

Map the Hike

Name: _____

Lesson 12 Answer Sheet

Date: _____

Vocabulary

Latitude - an imaginary line that measures distance north or south of the equator

Longitude - an imaginary line that measures angular distance east or west of the prime meridian

Distance - the four main compass directions: North, South, East, and West

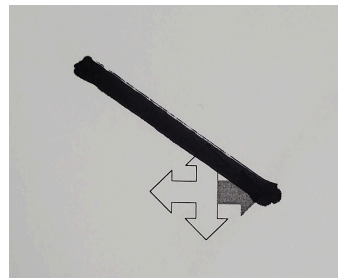
Activity 1

Drawing Lines with Compass and Distance

Using the Ari Compass and Distance applications, you'll draw three lines according to the direction and distance provided.

1

1. Place the Ari on the four-way arrow.
2. Orient the Compass application with the **On a Map** setting, with North matching the direction of the red arrow.
3. Locate **SW** on the Compass application.
4. Open the Distance application.
5. Draw a **1.2 inch** line extending out from the point of the red arrow.



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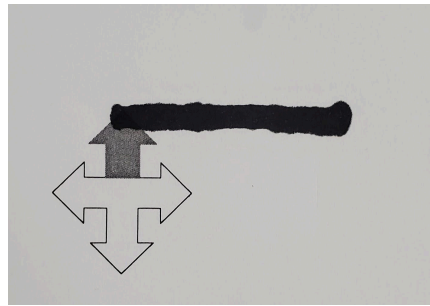
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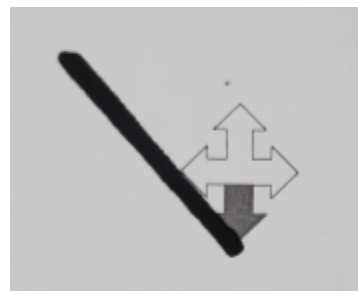
2

1. Place Ari on the four-way arrow.
2. Orient the Compass application with the **On a Map** setting, with North matching the direction of the red arrow.
3. Locate **E** on the Compass application.
4. Open the Distance application.
5. Draw a **0.7 inch** line extending out from the point of the red arrow.



3

1. Place Ari on the four-way arrow.
2. Orient the Compass application with the **On a Map** setting, with North matching the direction of the red arrow.
3. Locate **NE** on the Compass application.
4. Open the Distance application.
5. Draw a **1.8 inch** line extending out from the point of the red arrow.



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Activity 2

Drawing Hikes

Using the Ari Compass and Distance applications, you'll map out a hike. Place Ari on the compass image after selecting the Compass application with the **On a Map** setting to orient it to your map. At the start, end, and markers throughout your hike, draw an X.

1

Hike #1

Start Location:

- Latitude: 41°N
- Longitude: -75° 15'W

Marker #1

- Draw a 28mm line NE and place a marker

Marker #2

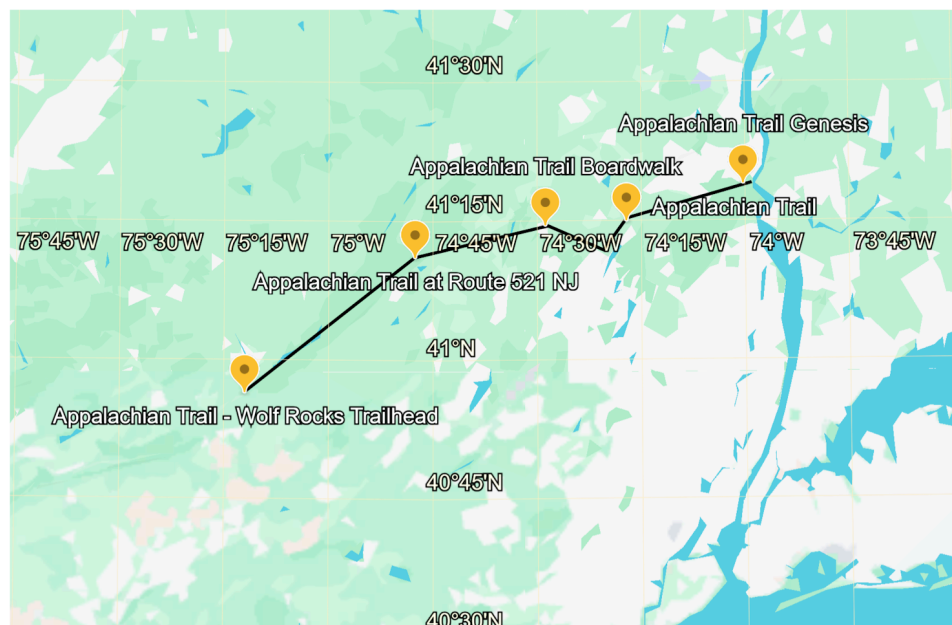
- Draw a 18mm line NE and place a marker

Marker #3

- Draw a 11mm line E and place a marker

Marker #4

- Draw a 16mm line NE and place a marker



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2

Start Location:

- Latitude: $27^{\circ} 59' 45''$ N
- Longitude: $86^{\circ} 50' 35''$ E

Marker #1

- Draw a 22mm line NNE and place a marker

Marker #2

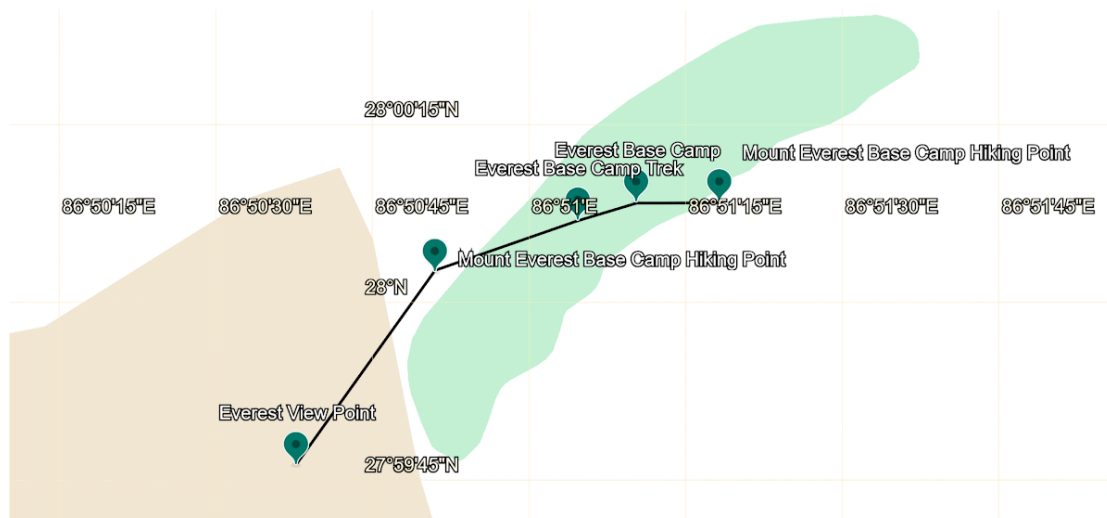
- Draw a 14mm line NE and place a marker

Marker #3

- Draw a 6mm line NE and place a marker

Marker #4

- Draw a 7mm line E and place a marker



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Start Location:

- Latitude: 67° 35' N
- Longitude: 18° 05' 50" E

Marker #1

- Draw an 82mm line N and place a marker



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Exit Ticket

Please respond to the following prompts.

1. Refer to a physical or online map/atlas, based on the latitude and longitude provided and the hikes you drew, where were you hiking for hike #1, hike #2, and hike #3?

Based on the latitude and longitude, we drew hikes around:

- Hike #1 - Appalachian Trail, Pennsylvania, US
- Hike #2 - Nepal, Mount Everest
- Hike #3 - Kungsleden, Sweden

2. Describe how you combined data from the Compass and Distance applications to ensure the accuracy of your map. How would your results change if either tool were misused?

After finding the compass directions, I was able to easily navigate back to the Toolkit menu and use the Distance application to measure the distance to each marker rather than use a ruler. It was an easy replacement for a ruler, and with my hand as a temporary marker, I was able to determine where each marker should be placed. Misuse of these tools can result in a variety of errors.