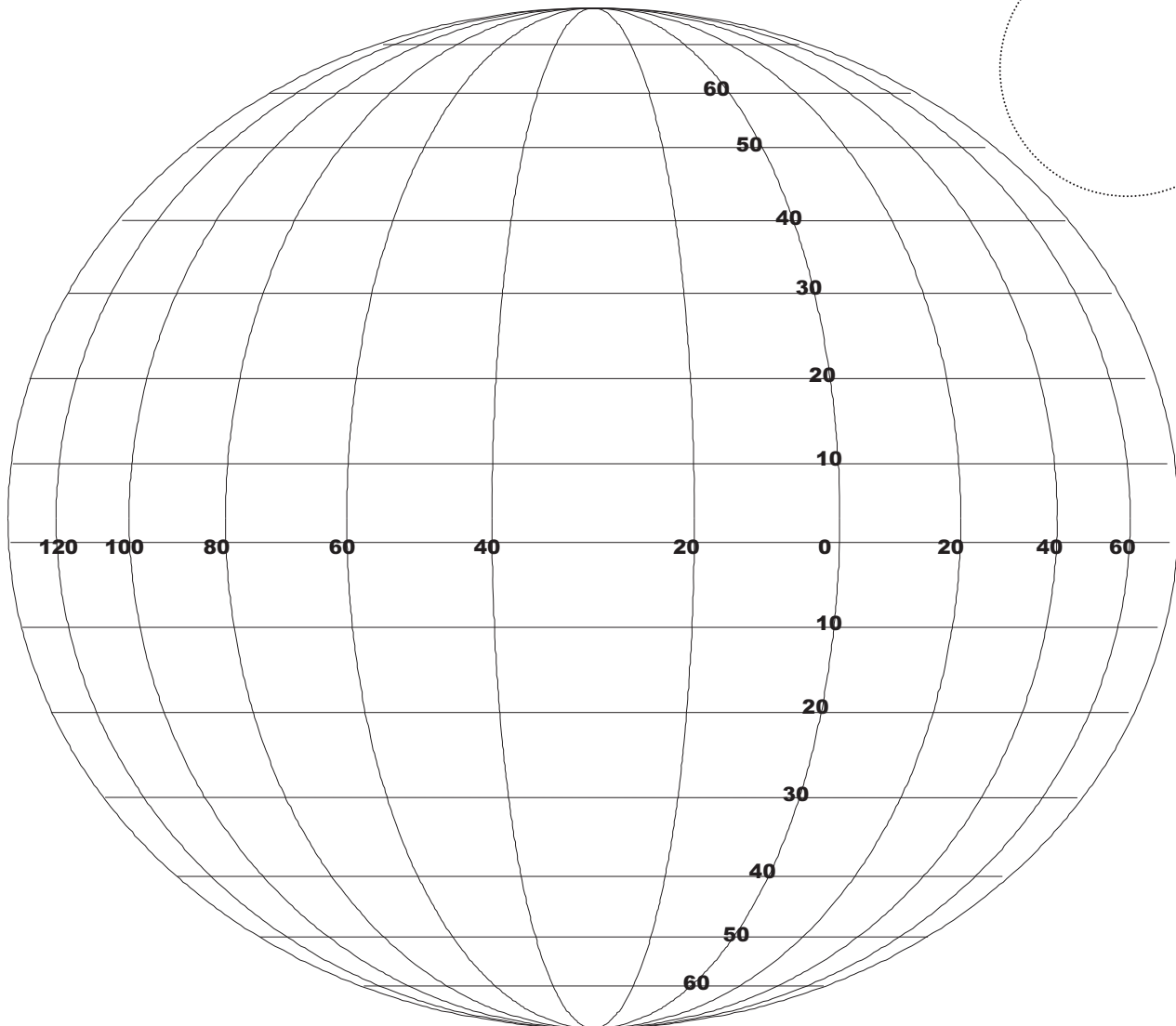
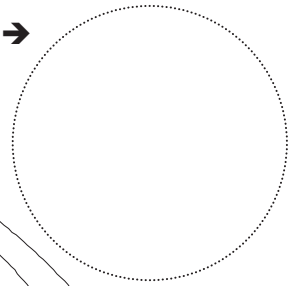


THE EARTH IS A SPHERE - 3

Name _____

Date _____

In the circle, draw a compass rose →



Overdraw the **Equator** in purple. Label it in the margin to the right.

Mark an **x** and place the following letters at the coordinates indicated:

- | | | |
|------------------------|-----------------------|------------------------|
| A > 0°, 0° | E > 40°S, 30°W | J > 15°N, 120°W |
| B > 10°N, 20°E | F > 25°N, 40°E | K > 0°, 45°W |
| C > 60°S, 110°W | G > 30°S, 05°E | L > 60°N, 0° |
| D > 40°S, 60°E | H > 15°S, 70°W | M > 55°S, 10°W |

Using a ruler, at 23°N draw a red line and label it **Tropic of Cancer**.

at 23°S draw a red line and label it **Tropic of Capricorn**.

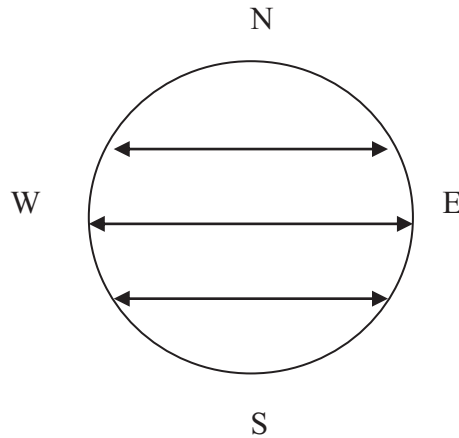
The **area** between the Tropic of Cancer and the Tropic of Capricorn is known as the **Tropics**.
Color that area orange.

For latitude practice and special latitude naming -

First - you'll need a pull-down map and students should have a desk map or atlas.

Second - remind the class that these lines are IMAGINARY. We draw them on globes and maps, but they don't exist on the surface of the real world.

Third - discuss that latitude goes EAST to WEST, and is numbered north to south - like a ladder's rungs



Have this already drawn on the board, and point out the east/west lines.

Then point out that what you told them about the ladder rungs - go north and south. Three rungs here, but you can draw more and perhaps number them: 0 for the middle one and N or S for the others.

The Equator never has north or south - it's just 0°.

The Equator is exactly as its name implies. It separates the earth into two equal parts, which we call HEMISPHERES (half-spheres).

NOTE: There are no dividing lines that separate the Eastern Hemisphere from the Western Hemisphere. Instead, they are defined mostly by the continents:

Eastern Hemisphere = Africa, Asia, Australia, Europe

Western Hemisphere = North America, South America

Antarctica and the small islands in the central Pacific Ocean are not usually referred to by those hemispheres.

Zero degrees longitude OR the Prime Meridian, for instance, goes right through Europe and Africa. And 180 degrees longitude and the International Dateline don't always coincide.

LATITUDES



Name _____

- The Equator is the latitude line that divides our Earth into the Northern Hemisphere and the Southern Hemisphere. On your map, locate the **Equator - 0° latitude**.

A. Write whether each of the following countries is in the **Northern** or **Southern** Hemisphere.

- | | |
|------------------------|----------------------|
| 1. United States _____ | 5. Philippines _____ |
| 2. Madagascar _____ | 6. Mexico _____ |
| 3. Mongolia _____ | 7. Venezuela _____ |
| 4. France _____ | 8. Angola _____ |
9. Which TWO continents are completely in the Northern Hemisphere?
 _____ and _____

- In addition to the Equator, another pair of named latitude lines are the -

Tropic of Cancer (23.5°N latitude)

and the

Tropic of Capricorn (23.5°S latitude).

The area between those two latitude lines is called the **Tropics**.



B. Write **Yes** or **No** - whether each of the following countries is completely in the Tropics?

- | | | |
|-----------------|-----------------|-----------------------|
| 10. Spain _____ | 11. Kenya _____ | 12. Peru _____ |
| 13. Sudan _____ | 14. Cuba _____ | 15. New Zealand _____ |

- The other pair of named latitude lines are the **Arctic Circle** (66.5°N latitude) and the **Antarctic Circle** (66.5°S latitude). The areas that lie -

- between the Arctic Circle and Tropic of Cancer and

- between the Antarctic Circle and Tropic of Capricorn.



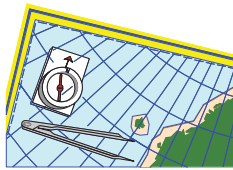
are known
as the
Temperate Zones

C. Write **Yes** or **No** - whether each of the following countries is completely in a Temperate Zone.

- | | | |
|---------------------|-------------------|------------------------|
| 16. Canada _____ | 17. Bolivia _____ | 18. Turkey _____ |
| 19. Indonesia _____ | 20. Japan _____ | 21. South Africa _____ |

D. On your map, locate three countries that lie **partially** in the Tropics and **partially** in one of the Temperate Zones. Write their names below.

COMPLETE THE COORDINATES



Name _____

Date _____

It is very important to put the letters N (north), S(south), E (east), and W (west) after the numbers when using latitude and longitude designations. For instance, 15° could be any one of four lines, and only the directional letter makes the designation precise.

A. Below are listed the incomplete latitude and longitude boundaries for eight countries. Using an atlas, locate the countries. Complete the coordinates by adding N, S, E, or W in the spaces provided.

	<u>Between these latitudes</u>	<u>Between these longitudes</u>
1. Australia	11° ____ and 44° ____	113° ____ and 154° ____
2. Japan	46° ____ and 24° ____	124° ____ and 146° ____
3. Iraq	29° ____ and 39.5° ____	38° ____ and 48° ____
4. Gabon	3° ____ and 4° ____	8° ____ and 14° ____
5. Spain	44° ____ and 36° ____	9° ____ and 3° ____
6. Peru	0° ____ and 16° ____	82° ____ and 68° ____
7. Vietnam	23° ____ and 8° ____	102° ____ and 104° ____
8. Costa Rica	12° ____ and 8° ____	86° ____ and 83° ____

In addition to the Equator, the Poles, Greenwich, and the International Date Line, there are four other geographical designations that are named as well as numbered.

B. On a map of the world locate the following circles and answer the questions regarding them.

- At what latitude is the **Arctic Circle**? _____ (Look near the north pole.)
- Which countries are on the **Arctic Circle**? _____

- At what latitude is the **Antarctic Circle**? _____ (Look near the south pole.)
- Which countries are on the **Antarctic Circle**? _____
- The area of the world known as the *tropics* is between which two latitudes?

- between the **Tropic of Cancer**, latitude _____
and the **Tropic of Capricorn**, latitude _____



- Which part of the United States is in the tropics? _____
- Most of the US is in an area of the world known as a *temperate zone*. Considering the location of the US on the globe, why do you think it is called a *temperate zone*?



WHERE ARE YOU?

Name _____

Date _____

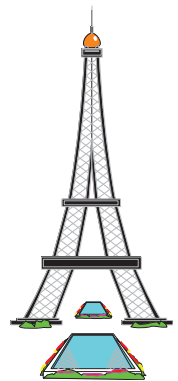
Using an atlas or world map, discover where you'd be if you were at the following coordinates:

A. Which continent?

	Latitude and Longitude	Continent		Latitude and Longitude	Continent
1	50° N by 100° E		5	24° S by 57° W	
2	0° by 20° E		6	62° N by 110° W	
3	52° N by 22° E		7	83° S by 20° E	
4	15° S by 38° E		8	15° N by 121° E	

B. Which capital city and country?

	Coordinates	Capital City	Country
1	39° N x 77° W		
2	30° N x 31° E		
3	36° N x 140° E		
4	35° S x 149° E		
5	42° N x 12.5° E		



C. What are the coordinates?



	Coordinates	Capital City	Country
1		London	England
2		Beijing	China
3		Buenos Aires	Argentina
4		Mexico City	Mexico
5		Kabul	Afghanistan

D. In which ocean are you sailing?

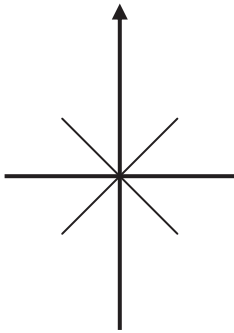
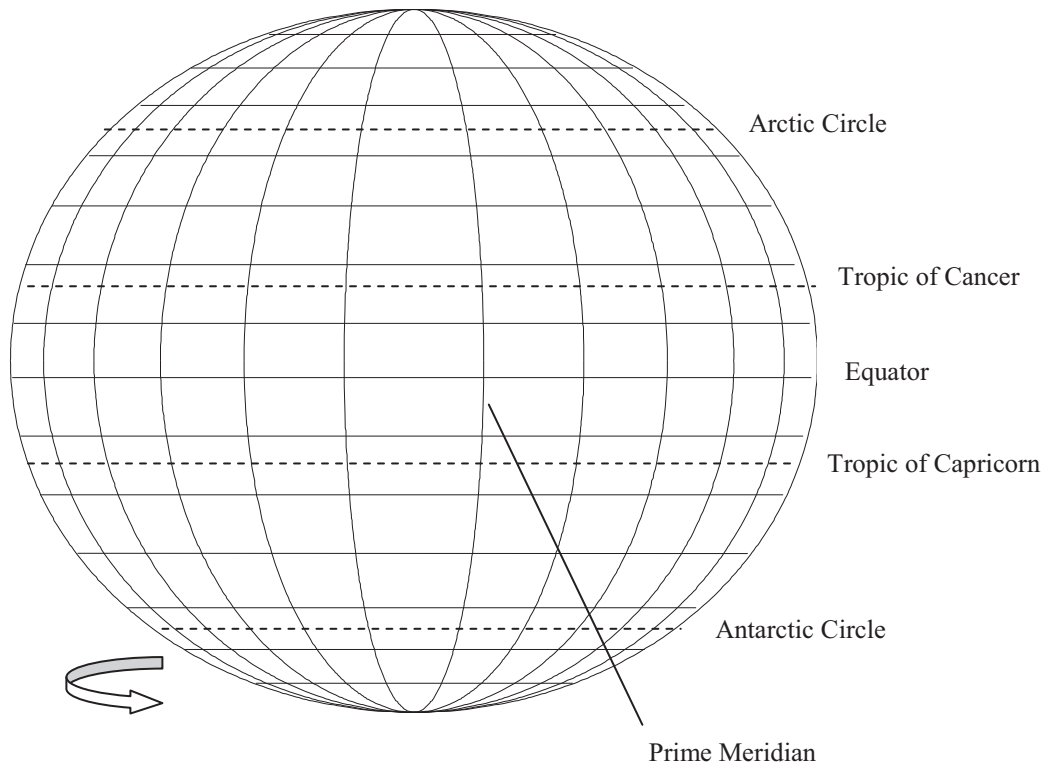
	Coordinates	Ocean
1	15° S x 160° W	
2	5° N x 70° E	
3	40° S x 30° W	



LATITUDE AND LONGITUDE QUIZ

Name _____

Date _____



A. Correctly label the compass rose to the left, using abbreviations:
N, S, E, W, NE, SE, SW, NW

B. On the diagram above, label the **North Pole** and the **South Pole**.

C. Answer the following questions:

1. What is the latitude (in degrees) of the Equator? _____
2. What is the latitude (in degrees) of the North Pole? _____
3. What is the latitude (in degrees) of the South Pole? _____
4. The area of the world called the **tropics**, is the area between which two named latitude lines?
_____ and _____
5. What is the name of the only longitude line labeled on the diagram? _____
What is its longitude (in degrees)? _____

D. Complete the following statements by writing **north**, **south**, **east**, or **west**:

6. The two **temperate** (moderate) **zones** are:
_____ of the Tropic of Cancer, and _____ of the Arctic Circle
_____ of the Tropic of Capricorn, and _____ of the Antarctic Circle
7. The semi-circular arrow to the right of the compass rose, indicates that the earth revolves on its axis from _____ to _____

GLOBAL POSITIONING

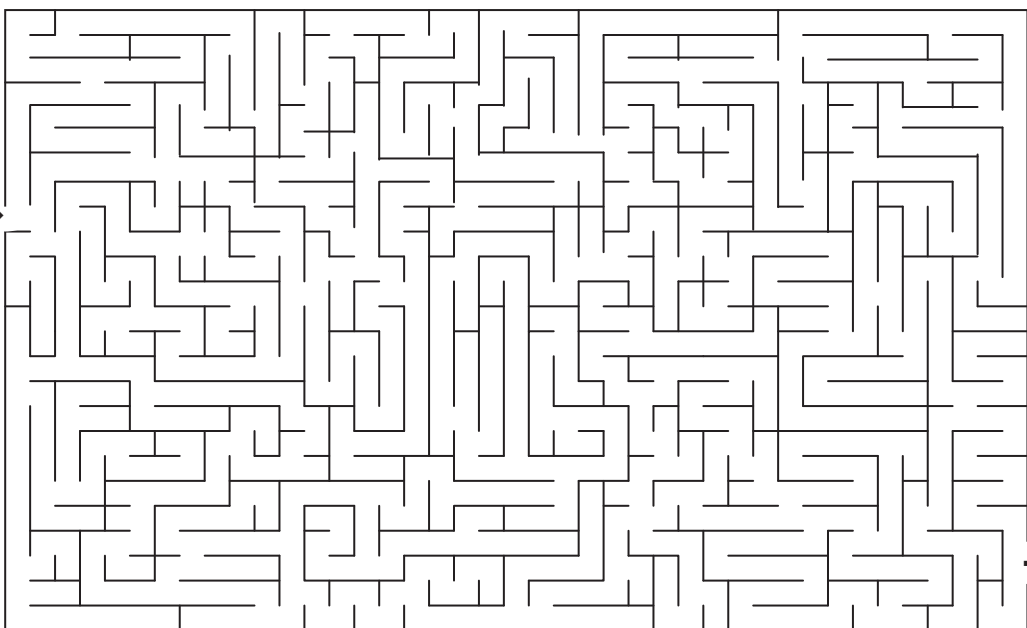
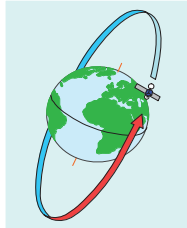
Name _____

Date _____

Below are terms that apply to finding a specific position on the Earth. Locate and highlight the terms in the Word Search.

COMPASS	EQUATOR	COORDINATES	HEMISPHERE
POLES	EARTH	LATITUDE	GLOBE
NORTH	ROTATE	LONGITUDE	TEMPERATE ZONES
SOUTH	REVOLVE	DEGREES	TROPICS
EAST	SATELLITE	ARCTIC CIRCLE	TROPIC OF CAPRICORN
WEST	BEAMS	ANTARCTIC CIRCLE	TROPIC OF CANCER

S	O	T	H	N	O	R	H	C	A	N	T	A	E	A	R	C	H	S	C	C	C	O	R	
E	T	T	P	M	N	R	O	C	I	R	P	A	C	F	O	C	I	P	O	R	T	D	I	
L	E	G	A	S	A	T	H	H	E	T	S	S	N	E	E	W	R	G	E	U	T	A	N	
L	M	E	L	C	R	I	C	C	I	T	C	R	A	T	N	A	E	R	R	Z	T	L	N	
I	P	E	R	O	E	P	E	A	R	T	H	F	K	T	I	S	P	S	H	A	C	H	S	
T	E	N	T	E	B	A	E	E	A						M	E	E	H	B	T	P	R	E	S
E	R	N	S	W	V	E	S	R	M						M	G	L	E	M	R	C	T	I	A
I	A	O	E	E	E	O	O	E	P						R	A	F	L	D	O	A	R	E	P
R	T	Z	S	T	L	T	L	T	B						D	H	B	C	I	N	R	O	D	M
P	E	L	A	P	A	O	E	V	E						T	E	H	B	I	T	T	P	U	O
A	Z	T	G	U	O	B	P	A	E						A	T	G	D	M	S	E	I	T	C
C	O	L	Q	L	A	T	I	T	U	D	E	O	M	O	U	R	R	U	D	V	C	I	Z	
R	N	E	S	R	G	S	M	D	C	K	S	S	O	L	O	U	A	E	G	X	S	G	W	
C	E	B	R	E	C	N	A	C	F	O	C	I	P	O	R	T	H	S	E	A	E	N	O	
O	S	L	E	R	E	H	P	S	I	M	E	H	C	R	O	I	Z	O	T	S	N	O	V	
R	D	N	E	B	I	D	R	R	O	O	C	A	R	C	T	I	C	C	I	R	C	L	E	



ANSWER KEYS

Using LATITUDE and LONGITUDE Pt 1

- | | |
|-----------------|-----------------|
| 1. 20° N, 10° E | 4. 30° S, 40° W |
| 2. 10° N, 20° W | 5. 20° S, 0° |
| 3. 40° S, 10° E | 6. 30° N, 30° W |

Using LATITUDE and LONGITUDE Pt 2

- | | |
|------------------|-------------------|
| 1. 10° N, 160° W | 6. 60° N, 150° E |
| 2. 25° N, 175° E | 7. 30° N, 120° E |
| 3. 20° N, 155° E | 8. 0°, 130° E |
| 4. 42° N, 180° | 9. 12° S, 136° E |
| 5. 65° N, 150° W | 10. 20° S, 175° W |

The Earth is a Sphere - 1

- | | |
|------------------------------|--------------|
| 4. 90°, 90°, 90°, 90° = 360° | |
| 5. b. 15° | 6. northern |
| 7. northern | 8. southern |
| 9. both | 10. southern |

Treasure Map 2E, 4N, 1W, 2N, 2E, 1S, 3E, 1N, 2E, 5N, 2W, 2S, 1W, 1N

The Earth is a Sphere - 2

- | | |
|----------------------|------------------|
| 1. 0° & 90° N | 7. 40° N |
| 2. 0° & 90° S | 8. northern |
| 3. 90° N, 90° S | 9. a. 40° d. 60° |
| | b. 40° e. 80° |
| 4. 0° | c. 110° f. 120° |
| 5. S.Am., Afr., Asia | 10. North Pole |
| 6. Pac., Atl., Ind. | 11. east west |
| | 12. parallel |

Complete the Coordinates

- | | | |
|------------|------|-----------------------|
| A. 1. S, S | E, E | B. 1. 67° N |
| 2. N, N | E, E | 2. Canada, Greenland, |
| 3. N, N | E, E | Iceland, Norway, |
| 4. N, S | E, E | Sweden, Finland, |
| 5. N, N | W, E | Russia |
| 6. -- S | W, W | 3. 67° S |
| 7. N, N | E, E | 4. none |
| 8. N, N | W, W | 5. 23° N 23° S |
| | | 6. Hawaii |
| | | 7. answers vary |

Where Are You?

- | | |
|------------------------|------------------|
| A. 1. Asia | 5. South America |
| 2. Africa | 6. North America |
| 3. Europe | 7. Antarctica |
| 4. Africa | 8. Asia |
| B. 1. Wash., D.C. USA | |
| 2. Cairo, Egypt | |
| 3. Tokyo, Japan | |
| 4. Canberra, Australia | |
| 5. Rome, Italy | |
| C. 1. 52° N, 0° | D. 1. Pacific |
| 2. 40° N, 116° E | 2. Indian |
| 3. 35° S, 57° W | 3. Atlantic |
| 4. 19° N, 98° W | |
| 5. 34° N, 69° E | |

LATITUDE & LONGITUDE QUIZ

- 0°
- 90° N
- 90° S
- Tropic of Cancer; Tropic of Capricorn
- Prime Meridian; 0°
- north, south
south, north
- east to west

Reindeer Roundup Argentina, Japan, Australia, Canada, Kenya, Greenland, Mexico, France, and the United States (Hawaii).