

## ***USING SKETCH MAPS***



Maps are important tools of geographers. But you may occasionally find it useful to make your own maps. Sketching your own map can be a valuable study aid, giving you a better grasp of where places are located. You can study a map in a book or atlas for hours and still not know where things are. If you draw your own map based on what you see in the book, however, you will probably have a better understanding of the subject of the map. You will also be able to remember it better.

Of course, you will not always have access to other people's maps, and sometimes you will have to draw your own map truly "from scratch." You might be having a discussion with a friend about a geographical area during which it will be helpful for you to sketch a map quickly. Drawing your own maps might help you understand events you read about in the newspaper or learn about on television.

### **How To Draw a Sketch Map**

1. Decide what region your map will show. Choose boundaries so that you do not sketch more than you need to.
2. Determine how much space you will need for your map. Things that are the same size as each other in reality should be about the same size as each other on your map.
3. Decide on and note the orientation of your map. Most maps use a directional indicator. On most maps, north is "up".
4. Select reference points so that viewers of your map can quickly and easily figure out what they are looking for. For a sketch map of the world, reference points might be the equator and prime meridian. For a map of your community, a major street or river might be your reference point, or you might include a grid labeled by numbers and letters. Even maps of shopping malls indicate reference points – usually by showing "you are here" next to a dot or an asterisk.
5. Decide how much detail your map will show. The larger the area you want to represent, the less detail you will need. For example, a map of the world will not need names of streets, but a map of your community will.
6. You are ready to begin sketching. First, sketch general shapes, such as the continents if you are drawing a world map. If you do not know or cannot remember exact shapes, you can use circles, rectangles, and triangles.
7. Now, fill in more details, as they occur to you – names of places, major land features, and so on.
8. Do not spend more than an hour working on your map, and do not try to make it perfect or overly detailed. Many useful maps can be sketched in just a few minutes.

Practicing the techniques of collection and acquiring data will allow the student to prepare for higher-level critical thinking, such as assessing, analyzing, and interpreting trends, connections, and relationships. The goal in introducing these skills gives students the opportunity to practice them with teacher guidance. As students' progress, they will rely less on their instructor and can become more independent thinkers.

<p><b>Acquiring Data</b> <i>Mapshots</i></p>	
	<p><b>Mapshots:</b> A mapshot requires students to take notes or organize information using a template to include an appropriate map and designated space to record data. By recording information using the suggested form, students are able to connect the details about each society to that society's place on the map. Once the details about each society are in place on the map, it is possible to identify spatial trends, connections, and relationships. It is especially useful as a way to link concepts or events that occurred in different parts of the country/world in the same general time period. This activity can be used at all stages of the learning process: information acquisition, information processing, and student assessment.</p>
<p><b>Analyzing Data</b> <i>Sketch Maps</i></p>	
	<p><b>Sketch Maps:</b> This technique is quite useful in helping students see global patterns, making comparisons within and between societies, and developing a spatial perspective (the where, why, and so what?) that will give them a mental map of the world.</p> <p>Maps are important tools of geographers. Sketching our own map can be a valuable study aid, giving you a better grasp of where places are located. You can study a map in a book or atlas for hours and still not know where things are located. If you draw your own map based on what you see in the book, however, you will have a better understanding of the subject of the map. You will also be able to remember it better. You will not always have access to other people's map; sometimes you will have to draw your own map truly "from scratch." You might be having a discussion about a geographical area during which it will be helpful for you to sketch a map quickly. Drawing your own maps might help you understand events you read about in the newspaper, read online, or learn about on television</p>

**GEOGRAPHY STANDARD 1: How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information**

**4<sup>th</sup> GRADE**

*the student knows and understands:*

**Properties and Functions of Geographic Representations**

**1. Properties and functions of geographic representations—such as maps, globes, graphs, diagrams, aerial and other photographs, remotely sensed images, and geographic visualizations**

*Therefore, the student is able to:*

- A. Identify and describe the properties (position and orientation, symbols, scale, perspective, coordinate systems) and functions of geographic representations, as exemplified by being able to
  - ▶ Identify and describe the properties of a variety of maps and globes (e.g., title, legend, cardinal and intermediate directions, scale, symbols, grid, principal parallels, meridians) and purposes (wayfinding, reference, thematic).
  - ▶ Identify and describe the functions of a variety of geographic representations.
  - ▶ Identify and describe the properties and functions of maps students collect from magazines, news articles, and tourist brochures.
- B. Describe how properties of geographic representations determine the purposes they can be used for, as exemplified by being able to
  - ▶ Identify the maps or types of maps most appropriate for specific purposes, (e.g., to locate physical and/or human features, to determine the shortest route from one town to another town, to compare the number of people living at two or more locations).
  - ▶ Describe how a variety of geographic representations (maps, globes, graphs, diagrams, aerial and other photographs, GPS) are used to communicate different types of information.
  - ▶ Describe how maps are created for a specific purpose (e.g., school fire-drill map, the route from home to school, classroom map of learning center materials).

**8<sup>th</sup> GRADE**

*the student knows and understands:*

**Properties and Functions of Geographic Representations**

**1. The advantages and disadvantages of using different geographic representations—such as maps, globes, graphs, diagrams, aerial and other photographs, remotely sensed images, and geographic visualizations for analyzing spatial distributions and patterns**

*Therefore, the student is able to:*

- A. Analyze and explain the properties (position and orientation, projections, symbols, scale, perspective, coordinate systems) and functions of geographic representations, as exemplified by being able to
  - ▶ Analyze geographic representations based on their properties (e.g., orientation, grid system, scale, resolution, and content) and purposes (e.g., using GIS and digital globes to explore geographic information and relationships at a range of scales).
  - ▶ Analyze the properties of three geographic representations of the same place (such as a street map, a topographic map, and a satellite image) and explain how each might be suitable for a different purpose.
  - ▶ Explain how different geographic representations are used in a variety of settings (e.g., a GIS in a computer lab, topographic map for backcountry hiking, GPS navigation for car travel).
- B. Evaluate the appropriate use of geospatial representations for specific geographic tasks, such as analyzing spatial distributions and patterns, as exemplified by being able to
  - ▶ Explain why particular maps are appropriate for a specific purpose (e.g., a cartogram to illustrate total population, a remotely sensed image to observe land-use change, topographic maps to consider the best location for a wind farm, a highway map to consider best routes for new transportation corridors).
  - ▶ Identify and evaluate specific maps and/or geospatial technologies for use in different occupations (e.g., ambulance driver, airline pilot, ship's captain, cross-country truck driver, business analyst).
  - ▶ Compare the patterns shown by geographic representations at different scales (e.g., neighborhood, city, state, country).

**12<sup>th</sup> GRADE**

*the student knows and understands:*

**Properties and Functions of Geographic Representations**

**1. The advantages of coordinating multiple geographic representations—such as maps, globes, graphs, diagrams, aerial and other photographs, remotely sensed images, and geographic visualizations to answer geographic questions**

*Therefore, the student is able to:*

- A. Explain the advantages of using multiple geographic representations to answer geographic questions, as exemplified by being able to
  - ▶ Explain how multiple geographic representations and geospatial technologies (e.g., GIS, GPS, RS, and geographic visualization) could be used to solve geographic problems (e.g., help determine where to locate a new playground, or identify dangerous street intersections within a community).
  - ▶ Describe how an analysis of urbanization can be done using different geospatial technologies (e.g., RS for land use, GIS data layers to predict areas of high/low growth, GPS and GIS for identifying transportation issues regarding growth).
  - ▶ Explain how multiple geospatial technologies can be used to solve land-use problems (e.g., effects of new farming technologies on the sustainable production of food, preservation of wetlands in bird migration flyways).

**GEOGRAPHY STANDARD 1: How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information**

**4<sup>th</sup> GRADE**

*the student knows and understands:*

**Using Geographic Representations**

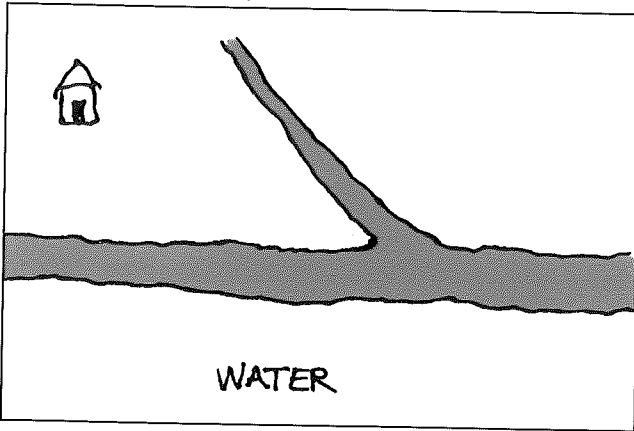
**4. The interpretation of geographic representations**

*Therefore, the student is able to:*

- A. Describe and analyze the ways in which geographic representations communicate geospatial information, as exemplified by being able to
  - ▶ Describe the purpose and components of a typical map key or legend.
  - ▶ Describe and analyze the similarities and differences in information displayed at different scales.
  - ▶ Analyze the different ways of symbolizing geospatial data (e.g., graduated circles, cartograms, choropleth versus isopleth maps).

**Where are bridges needed?**

Students can use the basic GIS concept of overlay to answer geographic questions.



*Basic GIS Step 1: Sketch the first data layer, in this case water, and the location of a house that will serve as a reference point for all data layers.*

**8<sup>th</sup> GRADE**

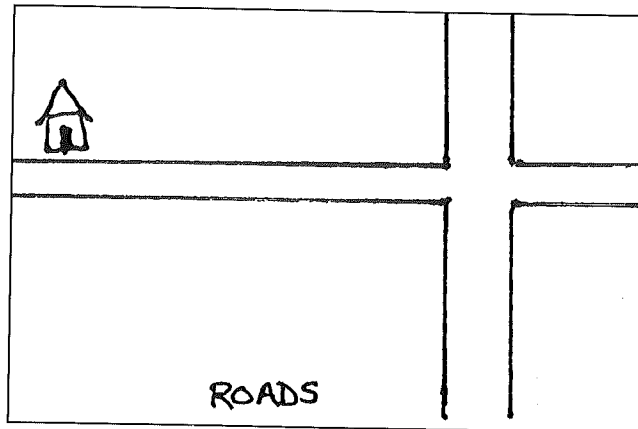
*the student knows and understands:*

**Using Geographic Representations**

**4. The use of geographic representations to ask and answer geographic questions**

*Therefore, the student is able to:*

- A. Analyze geographic representations to ask and answer questions about spatial distributions and patterns, as exemplified by being able to
  - ▶ Analyze printed and digital maps to observe spatial distributions and patterns to generate and answer geographic questions (e.g., use digital census data to determine demographic patterns in a state, or analyze census data and transportation routes to identify and locate services, such as a day-care center or stores needed in a region).
  - ▶ Analyze choropleth maps to examine spatial relationships (e.g., between the number of doctors and mortality rates, between corn production and hog production, between global energy production and consumption).
  - ▶ Analyze the overlap among multiple geospatial data layers to identify potential locations of interest (e.g., site for a new park, route for a new road, location of high incidences of crimes).



*Basic GIS Step 2: Sketch the second data layer, in this case roads, and include the location of the house as the reference point.*

**12<sup>th</sup> GRADE**

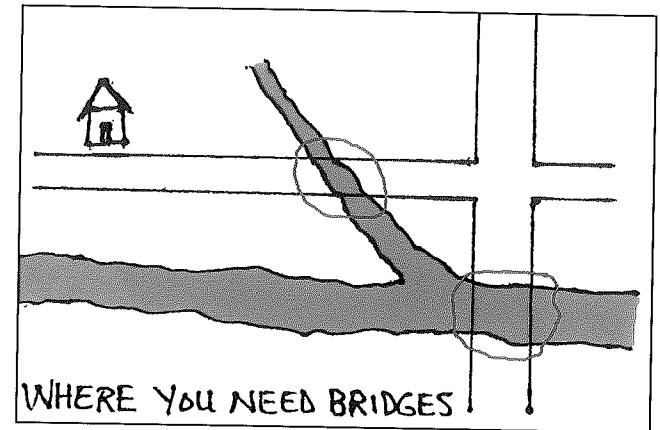
*the student knows and understands:*

**Using Geographic Representations**

**4. The uses of geographic representations and geospatial technologies to investigate and analyze geographic questions and to communicate geographic answers**

*Therefore, the student is able to:*

- A. Analyze geographic representations and suggest solutions to geographic questions at local to global scales using geographic representations and geospatial technologies, as exemplified by being able to
  - ▶ Construct a presentation using multiple geographic representations and geospatial tools that illustrates alternative views of a current or potential local issue.
  - ▶ Construct maps using Web-based mapping of national forest areas showing terrain, vegetation, roads, hiking trails, campsites, and picnic sites to identify possible new areas of public use, trails and roads, and areas to close for habitat recovery.
  - ▶ Analyze the possible relationships between global human and physical changes using GIS (e.g., the relationship between global climate change, sea level rise, and population distribution).



*Basic GIS Step 3: Ask students to overlay the second data layer over the first using the house as the reference point and identify relationships between the two data layers, in this case where you need bridges for roads to cross the water.*