

Mapping the Great Outdoors

Exploration

Challenge: What kind of information about an area can be represented on a map?

Materials: meter stick ruler unlined white paper
 colored pencils boundary markers

Let's Dig In:

Part A: Selecting an Area and Measuring

- Find an outdoor area that you can measure and walk in easily. Mark the boundaries of the area you intend to use by placing the boundary markers around your area. Try to arrange the markers in a shape that is easy to draw and measure, such as a rectangle.
- Make a sketch of your area. Draw a symbol to indicate which way is north. Using the meter stick, measure each side of your area. Record your measurements on your sketch.
- Take a close look at the features within your area. Indicate on your sketch the location of each feature.
- Observe the ground surface of your area. Is there more than one type of surface? For example, is part of the area grass and another part pavement? Indicate on your drawing the various ground surfaces.
- Note how level your area is. Indicate on your drawing any changes in the elevation of your area.

Part B: Making Your Map

- Look at the dimensions of the area you drew. Based on these dimensions, choose a scale for your map. The scale should make your map fit easily onto a sheet of unlined white paper without completely filling it. Decide on symbols to represent the various features—trees, buildings, and so forth—in your area.
- Decide on a way to show the various ground surfaces in your area.
- Decide how you will show differences in elevation.
- Decide how you will inform somebody looking at your map how they are to interpret everything on it.
- Once you have made these decisions, construct your map using a fresh sheet of paper.

Go Figure:

1. What scale did you choose for your map?
2. What map symbols are you using for the various features within your area?
3. How are you showing various ground surfaces on your map?
4. How are you showing differences in elevation on your map?
5. How are you going to inform somebody looking at your map how they should interpret everything on it?
6. Which step in the map-making process did you find the most difficult? Why?
7. Which step did you find the easiest or most enjoyable? Why?
8. Suppose you had to make a map of a much larger area. What additional problems might you encounter?
9. Based on this activity, what are some of the challenges of mapmaking?

Sample Responses to Go Figure:

1. The scale should be represented in terms of what a measurement on the map is equivalent to in real life. (e.g., 5 cm = 10 m)
2. Allow any acceptable methods for illustrating the various features in the map area.
3. The most commonly chosen method to show the variety of ground surfaces will be to use different colors. Some groups will choose different patterns to illustrate this.
4. Illustrating changing elevation will have the greatest degree of variability. Allow any acceptable methods that are readable.
5. A map key or legend is the best way to inform a map-reader how they can interpret a map.
6. The most difficult part of making a map will probably be either coming up with an adequate scale or deciding how to illustrate changes in elevation.
7. The easiest step in making a map will most likely be selecting symbols for the features within the area.
8. Additional problems when mapping a much larger area might be accurately measuring the area, finding the exact location of features, and illustrating changes in elevation.
9. Challenges of mapmaking include calculating a scale, deciding on a way to illustrate how features are to be illustrated, and illustrating changes in elevation.