

Lesson 1: Maps of All Kinds

☐ Getting Started

A map can be a terrific tool for learning more about the physical environment, but only if it's the right kind of map for your needs. Just as you couldn't effectively use a wrench to try to drive in a nail, you can't use a political map to understand mountain elevations or a contour map to figure out population density. A map is a tool, but, like most tools, each map is designed to meet specific needs.

Stuff You Need

- *The Geography Book: Activities for Exploring, Mapping, and Enjoying Your World* by Caroline Arnold
- camera or cellphone
- crayons, markers, or colored pencils
- tape

Ideas to Think About

- How can the physical environment be represented visually?
- How might it be useful to have different ways of representing the physical environment?

Things to Know

- Maps can represent the physical world in a variety of ways.
- The **key** or **legend** of a map explains what the symbols, colors, and patterns on the map represent.
- Maps contain specific kinds of information; when you need to know a particular kind of information, it is important that you consult the right kind of map!
- A **political map** shows the boundaries between countries, states, regions, and major cities.
- A **physical map** shows the natural features of a region.
- A **historical map** shows events or places from the past.
- A **climate map** shows information about temperature, precipitation, and other weather patterns.
- A **natural resource map** shows the location of different natural resources.
- A **population density map** shows the amount of people who live in a particular area.
- A **topographical map** shows the elevation of the land and the shape of the Earth's surface.
- A **road map** shows the streets and highways of a region.

Activities

☐ Activity 1: Types of Maps

Watch the following video to learn about the different types of maps and what information they can show us about a region. After you have watched the video, label the maps on the "Types of Maps" page and explain what each map shows.



Types of Maps

www.beyondthepage.com/link/11911/

☐ Activity 2: Keys Unlock the Secrets of Maps

Watch the following short video to learn about map keys, also called map legends. A **map key/legend** has symbols that represent physical landforms, buildings, objects, etc. in the environment.



Map Legend

www.beyondthepage.com/link/11912/

In this activity, you'll create your own map of a place you know well, use symbols to identify important features, and create a key to help people who read your map know what those symbols mean.

Read pp. 27-28 in *The Geography Book*. Follow the directions on the "The Key to Your Neighborhood" activity sheet to create a map of your neighborhood, create symbols for features on the map, and fill in the key. The video may give you some ideas for the kinds of symbols you could use in your key, but feel free to be creative and make your own, too. Share your finished map and key with a parent and see if he or she can easily understand the symbols that you chose.

To help make your map more accurate, refer to a printed map that shows your street and the surrounding area. You can use a local road map, or, with a parent's help, you can use Google Maps or MapQuest and enter your street name, city, state, and zip code to see a map of the streets in your immediate area.

Optional Extension

Since you were the cartographer (mapmaker) for this neighborhood map, you probably used symbols for things that are important to you or for places that you visit often. How might a map of the same place be different if it had been created by someone else? For example, a truck driver for a delivery service might want the map to have a special symbol for the houses on his route, or the family dog might want the map to feature a special symbol to show the locations of all of the other dogs in the neighborhood. Using a different-colored pencil, you could add more symbols to your map with other people's (or other creatures'!) interests in mind.



Google Maps

www.beyondthepage.com/link/11774/



MapQuest

www.beyondthepage.com/link/11775/

☐ **Activity 3: Different Maps for Different Needs**

Cartographers create different kinds of maps to meet different needs. Some maps provide a visual representation of different kinds of terrain, such as mountains or deserts, using colors, contour lines, or graphics. Others show roads, train tracks, and subway routes. Maps can show weather patterns, property ownership, or political boundaries. They can provide information about natural resources, animal habitats, or economic trade.

For this activity, you'll examine five different maps of a small, imaginary island. Think of a name for this island, and write that name at the top of each map on the "Different Maps for Different Needs" sheet. Then ask your parent which of the "Using Your Five Maps" pages you should use (Option 1 or 2) and follow the directions on that page.

☐ **Activity 4: Panoramic Photograph or Sketch (Optional)**

If you have time, the following activity is a really fun way to demonstrate panoramic photographs.

Read pp. 25-26 in *The Geography Book*. Follow the directions for creating a panoramic photo, with this modification: take a panoramic photo of the neighborhood you drew in Activity 2. Find a place where you can see a significant part of the neighborhood — it doesn't necessarily have to be a tall building like the one used in

the example in *The Geography Book* — and take pictures while turning around in a circle. Try to make sure that there is some overlap between one picture and the next.

This activity is even easier if your cellphone has a camera with a panorama (pano) option. Follow these steps:

1. Open your camera app and set it to Pano mode.
2. Tap the button to start the panorama and then slowly and steadily move your phone to the right. Most phones will give you coaching onscreen and will provide a line and arrow for you to follow.
3. When you are done, tap the button to finish.

If you are creating your own panorama from individual photos, tape your resulting photos together to make one panoramic photograph. Use the "Photo vs. Map" activity page to compare your panoramic photo to your map of the same place.

Optional Extensions

The following links provide some fun and informative extensions to this activity on maps and panoramic photos.



Google Maps Street View

www.beyondthepage.com/link/11776/

Google Maps offers a Street View feature that shows you what it looks like to be standing on almost any street in America. This is a great way to look at the difference between a map and a photo since you can jump back and forth between the two.

If you are interested in maps and pictures, click on the link above, type in your address, and then go back and forth between the map, satellite, and street views. Ask a parent for help if you need it.



Library of Congress: Panoramic Photos

www.beyondthepage.com/link/11777/

The Library of Congress provides some really neat panoramic photos of historic places and people.

**Panoramic Maps**

www.beyondthepage.com/link/11778/

This site contains more panoramic maps that you can explore.

**Shooting Panoramic Photos**

www.beyondthepage.com/link/11779/

This site provides an explanation of shooting a panoramic photo with an antique camera.

Wrapping Up

There are many ways of mapping an environment, and you've explored only a few of them in these activities. What other kinds of maps can you imagine? What unique needs would those maps serve?

Life Application

Think about a route that you or your family travel on a regular basis. This could be the trip from your home to the home of a friend or relative, the route you take to the library, the route you take to a favorite park, or some other regularly traveled route. Find a local road map (you can usually find an inexpensive local road map at a gas station, or you can use an online mapping tool) to identify your usual route. Using the map, plan an alternative route that might save time or mileage, allow you to visit another place along the way (for example, how could you drop off your library books on your way to the park?), or let you try a road you've never taken before. Write out directions for this route using your map and ask a parent if you can take that route sometime just for fun. You can find out more about road maps on pp. 33-34 of *The Geography Book*.

Types of Maps

Political

Population Density

Climate

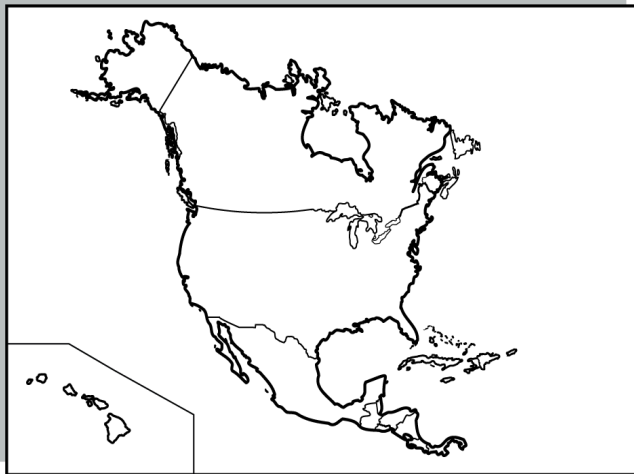
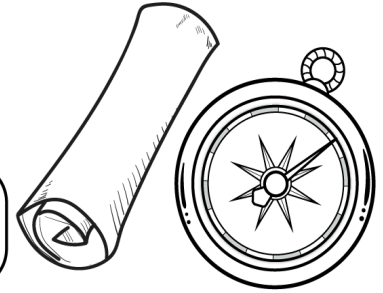
Road

Natural Resource

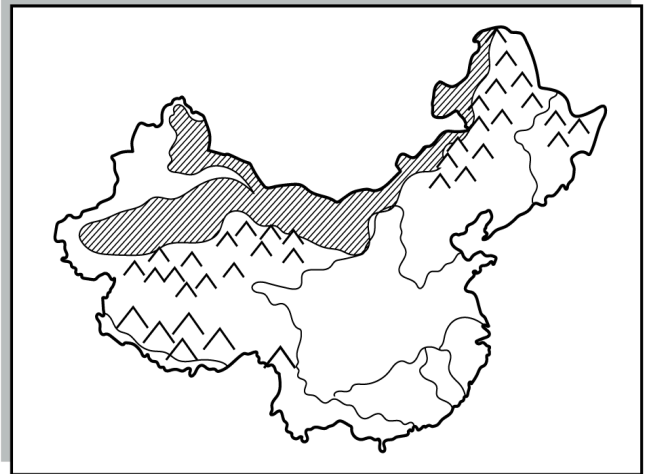
Topographical

Physical

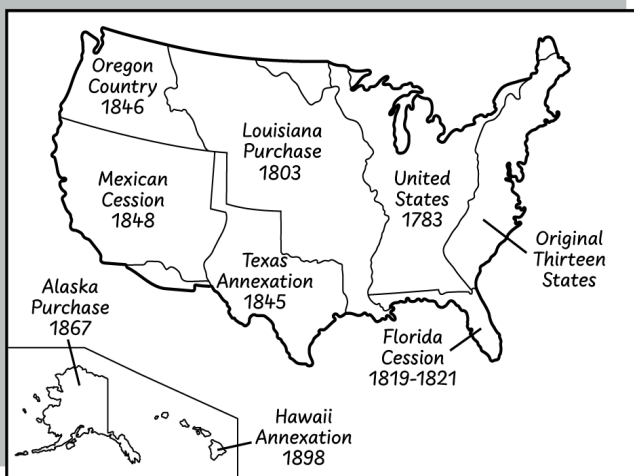
Historical



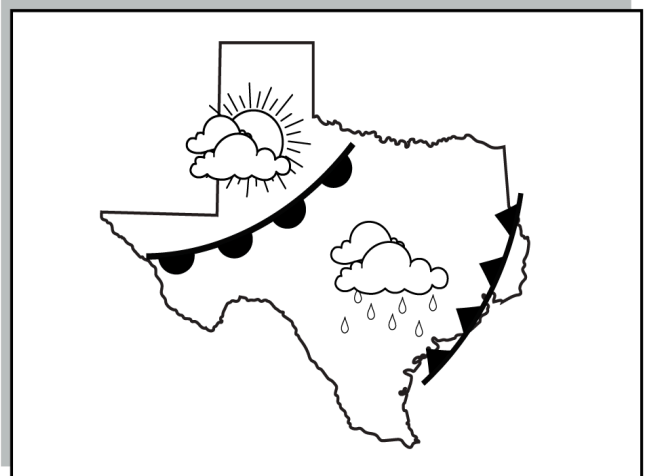
This is a _____
map and it shows _____



This is a _____
map and it shows _____



This is a _____
map and it shows _____

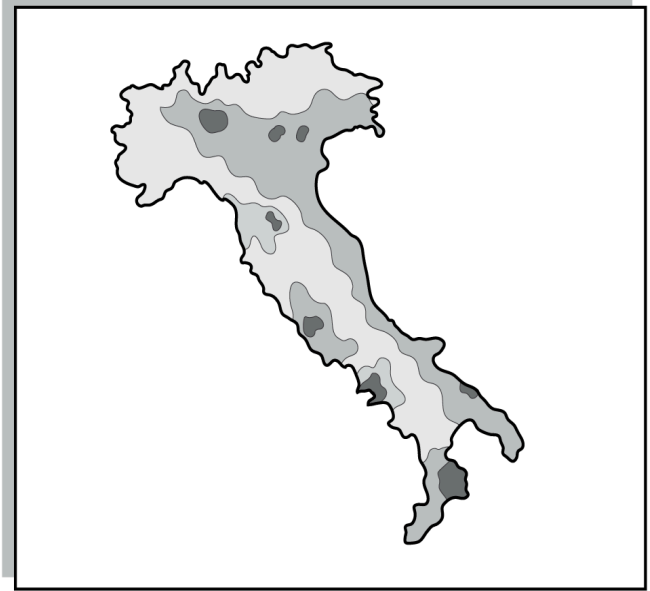


This is a _____
map and it shows _____



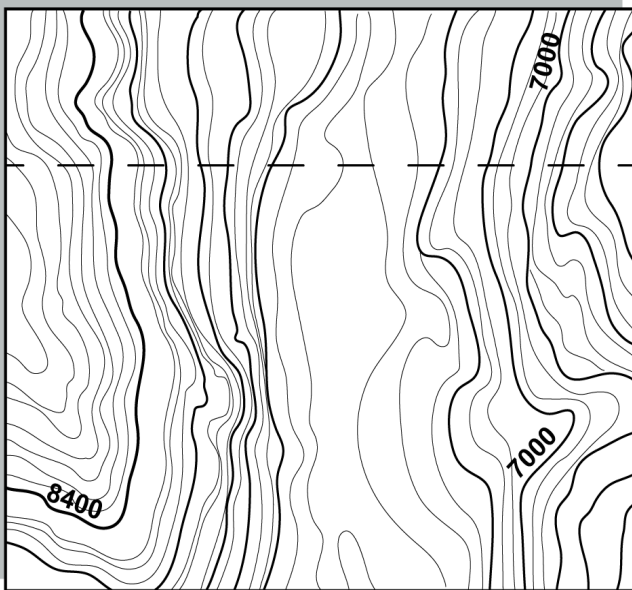
This is a _____
 map and it shows _____

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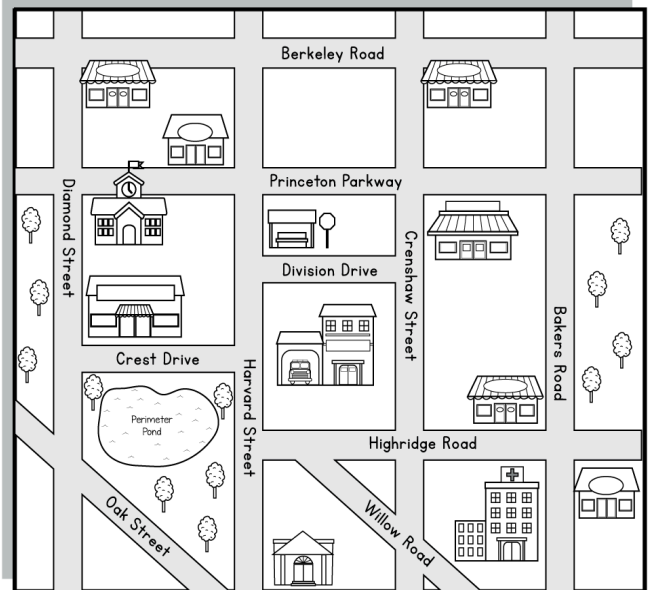
This is a _____
 map and it shows _____

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This is a _____
 map and it shows _____

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This is a _____
 map and it shows _____

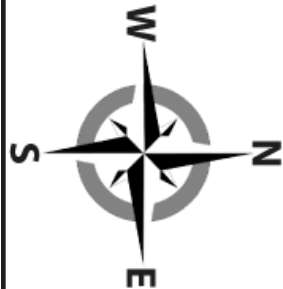
 _____.



Key to Your Neighborhood

Directions: Draw a map of your neighborhood. Decide what kinds of places or features you want to mark with a special symbol. Be sure to draw each symbol and write its meaning in the Map Key. Create at least four symbols to use on your map.

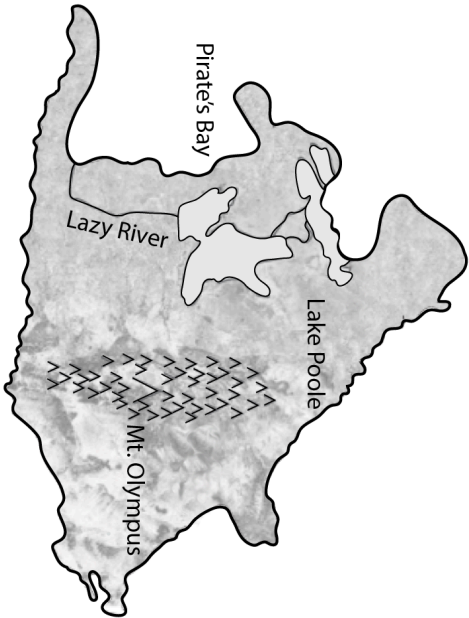
MAP KEY	
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Different Maps for Different Needs

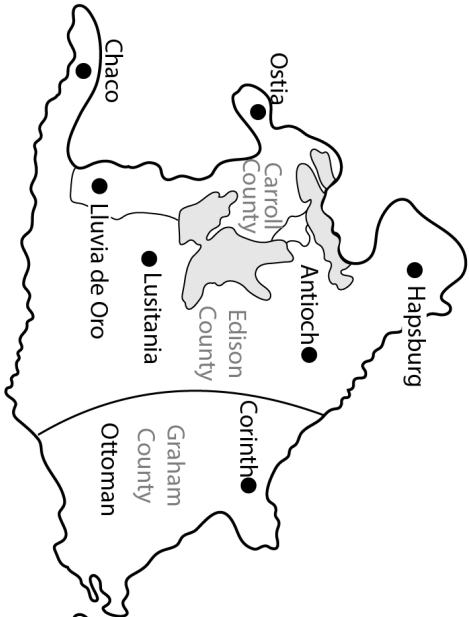
Map 1

Geographic Features



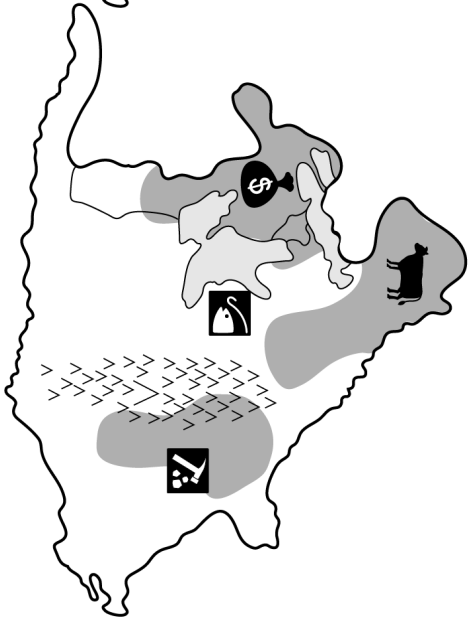
Map 2

Cities & Counties



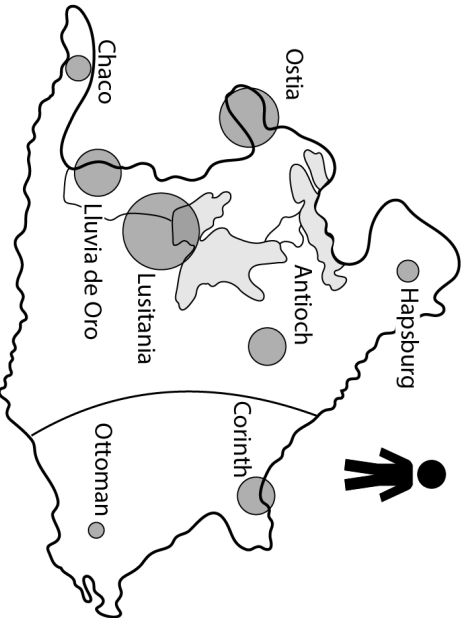
Map 3

Industries & Resources



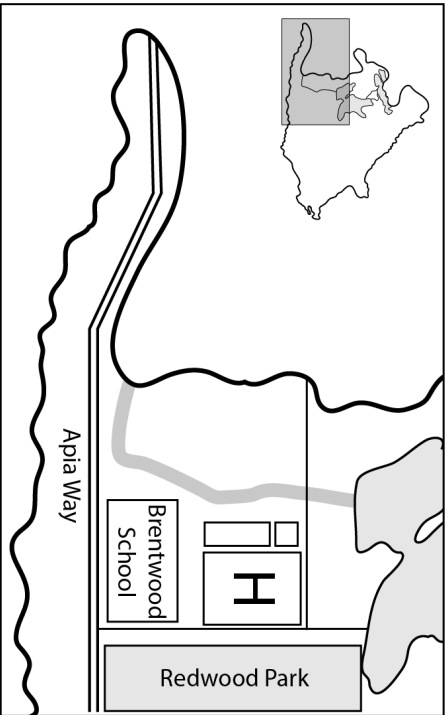
Map 4

Population Density



Map 5

Street Map



Using Your Five Maps

Directions: Check the map that corresponds to the following scenarios.

1

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2

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3

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4

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5

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You are a homeowner who needs to know whether your house is in Edison County or Graham County so that you know where you need to go in order to vote.

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You need to figure out the fastest way to get from Brentwood School to Redwood Forest Park.

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You are a world-famous mountain climber looking for a challenging climb.

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You are a biologist looking for a largely unpopulated area where you can create a wildlife refuge.

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You are a newspaper reporter who is planning to visit the island for a story on farming communities, and you need to know where you could go to find interviewees.

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You are on Apia Way and need to know how to get to the nearest hospital.

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You are a naturalist who is looking for a rare plant that grows only along the edges of rivers in hilly areas.

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You are interested in mining and want to know where that kind of activity takes place on the island.

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☐
☐
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☐

You are wondering whether Edison County or Carroll County has a larger geographic area.

Directions: Each of the five different maps provides different information about the island. Think of at least two different scenarios in which you might find it useful to use each map. For example, you might want to use Map 5, which provides city-level details, to figure out where the nearest police station might be.

1. _____

2. _____

1. _____

2. _____

1. _____

2. _____

1. _____

2. _____

1. _____

2. _____

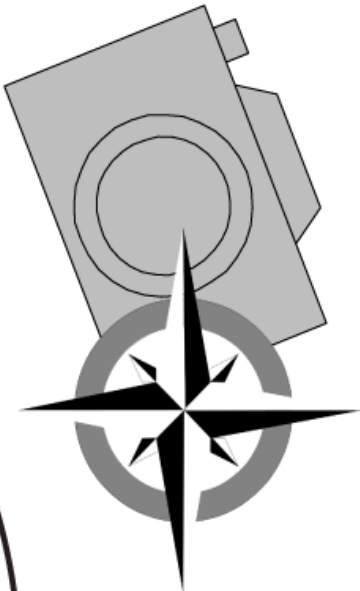
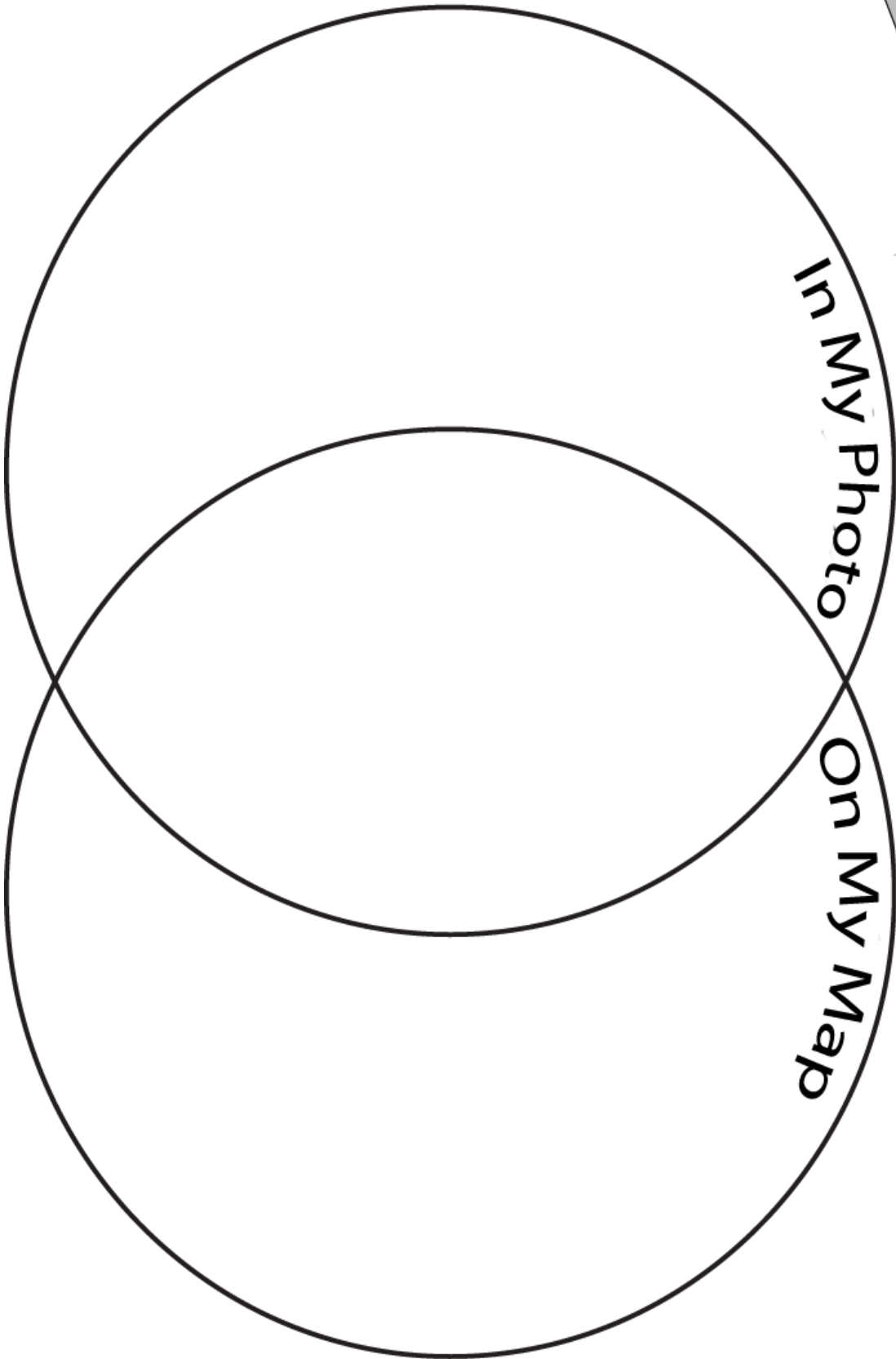


Photo vs. Map

Directions: Use these circles to record things that are in your photo and things that are on your map. If something appears in both the photo and the map, write it in the overlapping area. If you think of something that is neither in your map nor in your photo, write it in the area outside the circles.

In My Photo On My Map



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Getting Started

? Ideas to Think About

- How can the physical environment be represented visually?
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Things to Know

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• Skills

- Identify and use models and maps as ways of representing landforms. (SS)

Introducing the Lesson

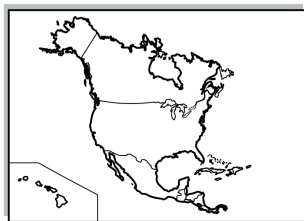
Explain to your child that in this lesson, he will be exploring different kinds of maps and their uses. Ask what kinds of maps your family has used before. You may even ask your child to go on a map scavenger hunt and find a few examples of maps around the house (road maps, a framed map on the wall, maps in an atlas, encyclopedia or newspaper, maps in a history text, etc.).

Activities

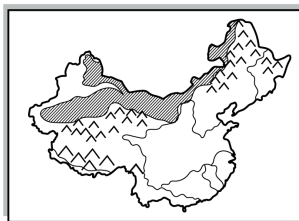
Activity 1: Types of Maps

In this activity, your child will watch a video to learn about the different types of maps and what information they can show us about a region. After he has watched the video, he will label the maps on the "Types of Maps" page and explain what each map shows.

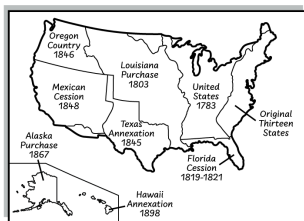
"Types of Maps" Page 1 - Answer Key



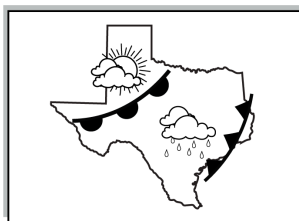
This is a political
map and it shows the boundaries
between countries, states, regions,
and major cities



This is a physical
map and it shows the natural features
of a region



This is a historical
map and it shows events or places
from the past

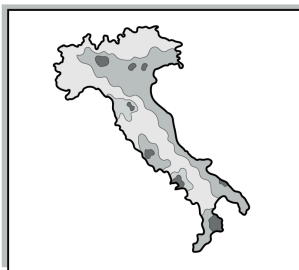


This is a climate
map and it shows information about
temperature, precipitation, and other
weather patterns

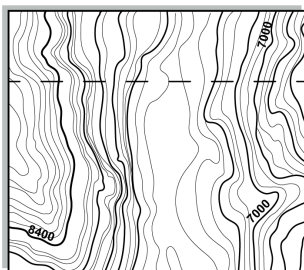
"Types of Maps" Page 2 - Answer Key



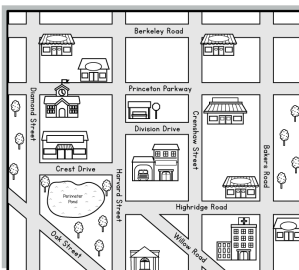
This is a natural resource
map and it shows the location of
different natural resources



This is a population density
map and it shows the amount of
people who live in a particular area



This is a topographical
map and it shows the elevation of the
land and the shape of the Earth's
surface



This is a road
map and it shows the streets and
highways of a region

Activity 2: Keys Unlock the Secrets of Maps

In this activity, your child will create a map of his neighborhood and create a legend or key to help readers understand the symbols used on the map. Your child may need assistance using a printed road map that shows your street or using Google Maps, MapQuest, or another online mapping website to see a rough map of your vicinity that he can use as the basis for his own, more detailed map. Your child should use at least four symbols on the map. Discuss the map with your child, and ask about why he chose to include certain features or why he used the symbols that he created to represent various features.

Activity 3: Different Maps for Different Needs

In this activity, your child will explore five different maps of an imaginary island to determine how someone might use each of the different types of maps. There are two versions of the "Using Your Five Maps" page. Option 1 asks the student to determine which map would best meet the needs of ten different people. Option 2 requires the student to imagine and write about two different uses for each kind of map. The second option requires greater creative problem-solving and more writing than the first. Choose the option that you think will be the best fit for your own child.

Option 1 Answer Key

- | | |
|----------|-----------|
| 1. Map 2 | 6. Map 5 |
| 2. Map 5 | 7. Map 4 |
| 3. Map 1 | 8. Map 1 |
| 4. Map 4 | 9. Map 3 |
| 5. Map 3 | 10. Map 2 |

Activity 4: Panoramic Photograph or Sketch (Optional)

For Activity 4 (which is optional), your child will be creating a panoramic photo of the same space that he mapped in Activity 2. He may need your help with the camera/cellphone or with finding an effective (and safe!) place to stand while taking the photos. He may also need assistance in printing out the pictures, if applicable.

Optional Extensions

Your child may need assistance navigating through some of the websites listed for this extension.

Wrapping Up**Questions to Discuss**

- Why are there so many different kinds of maps? (People use different maps for different purposes.)
- What kinds of maps did you find most interesting? Why? (Answers will vary.)
- How did your panoramic photo compare to your map? Would one be more useful than the other? (Answers will vary.)