

How Map Scale Changes Representation

Name _____

Date _____

Read the text carefully and answer every question clearly.

Map scale expresses the relationship between a distance on a map and the corresponding distance on the ground. A scale of 1:10,000 means that one unit measured on the map represents 10,000 of the same units on the ground. A map at 1:10,000 has a larger scale than one at 1:100,000 because its denominator is smaller. This terminology can seem surprising, but “large” refers to the size of represented features, not to the size of the area covered.

If two maps occupy the same sheet, a large-scale map normally covers a smaller area and can represent it in greater detail. It may show individual buildings, narrow paths and property boundaries within a neighbourhood. By contrast, a small-scale map covers a wider area, such as a country or continent, but has less room for each feature.

The loss of detail is not merely the result of careless drawing. At a small scale, many real features would overlap or become too small to read if they were drawn in their exact proportions.

Cartographers therefore simplify shapes, omit minor features and combine nearby objects when producing a smaller-scale map. They may also use symbols larger than the features represented: a road line, for example, is often wider on the map than the road would be at that scale.

Scale determines how much space is available for representation, while the map’s purpose influences which details are selected. Simply enlarging a small-scale map makes its symbols bigger, but it cannot restore information that was omitted.

Comprehension questions

1. What does a scale of 1:10,000 mean, and why is it considered larger than 1:100,000?

2. What changes do cartographers make at smaller scales, and why can enlarging the finished map not recover missing information?

Reflection questions

1. Why might using a small-scale national map to locate the entrance to a particular building lead to difficulty? Base your inference on the passage.

Opinion questions

1. The passage states that a map's purpose influences which details are selected. Do you think this selection makes maps more useful or less reliable? Explain your view.
