

Scale

Concept: A scale is a way to measure distance on a map.

Objective: To demonstrate how a scale shows distance on a map.

Vocabulary: scale, distance, junction

Background Information:

- Maps are not the same size as the places they show. Since maps cannot show real distance between places or things, a scale must be used.
- A map uses a scale to show how far apart and how large things really are. Without a scale, it would not be possible to figure how far it is from one town to another or how large a piece of land is.
- A cartographer uses a scale to reduce land and oceans proportionately on a piece of paper.
- Scales use one unit of measurement to stand for another unit of measurement.

Teaching Suggestions

1. Ask students to explain the uses of a ruler. A scale is like a ruler. It is used to measure distance. It is best if all students have a 12-inch ruler for this lesson. Before using the activity page *Measuring Distance on a Map*, let the students measure the top of their desk, an eraser, a shelf on a bookcase, or any other readily available object. This short activity will help to motivate the students for the lesson. It will also allow you to check on their understanding of a ruler.

2. The activity page *How Far Is It?* uses miles instead of feet. The students will measure the miles between cities on a map.

3. Activity page *Camping in Nature Park* also uses miles. Explain to the class the need to measure from dot to dot in a straight line. Explain the difference between actual miles and approximate miles. The nature trail is not a straight path. A ruler only allows you to measure a straight line.

4. The activity page *Traveling on Different Roads* is a road map. Students must use the compass rose, legend

box, and scale to answer the questions. Explain the difference between the three types of roads found on the map:



U.S. highways are big highways linking cities across the country. They are regulated and maintained by the federal government.



State roads are roads linking towns and cities within a state. These are the responsibility of a particular state.



Local roads are smaller roads around towns or out in the county. They are usually maintained by the local town or county government.

5. Students become airline pilots while doing the activity page *Flying from Place to Place*. Airline pilots must file a flight plan with the airport before they take off. Flight plans include place and time of departure and place and time of arrival at the destination. They must also know the number of miles between places to determine the amount of fuel needed for the trip.

Additional Activities

1. Obtain copies of road maps for your state. Try to get enough for every two students. Have each pair figure the distance from their home town to other towns in the state. It will be easier if you select the towns ahead of time.

2. Assign a different state to each student. Have them write letters to the Parks and Tourism Department of

their assigned state requesting a tourism map or state road map. Have each student make a chart of interesting information they glean from the maps to share with the class. Some possible information they may include on the chart: number of cities on U.S. highways; number of rivers; number of state roads; state motto; state flower; state parks; state museums, etc.