

**Lesson Title:** Maps, Maps, and More Maps!

**Grade Levels:** Grades 2-4

**Lesson Description:** Using the book *Maps and Journeys*, teachers can pick and choose between activities that go with each “chapter” in the book. Activities range from looking at different types of maps, making maps to scale, and using Google Earth to look at different types of maps and map symbols.

**Literature Connection** (and description of the story):

*Maps and Journeys*

By Kate Petty and Jakki Wood

While riding in a hot air balloon, Harry and his dog Ralph learn about different kinds of maps, the cardinal directions, and how to make a map using scale. This book is broken into short chapters that address a variety of map-related topics. It can be read as a whole book or by chapters.

**Concepts and skills**

- Mapmaking
- Drawing to scale
- Types of maps
- Cardinal directions

**NCSS or National Geography Standards**

- Interpret, use, and distinguish various representations of the earth, such as maps, globes, and photographs
- Use appropriate resources, data sources, and geographic tools such as atlases, data bases, grid systems, charts, graphs, and maps to generate, manipulate, and interpret information
- Construct and use mental maps of locales, regions, and the world that demonstrate understanding of relative location, direction, size, and shape
- Estimate distance and calculate scale

**Objectives:** Upon completion of this lesson, students will be able to:

1. Name, describe, and compare various types of maps
2. Make a map to scale
3. Use the cardinal directions to help someone get from one location to another
4. Explain why details on a map change based on the type of map they are looking at and the amount of land a map shows
5. Name various symbols used on a map and the importance of using the symbols
6. List specific details about the city they live in

**Google Earth Skills Needed:**

- Using the “fly to” button
- Zooming in and out
- Using various layers
- Knowing the difference among the different symbols in the layers area
- Using the ruler to measure distances

**Teaching Procedures (step-by-step directions)**

\*This lesson can be conducted over multiple days, or teachers can choose individual activities that reflect their needs. Each activity goes with a different chapter in the book. Some activities are designed for younger grades while other activities will work better with older students. Many of the activities can be adapted to meet the grade level of your students. Each activity includes the **“title of the chapter”**, a *description of the chapter*, and a mini lesson to go with the chapter.

**“Don’t Get Lost”** (*Intro to the story; Harry wants to learn about maps so he does not get lost*)

1. Before reading the chapter, ask students what they think maps can be used for. Create a list of student suggestions. Explain that over the course of the next few days/lessons, the students will be learning about different types of maps and what they can be used for. They will be learning all about Maps with the help of Harry and Ralph in their book, *Maps and Journeys*.
2. After reading this chapter, have students come up with as many different types of maps as they can think of. Write the names of the different types of maps on the board. Various types of maps include:
  - Road maps
  - Topographical maps
  - Geographical maps
  - County maps
  - World maps
  - Classroom maps
  - Electronic maps (Google Earth)
3. Show students examples of these different types of maps and have the students compare the similarities and differences of the various maps (See [graphic organizer](#) at the end of the lesson)

**“A View From Above”** (*Harry and Ralph travel in a hot air balloon and notice how what they see from a hot air balloon is similar to what is shown on a map*)

1. Before reading the chapter, show students an aerial picture of their school. Ask students how this picture could be helpful in making a map of the school. The students should discover that an aerial picture is basically the real version of a location on a map. Tell the students that today Harry and Ralph are going to be traveling in a hot air balloon and discovering the importance of viewing places from above.
2. After reading the chapter, use Google Earth and a paper map to show students the “View from Above” of a location. Using a [Venn diagram](#), have students compare and contrast the two images.
3. Have students explain why the “View from Above” would be beneficial if they were trying to find a certain place or go somewhere.
4. To help students understand the “View from Above,” have them draw a map of the classroom or bedroom. Remind them to draw their maps using “a view from above.”

**“Drawing a Plan”/ “Adding Details”** (*Harry and Ralph make a map of their garden. They start out by counting how many steps long and wide it is and then measure the actual distances to make their map*)

*to scale. They then add details to their map showing what is in the garden)*

1. Before reading the chapter, ask students how they could measure a distance if they did not have a ruler or tape measure. Students should come to the conclusion that they can use their feet because one foot is approximately 12 inches depending on the size of a person's foot. (Obviously students' feet will be smaller than 12 inches) Make sure students understand that this form of measuring is not as exact as using a ruler. Let the students know that in this chapter Ralph and Harry decide to make a map of their garden by first measuring it with their feet and then making their map accurate by putting a scale on their map.
2. After reading the chapter, have students count out how many steps long and wide their classroom is and draw it on a piece of paper.
3. Students should then measure the actual length and width of the classroom and figure out the scale for their classroom map.
4. Lastly, students should add details to their classroom map. The details should be in the right location by measuring (counting steps) how far away they should be from the wall or other objects.
5. Students can compare their maps with other students to see how closely they are in size and which details they chose to put on their map.
6. Have students discuss with each other why they think individual mapmakers include different details on their map. Ask the students how they think mapmakers decide what details to include on their map.
7. Ask students why it is important to understand how a scale works on a map and the importance it plays on a map. Students should understand that using maps drawn to scale makes it easier for people to read and interpret a map. If maps did not have scales, they would not be very accurate.

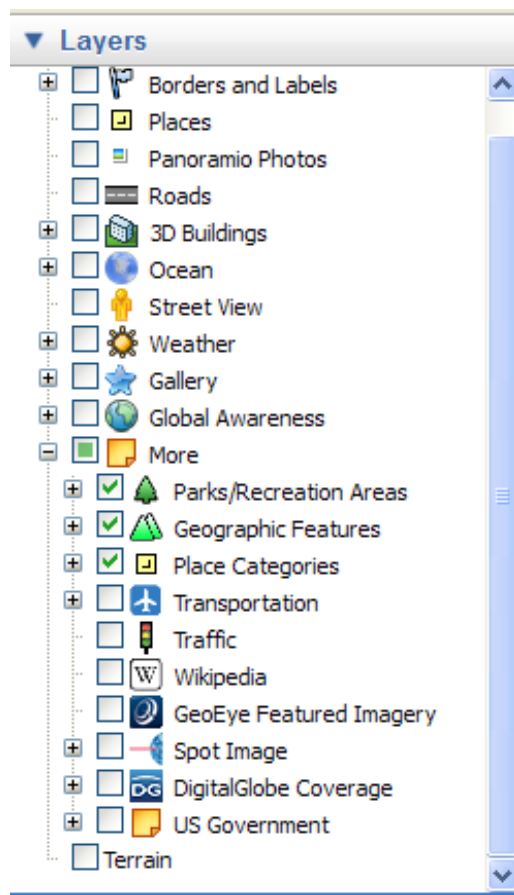
**"The Route to School" / "Street Plans"** *(Harry makes a map from school to home using what he notices everyday when he travels this route. These details help him remember which way he has to go to get home. Harry then looks at a city map and notices how the details and landmarks that are on his map are different than the ones on a city map)*

1. Before reading this chapter, have students close their eyes and picture the route they take to school (or another familiar location if home is a long ways away or the students do not know how to get there). Have students write down what items/landmarks/places they notice and watch for every time they travel this route. Tell the students that these details help us find our way to school. Let the students know that Harry makes a map from his house to school using the details that he sees everyday along this route.
2. After reading the chapter, students will make a map from school to home (or another familiar location if home is too far away or the students do not know how to get there). To help the students make their maps, they can use Google Earth and put placemarks at their home and school. See if they can find the route they take to get to their home on Google Earth. Make sure they add familiar landmarks that help them remember how to get home.
3. Using a map of their town, have students locate their school and home (or other location if not using their house). See if they can find the route they take to get to their home on the map. Are the landmarks on their map the same landmarks that are shown on the map they are looking at?

Why are some of the landmarks the same and some of them different?

**“Landmarks”/ “Natural Features”** (*Harry and Ralph learn about how symbols are used to show the location of landmarks and natural features on a map. They then make some of their own symbols that could be used to represent different landmarks*)

1. Before reading the chapter, ask students to name different landmarks/natural features that might be represented on a map (mountains, rivers, oceans...). Ask students how they think these features can be represented (through symbols). Ask the students why they think it is important to use symbols to represent these different features (It is easier to see everything on a map; a map can include more detail if symbols are used, etc.). Explain that Harry and Ralph are going to be learning about various landmarks and natural features and how they can represent them on a map.
2. After reading the chapter, explain that they are going to use Google Earth to learn more about using symbols to show the location of landmarks and natural features on maps. Before showing students the Google Earth screen, go to Layers, open the *More* folder and select -Place Categories, Park/Recreations Areas, and Geographic Features (see image below) and zoom into a town or location of your choice.



3. Without showing the key, see if students can figure out what the different symbols stand for. Point out how the symbols are very basic but that it is still important to check the key to be sure that they are reading the map correctly. Model how to read the Google Earth key.
4. Have each student come up with another symbol that could be used on a map. Explain to the students that the symbol has to be a very basic image and one that people could figure out without having to look at a key. Have students draw their symbol, explain what it stands for, and place their symbol on a classroom map of their town.

**“North, South, East, West”** (*Harry and Ralph look at a globe to figure out the cardinal directions. They then look at a treasure map and how the instructions used the cardinal directions to help find the treasure*)

1. Before reading the chapter, ask students if any of them know what the four cardinal directions are. Teach students the “Never Eat Soggy Wheaties” or a similar saying to remember the four directions. See if the students can figure out which way the four cardinal directions are in the classroom. Tell the students that in this chapter Harry and Ralph are going to learn about the cardinal directions.
2. After reading the chapter, students will use Google Earth to plan a trip from their house to another place in the United States.
3. Have students turn on the Borders and Labels layer, as well as the roads layer, and plan the route they will take to get from their house to their destination.
4. Students will measure the distance they will travel on each road and explain how to get to their destination using the Cardinal directions to explain which way to turn (you might want to show students how to use the Google Earth ruler to measure distances).
5. To check their work, students should give their directions to another student who will use Google Earth to check the route.

**“Making Maps”** (*This chapter focuses on how modern maps are made from looking at photographs that are taken from the air. These images are then put together to make a map*)

1. Before reading this chapter, have the students take several pictures of an area and see if they can put them all together to make a larger picture of the whole area. Explain that this is very similar to what mapmakers do to make a map on Google Earth. In this chapter, Harry and Ralph learn how mapmakers make these types of maps.
2. After reading the chapter, students will use Google Earth to zoom in on an area\* and notice the “jigsaw effect” of various images put together. This effect is talked about and shown in the book. When looking at various areas of Google Earth, it is easy to see that different images were put together to present one location. Sometimes adjacent images were captured at different times of year making it easy to see how this process is used.
3. Ask students why they think people have created programs like Google Earth or Google map that use real images of various places.  
\*Find a location ahead of time because in some places it is more difficult to notice the various images than it is in other locations.

**“Up and Away”** (*Harry and Ralph hop back in their hot air balloon and go back up into the sky and they notice how the higher up they travel they more area they are able to see*)

1. Before reading this chapter, ask students if anyone has been in an airplane before. If so, ask the student(s) what everything looks like on earth when they look out from the plane’s window (Everything is very small, but they can see a very large area of land). Ask students what the earth would look like from space (Everything would be extremely small, you could not see any details, but you could see a very large portion of the earth). Explain to the students that as they move further away from earth, they will see fewer details, but they will be able to see a larger portion of the earth. In today’s chapter, Harry and Ralph learn about this really neat concept.
2. After reading the chapter, open Google Earth. Start at your school on Google Earth, and slowly zoom out of this location. Have students notice how what is shown on the map changes based on how far out they have zoomed. The further out it is zoomed, the fewer details that are shown.
3. Using a city map, county map, state map, and country map, show students how the same location is represented differently based on what map you look at. The scale on each of the maps will be different as well. The more distance a map covers, the larger the scale has to be. Have students explain when it would be appropriate to use maps with different scales. (If you are looking for a specific restaurant, you would need to look at a map with a very small scale, but if you are trying to figure out the general distance across a country, you might use a map with a larger scale)

**“Looking at an Atlas”** (*Harry and Ralph look at an atlas to learn some details about their town and to become familiar with using an atlas so they will never get lost!*)

1. Before reading this chapter, show students an atlas and ask them if they know what it is and when you would use it. Students should determine that it is an atlas and it can be used when traveling or figuring out a few basic details about a town or state. In this chapter of the book, Harry and Ralph learn all about using an atlas.
2. When done reading the chapter, students will use Google Earth and an atlas, to investigate facts about their city. Students will find what natural features they are located by, what the approximate population is, and any big cities located around their town. Also, have students name what county, state, and country they live in. Students can use a graphic organizer to keep track of all of this information. (See the [graphic organizer](#) at the end of this lesson)

**Assessment:**

- Objective 1 will be met through the following activities: “Don’t Get Lost”, “The View from Above”, “The Route to School/Street Plans”, “Making Maps”, “Out and Away”
- Objective 2 will be met through the “Drawing a Plan/Adding Details” activity
- Objective 3 will be met through the “North, South, East, West” activity
- Objective 4 will be met through the following activities: “The Route to School/Street Plans” and “Up and Away”
- Objective 5 will be met through the “Landmarks/Natural Features” activity
- Objective 6 will be met through the “Looking at an Atlas” activity

If you will be doing multiple parts of this lesson, you might have students keep all of the activities together in a portfolio and then have them complete a summative assessment at the end of all the lessons showing what they learned from the activities. Parents could also be invited to visit the classroom to see everything students learned about maps.

Name: \_\_\_\_\_

## “Don’t Get Lost”

In the top row of the table write the names of four different types of maps. After carefully studying each map, list its characteristics and when it might be useful.

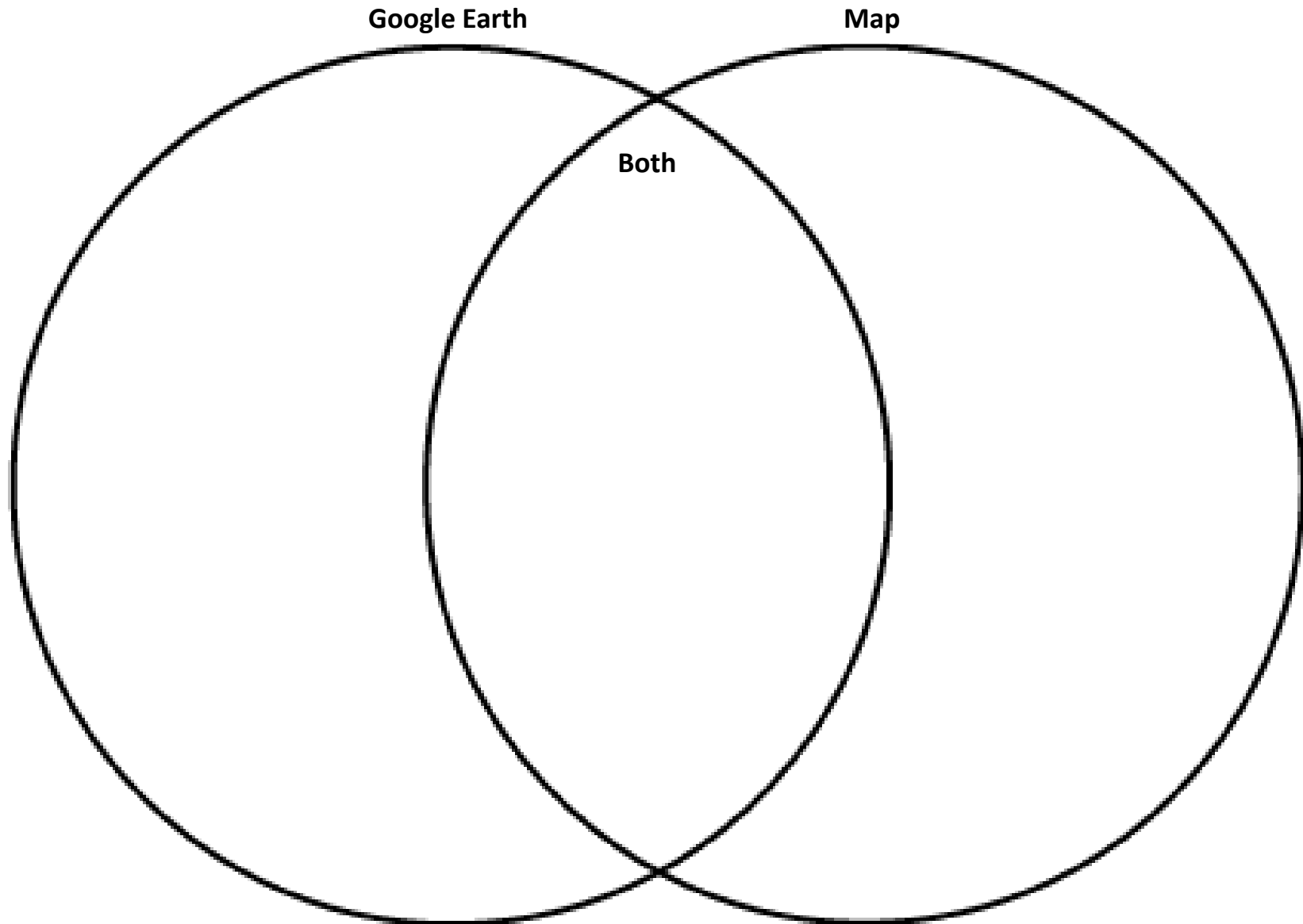
<b>Type of Map</b>				
<b>What information is presented in this map?</b>  <b>What are its important characteristics?</b>				
<b>When would this map be helpful?</b>				



Name: \_\_\_\_\_

### **“A View From Above”**

**Directions:** Google Earth and maps provide a view of a location from a bird’s eye perspective. Compare and contrast what can be seen when looking at a map and a Google Earth view of the same location.



Name: \_\_\_\_\_

## Facts about my City

**Directions:** Use Google Earth and an atlas to learn more about the city in which you live. Write what you discover in the table.

I live in \_\_\_\_\_

<b>City Population (Approximately)</b>	
<b>Large cities located near my city</b>	
<b>Natural resources located in and around my city</b>	
<b>County I live in</b>	
<b>State I live In</b>	
<b>Country I live In</b>	
<b>Other interesting facts about my city</b>	