

Cross Country Tour

Lesson 17

Name: _____

Date: _____

Vocabulary

Triangulation - finding an unknown point, in navigation, by the formation of a triangle having the unknown point and two known points as the vertices

Bearing - the angle between North on a compass and a direction

Activity 1

Researching United States Landmarks

1

Cut out the landmark pieces below and research where each of the landmarks is located. Record the landmark's location below and attach the landmark to the map in its correct location.

	Location	Image Piece
Golden Gate Bridge		
Mount Rushmore		
Liberty Bell		
Statue of Liberty		
Arlington National Cemetery		
The Gateway Arch		
The Alamo		
The Space Needle		

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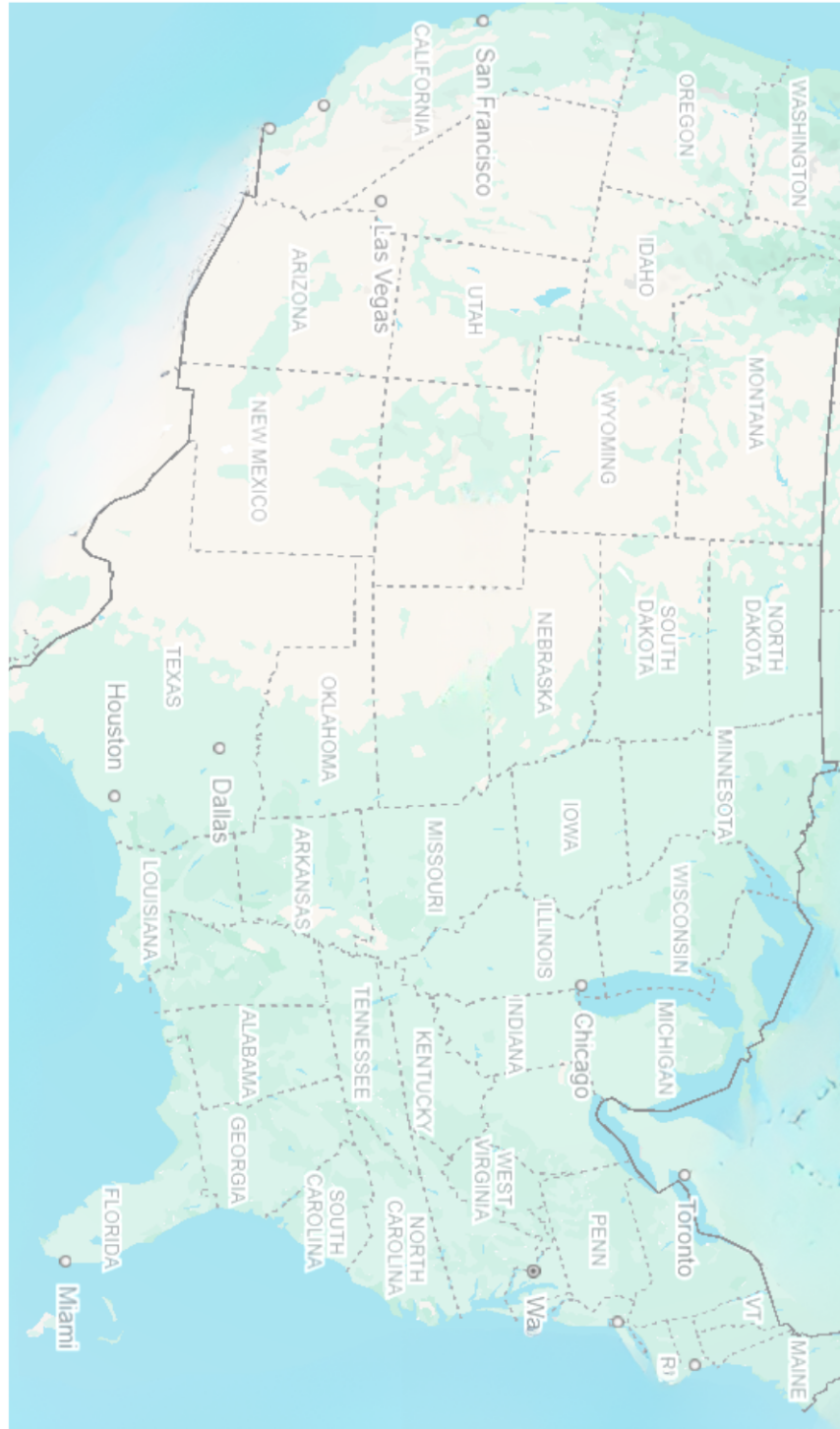
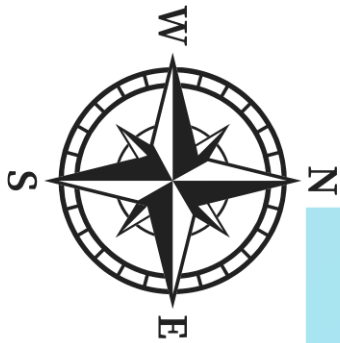
Little Bighorn Battlefield National Monument		
The Hoover Dam		

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2

Both the Ari Compass Application and a traditional compass are broken down into segmented degrees. We can use this information to provide what are known as **bearings**, the angle between an object and North or another object.

When we provide a directional bearing, we refer to the angle, East or West, that an object is from North. It looks like this:



N130° E



Given the bearing directions below, draw an arrow on top of the compass showing the angle due or relative to North.

Bearing

N120° W



N140° E



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N50° E



Activity 2

Triangulating a Cross-Country Route

You'll be driving cross-country during Activity 2, using the landmarks you placed in Activity 1, problem #1, to **triangulate** your route across the United States.

1

Everyone will have the same starting point, given below. Once you find your travel points, place your cut-out car on the intersection of the two lines. After locating your starting point, have your teacher check your location and ask for the next bearing clue. Once you triangulate each travel point and move your car, you must have your teacher check your route, and if you are ready to move on, they will provide your next bearing clue.

Record your bearing clues below to refer back to them if you don't draw the correct lines. Orient Ari to the compass provided with the map of the United States and set Ari to the **On a Map** setting.

Bearing Clues
Start Location: • Draw a line N40° W from the Statue of Liberty • Draw a line N10° E from the Liberty Bell
Travel Point #2: • •
Travel Point #3: • •

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Travel Point #4: • •
Travel Point #5: • •
Travel Point #6: • •
Travel Point #7: • •
Travel Point #8: • •
Travel Point #9: • •

2

Using a ruler, draw your cross-country route. The drawn lines should connect every intersection of triangulated points drawn using your bearing clues.

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Exit Ticket

Please respond to the following prompts.

Criteria for Success:

- Correctly connect the use of compass bearings to the process of triangulation
- Using information from the lesson, apply triangulation to a different, real-world situation

1. How are bearings and triangulation connected?

2. Aside from using it in our cross-country route, where else do you think triangulation would be useful?
