Key words: large scale, small scale

Imagine you're visiting the state of Tennessee. You have two maps, one like the map below, the other like the map on the next page. While both maps will help you plan your trip, they show very different things. One map shows the whole state. The other shows the city of Memphis, the largest city in the state.

These maps have different scales. Find the scale on both maps, at the bottom of each map. The scale lets you compare the distance on the map to the real distance on Earth. On the map of Tennessee, 1 inch equals 75 miles. On the map of Memphis, 1 inch equals 2 miles. You can measure the distance between two places on the map, and then use the map's scale to figure out how far apart these places really are on Earth.

On the map of Tennessee, the cities of Memphis and Dyersburg are 1 inch apart. You know that on this map 1 inch equals 75 miles. About how many miles is it from Memphis to Dyersburg?

Sometimes you will need to estimate. For example, on the map of Memphis, the Mid-South Fairgrounds are about 2 1⁄2 inches from the Memphis International Airport. How many miles does that represent? You know that 1 inch equals 2 miles on this map. So, 2 inches equals 4 miles. And 1⁄2 inch equals 1 mile. Add it all up. It's about 5 miles from the Mid-South Fairgrounds to the airport.

Tennessee

Use the scale on the map of Tennessee to answer these questions.
1. About how many miles is it from the capital city of Nashville to Knoxville?
2. People in the United States usually measure long distances in miles, while people in much of the rest of the world use kilometers (km). One mile is longer than one kilometer. About how many kilometers is it from Nashville to Knoxville?

Different maps show areas of different sizes. **Large scale** maps show small areas on Earth. The map of Memphis is a large scale map. Large scale maps often show details like streets or buildings. In contrast, the map of Tennessee is a **small scale** map. It does not show as much detail as the map of Memphis.

Compared to the map of Tennessee, a world map in this book has an even smaller scale. World maps can show entire continents and oceans in just a few inches. Remember this backward rule: small scale maps show large areas, while large scale maps show small areas.

Memphis

Legend:
- 14 State Highway
- 61 U.S. Highway
- 55 Interstate
- Place of interest
- Road
- Highway
- Freeway
- Park

mi 0   1   2
km 0   1   2

Practice figuring out distances in the real world by using the scale on the map of Memphis above. Then answer the questions below.

3. How far in miles is it from the National Civil Rights Museum to the University of Memphis?

4. How far in miles is it from the Mid-South Fairgrounds to Graceland, the home of the famous singer, Elvis Presley?

5. You are staying at a hotel near the University of Memphis. The hotel is at the intersection of Park Avenue and Highland Street. Use the map scale to calculate the distance along a straight line from your hotel to Graceland.

6. The distance in a straight line from one place to another is sometimes referred to as the distance "as the crow flies." A crow might be able to fly in a straight line from your hotel to Graceland. But if you drive, you have to use the roads. On the map, trace your finger along the roads that you would take to get from your hotel to Graceland. Which distance is farther, the straight line or the route you traced along the roads?
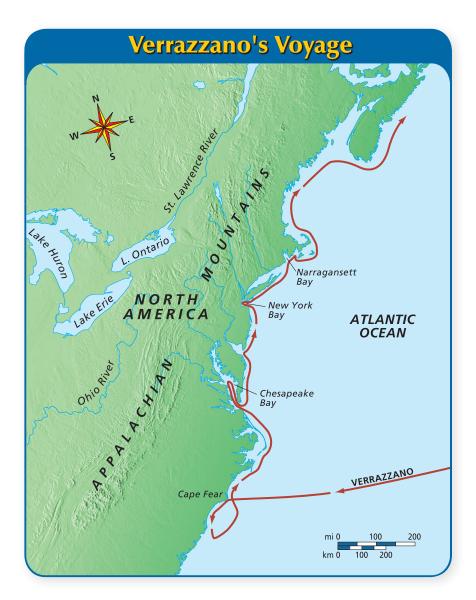
An Explorer's Routes

After Columbus's first voyage to North America in 1492, many European countries sent explorers across the Atlantic Ocean to explore this "new world." At that time, Europeans wanted to find a way to sail to Asia by going west. Such a route would allow easier access to Asia's valuable silk and spices.

An Italian explorer, Giovanni da Verrazzano, was hired by the king of France to explore the coast of North America. Verrazzano set sail in 1524. He traveled to an area along the North American coast that is now part of the state of North Carolina.

7. Refer to the world map on pages 66-67 to estimate the distance that Verrazzano traveled across the Atlantic Ocean. Use the map scale to help you calculate the distance from western France to the coast of North Carolina.

Giovanni da Verrazzano

Verrazzano's Voyage

The map on this page shows Verrazzano's route along the coast of North America. The larger scale map on the following page shows only part of Verrazzano's route up the northeast coast. The route has been simplified to make it easier to estimate the distances he traveled.

Verrazzano believed that North America was a narrow strip of land. He hoped to find a shortcut across this land that would allow him to sail through to the Pacific Ocean. But, as we now know, there is no quick passage across North America to Asia.

Verrazzano first stopped at Cape Fear. From there he sailed north, looking for a way to sail through to Asia. He discovered a body of water that he thought led to the Pacific Ocean. Today we know that Verrazzano entered the Chesapeake Bay. Verrazzano explored parts of the Chesapeake Bay before continuing to sail north to what is now New York Bay. Today the Verrazano-Narrows Bridge, named for the explorer spans the mouth of this bay.

Look at the map on the right to answer the following questions.

8. Use the map scale to calculate how far Verrazzano traveled between Cape Fear and the entrance to the Chesapeake Bay.

9. Use the map scale to calculate the distance from the Chesapeake Bay to New York Bay.

10. Use the map scale to calculate the distance from New York Bay to Narragansett Bay.

11. Add your calculations together to find the total distance Verrazzano traveled from Cape Fear to Narragansett Bay.

Verrazzano's Route

Skill Builder

Review

1. Imagine that you have three maps. The first shows the state of Florida. The second shows a neighborhood in Miami, a city in Florida. The third shows all the states on the East Coast. Which map has the largest scale? Which map has the smallest scale?

2. Use the map of the United States on pages 70-71 to estimate the distances between these cities:

   • Baltimore, Maryland, and Buffalo, New York

   • Kansas City, Missouri, and Albuquerque, New Mexico

   • Jackson, Mississippi, and San Diego, California

   • Carson City, Nevada, and Indianapolis, Indiana

Try It Yourself

Choose three cities in the United States. Imagine you are planning a trip to each of these cities. Measure the distance you will travel on your trip. Start at your hometown, go to each city, and return home again. How many miles is it from one city to the next? How many total miles will you travel?