Title of Today's Lesson: Geocaching and Map Investigation	
Your Name: Lindsay Smith	**Grade Level:** 6th
Subject: Social Studies / Map and Location Skills	**# of students:** 24

Unit Essential Question/Central Focus

Central Focus: The main concept that students will be learning is how to use latitude and longitude to determine the absolute location of a specific place. Students will also be engaged in learning about how different maps are used to represent different aspects of an area or in this case, a community.

Essential Question: How do we identify location? How does where you live influence how you live? How do you visually represent the different characteristics of your community?

Lesson Summary and Rationale

Students will work in small groups of three to find geocaches using a GPS. In each geocache, there will be a different type of map representing the community in which the students live. Students will have to investigate each map and answer a series of questions related to the map. This activity is meant to help improve students' skills in map reading as well as understanding latitude and longitude through absolute location. It is a highly engaging activity where students are dependent on one another for support and to help find the geocaches. Students also apply their knowledge at the end of the activity by creating their own map and representation of their community. This helps students to apply their knowledge in a real world setting. Students will need map reading and map creation skills throughout their lifetime. The use of a GPS helps to foster these skills even further. This activity will take longer than a class period and requires adult supervision for the various groups. It would be a great way to involve parents, families, and the community.

Standards/Common Core Alignment

Strand	Topic	Content Statement
Geography	Spatial Thinking and Skills	3. Globes and other geographic tools can be used to gather, process and report information about people, places and environments. Cartographers decide which information to include and how it is displayed.
Strand	**Topic**	**Content Statement**
Geography	Spatial Thinking and Skills	4. Latitude and longitude can be used to identify absolute location.

Lesson Objectives

- Students will be able to use latitude and longitude to identify absolute location.
- Students will be able to gather and report information and draw conclusions from a variety of different maps.
- Students will be able to create a map that represents their community.

Materials/Reference List

- GPS / Geocaching tool for each group
- Clipboards
- Notebooks
- Questions for each geocache
- Maps of community (population, topographic, climate/weather, agriculture, economic, historic, will vary by town//community and availability)
- Paper, ruler, drawing utensils

Procedures

1. READINESS

- Prior to this activity, students should have an in-depth understanding of latitude and longitude, which includes how to interpret latitude and longitude as well as the definition of absolute location. Students should also have an understanding of the different types of maps as well as what information can be derived from the different maps. Students should also be familiar with the GPS technology.
- Set up a variety of maps students can review independently.
- Display the following questions students should think about while looking at the maps: What type of map is this? What information does it tell me? What is one absolute location I can identify using latitude and longitude?
- After examining the maps, engage students in a Think-Pair-Share where they talk to a neighbor about the different maps they explored.

ASSESSMENT: In order to know if you should progress to the next activity, make sure to actively monitor and listen to students' conversations. If students, for the most part, are identifying the maps correctly and picking out important pieces of information from the maps, it is clear that the students can move on.

Transition: Now that we have refreshed our brains on the different types of maps and latitude and longitude, we are going to put this knowledge to use in a geocaching activity!

2. CENTRAL LESSON OR ACTIVITY

- Students will be engaged in a geocaching activity where different geocaches are located throughout the community. At each geocache there is a small box with a different type of map of the community. Examples of types of maps that can be used include a topographic map, population map, economic map, vegetation map, or even a historic map) There are six caches. Each cache has a set of directions specific for the map. Students will need to have an adult with them at all times.
- Student will be broken into groups of 3. Each student will be assigned a role and their role will change after each cache / map investigation.
  Navigator – Uses the GPS to guide the group to the destination.
  Journalist – Records the groups' observations and answers in the notebook.
  Cartographer – Opens the geocache box to reveal the map. Holds the map and plays lead "investigator".
- Students will be given a set of absolute locations where the geocaches are hidden.
- Students will use their GPS to navigate. The geocaches are strategically located. For example, if the map represents the vegetation of the community, it could be located next to a field or in the arboretum. Once finding a cache, students will open the box to reveal a map. Students will record their answers to the questions in the box using the map.
- For each map, students will be required to identify the type of map, what information the

map is communicating, two conclusions drawn from the map, and two other specific questions related to each individual map. Once the "Journalist" has recorded the groups' responses in their journal, they will move on to the next location.

3. CLOSURE

- Once all of the groups have had a chance to examine all of the geocaches, they will be required to create their own map of their community. Students will work together to create this map. Students may choose what characteristics to emphasize on their map. They will have plenty of options and resources after viewing six different types of maps. They can choose to combine characteristics, or focus on one.

4. ASSESSMENT

- Students' maps they created will be assessed.
- Group answers from each of the geocaches will be collected and assessed.
- Groups' ability to navigate using latitude and longitude will be monitored and assessed.

Enrichment/Extension (This can't be just tacked on; it has to be woven throughout your design.)

Students who are higher achieving will need to pick more than one characteristic to address on their map. For example, students could choose to represent historical buildings as well as topography. For lower achieving students, their map characteristic can be given as a choice of three different characteristics that are less challenging to create a map for.

Reflection