NAME _____ DATE _____ CLASS _____

Guided Reading Activity

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The Geographer's World

Lesson 2 *The Geographer's Tools*

Essential Question: How does geography influence the way people live?

Directions: Read each section. As you read, use your textbook to help you fill in the blanks to complete the sentences.

Using Globes and Maps

The most accurate way to show places on Earth is with a (1) _____. Globes are models of the world. They show distances and directions between places more correctly than flat images of Earth do.

(2) _____ are not round like globes. Instead, they are (3) _____ representations of the round Earth. Maps convert, or change, a round space into a flat space. Maps are not as (4) _____ as globes. However, maps have benefits that globes do not have. Maps can show smaller areas of Earth with much more (5) _____ than globes can. Maps tend to show more kinds of (6) _____ than globes. Maps can also be (7) _____.

All About Maps

Maps have several important (8) _____, or features. These features are the tools the map uses to convey information.

The (9) _____ tells you what area the map will cover. The (10) _____ unlocks the meaning of the map for you. It does so by explaining the symbols, colors, and lines on the map.

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The Geographer's World

The scale bar is an important part of the map. It tells you how a measured space on the map corresponds to (11) _____ on Earth. You use the (12) _____ to understand direction. This map feature points out north, south, east, and west.

To convert the round Earth to a flat map, geographers use (13) _____. A map projection (14) _____ some aspects of Earth in order to represent other aspects as accurately as possible on a flat map. Mapmakers choose which projection to use based on the (15) _____ of the map.

Scale is another important feature of maps. The (16) _____ connects distances on the map to actual distances on Earth. Scale is the relationship between distances on the map and on Earth. Different types of scale have benefits and drawbacks. Mapmakers also choose which scale to use depending on the map's (17) _____.

The two types of maps are (18) _____ and (19) _____. The type depends on what kind of information is drawn on the map. General-purpose maps show a wide range of information about an area. Thematic maps show more (20) _____ information.

Geospatial Technologies

GPS devices work with a network called the (21) _____. This network was built by the United States government. The GPS has three elements. The first element of this network is a set of more than 30 (22) _____ that orbit Earth at all times. The second part of the network is the (23) _____. The third part of the GPS system consists of GPS devices on (24) _____. These devices receive the (25) _____ sent by the satellites. By combining the signals from different satellites, a device calculates its location on Earth in terms of (26) _____. GPS is used in many ways.

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Another important geospatial technology is known as (27) _____. These systems consist of computer hardware and software that gather, store, and analyze geographic information. The information is then shown on a (28) _____. A GIS is a powerful tool because it links data about all kinds of physical and human features with the locations of those features. Because computers can store and process so much data, the GIS can be very accurate and (29) _____.

Since the 1970s, satellites have gathered (30) _____ about Earth's surface. They do so using remote sensing, which means getting information from far away. Satellites get information in different ways. Some satellites gather this information regularly on every spot in the world.