



## Teacher Feature

# WHAT DO MAPS SHOW?

The U.S. Geological Survey (USGS) has developed a teacher's package designed to help upper elementary and junior high school students understand and use maps. It is provided as a service to educators so more Americans will learn to understand the world of information on maps. Everything in the package teaches and reinforces geographic skills. It includes:

- A teaching poster.
- Step-by-step lesson plans for four geography and map reading lessons:
  - Lesson 1—Introduction to Maps
  - Lesson 2—Some Things You Need to Know to Read a Map
  - Lesson 3—What You Can Learn from a Map
  - Lesson 4—Reading a Topographic Map.
- Reproducible activity sheets—one for each lesson.
- A summary of the five geographic concepts as articulated by *Guidelines for Geographic Education, Elementary and Secondary Schools*, a publication of the Joint Committee on the Geographic Education of the National Council for Geographic Education and the Association of American Geographers.
- Basic information about USGS.
- A list of materials for teachers available from USGS.

### ABOUT THE POSTER

The poster shows several views of the same place — Salt Lake City, Utah.

It includes a large aerial view of the city with the mountains in the background. This is where your students begin — with a picture of a place.

The poster also shows symbolic representations — maps and a digital elevation model — of the same area. This will help your students move from the concrete picture in the photo to the symbolic representation of a map. This is the most basic and necessary skill in helping students understand and use maps.

No map is meaningful if the student cannot connect the symbols on the map to the reality of the place. The poster features:

1. An aerial photo of the city and nearby mountains.
2. A shaded relief map showing political features.
3. A road map.
4. A topographic map.
5. A terrain model, or three-dimensional drawing, created by USGS from computerized data.

A key teaching point is that there can be many different kinds of maps for the same place. It is not possible to show everything about a place on one map and still make it understandable and easy to read.

The students will learn that the map they choose depends on the kind of information they need.

Another major teaching point is that the legend is the key to the map. To understand the purpose of a particular map, students need to know how to read the legend.

### WHAT IS INCLUDED IN THE LESSONS?

Each lesson contains step-by-step lesson plans, and "hands-on" student activity sheets, that incorporate information about maps into existing curriculum objectives in geography and social studies.

*Lesson 1* helps students think about maps they have seen and are familiar with. The lesson then introduces them to the picture and maps on the teaching poster.

*Lesson 2* provides information needed to read maps: direction, latitude and longitude, and scale.

*Lesson 3* shows that different maps can highlight physical and manufactured features of a particular location. The legend is the key to unlocking the secrets of a map.

*Lesson 4* shows topographic maps. It helps students understand how a two-dimensional map can represent a three-dimensional surface.

