Discover. Social Studies



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Lesson 8

Reading Physical and Topographic Maps

By the end of this lesson, you will be able to:

• identify the differences between physical and topographic maps

Lesson Review

If you need to review physical features, please go to the lesson titled "Exploring Physical Features."

If you need to review maps, please go to the lesson titled "Discovering Our World."

Academic Vocabulary

Read the following vocabulary words and definitions. Look through the lesson. Can you find each vocabulary word? Underline the vocabulary word in your lesson. Write the page number of where you found each word in the blanks.

- cartographers: people who draw or make maps (page ____)
- geographers: people who study Earth's physical features, such as mountains, deserts, rivers, and oceans (page ____)
- physical maps: maps that show the physical features on Earth (page
- topographic maps: maps that show the shapes and heights of Earth's surface (page ____)



The tallest mountain on Earth is Mount Everest, and it is over 29,000 feet (8,839 meters) tall. Earth has many large physical features like this one. Some features are so tall that they can be seen from space! If you were to go into space and look down at Mount Everest, what do you think you would see? Create a drawing to show what you think you would see.



So far, you have learned that maps can help you get from one place to another as well as show you where specific places or things are in a given area. But have you ever seen a map like this one? What do you think this map is showing? Write observations about the map and predictions about what information it shows on the lines below.

What do you think maps can show us about the land and water of the world?

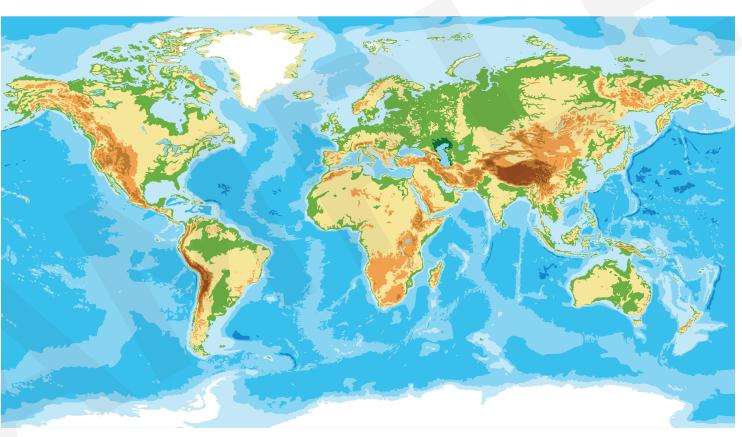




Physical Maps

Did you know that there are different types of maps that help us learn about our world? **Physical maps** are a type of map that shows Earth's physical features. Physical maps show different physical features like mountains, valleys, plains, oceans, lakes, and rivers by using different colors. What colors do you notice in the physical map of the world below?

Physical maps use colors like blue, green, white, yellow, brown, and red. The map makers, or cartographers, change the shade of the color to show us the height or depth of different physical features. Deeper water will be shown with a dark blue color, and shallower water will be a lighter blue. Similarly, the darkest browns on a map indicate the tallest mountains, and the lighter browns indicate the shorter mountains. Some physical maps will even use labels to identify the physical features. Physical maps are used by geographers, or people who study Earth's features, to study the patterns made by physical features.



Physical Map of the World



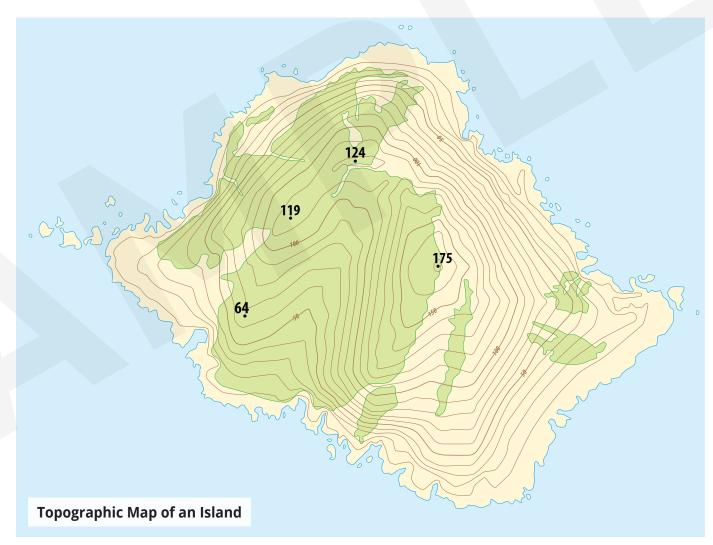
Topographic Maps

Topographic maps are maps that show how Earth's surface is shaped. The map you looked at in the Explore section is a three-dimensional topographic map. Topographic maps use lines called contour lines, which are usually drawn in long circles or ovals. These lines show what the land looks like. For example, a topographic map can show a lake, the plains, a stretch of mountains, a town, or a city. The circles and lines on the map help show the shape of the feature. They also show the size and height, or elevation, of the feature.

The numbers on the lines tell how high the land is above sea level. For example, the land in the small circle is 175 feet above sea level.

Smaller circles can help indicate the tallest parts of the feature, and larger circles can indicate the lowest parts of a feature. For example, the Hawaiian Islands are large mountains that are pushed up from the ocean floor. As the land gets taller, the circles get smaller. The smallest circle is showing the peak of the mountain, and the largest is showing the base.

Topographic maps can also show the borders of towns and cities and water features.





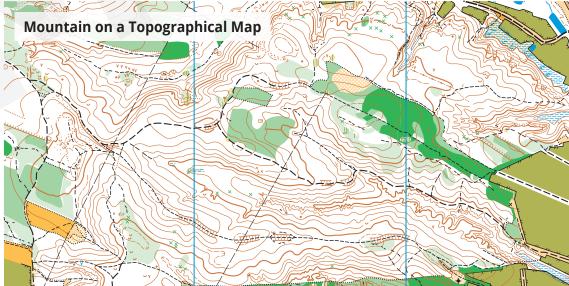
Map Similarities and Differences

There are many similarities and differences between physical and topographic maps. Both types of maps show what the land looks like. Both types also show what the land and water looks like from above, which is called a *bird's-eye view*. Physical maps use colors to show Earth's physical features, and topographic maps show landforms with lines and circles.

It is easy to confuse these two types of maps! Let's think about an example of how a landform would be shown on each map. How do you think a map maker would show a mountain on a physical map? What about on a topographic map?

A physical map would use color and texture to show where the mountain is located and to show its height. That same mountain would be shown using a series of circles. The smallest circle would show the top of the mountain, and the largest circle would show the bottom of the mountain.







Compare and contrast physical and topographic maps in the table below. List the ways they are the same in the section marked "Both." List the features that only they have in the sections marked "Physical Map" and "Topographic Map."

PHYSICAL MAP	ВОТН	TOPOGRAPHIC MAP



In this lesson, you learned:

- Physical and topographic maps are two different types of maps that show different physical features on Earth's surface.
- Physical maps use color and texture to show land and water features.
- Topographic maps show Earth's features using lines and circles.

Think About It

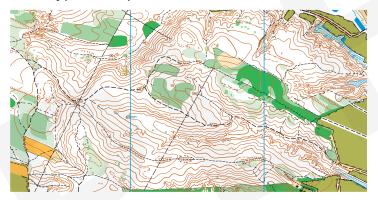
Think about how the shape and size of physical features looks different on each map. Why do you think these features appear differently on each map?



Circle the correct answer for each question.

- **1.** How might a mountain be shown on a topographic map?
 - A. dark and light blues
 - **B.** smaller circles at the top and larger circles at the bottom
 - C. dark and light browns
 - **D.** larger circles at the top and smaller circles at the bottom
- **2.** How might different depths of water be shown on a physical map?
 - A. dark and light blues
 - **B.** smaller circles at the top and larger circles at the bottom
 - C. dark and light browns
 - **D.** larger circles at the top and smaller circles at the bottom
- **3.** Which type of map uses different colors and textures to show features of Earth's surface?
 - **A.** physical map
 - B. topographic map
- **4.** Which type of map uses lines and circles to show features of Earth's surface?
 - A. physical map
 - B. topographic map

5. What type of map is this?



- A. physical map
- **B.** topographic map
- 6. What type of map is this?



- A. physical map
- B. topographic map

Discover! K-12 Curriculum Advantage

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