Authentic Activity: Mystery Strategy for Elementary Students

**Grade:** 6th

**Strand:** Geography

**Topic:** Spatial Thinking and Skills

**Content Statement:** #4. Latitude and longitude can be used to identify absolute location.

**Rationale:** Every student would love a great “Scooby-Doo” like mystery! Well with this strategy, students are given the opportunity to be active learners as they look in to a social studies concept. By being provided clues, students have the opportunity to gather and organize evidence, test hypotheses, think about and solve problems and then defend and present solutions to the problems. The students will be determining location using latitude and longitude and also reversing that while being given the location, they have to find the latitude and longitude.

**Background Information:** Students have been working with maps and academic language such as the terms Latitude, Longitude, and Absolute Location. In Grade 5, students studies latitude and longitude in relation to making observations about location and general statements of climate. In the 6th grade, the students will be using the knowledge they have learned (and revisited) about latitude and longitude to find an absolute location.

**Goals:**

1. Gather, organize, and process information
2. Formulate and test hypotheses
3. Think creatively and analytically to solve problems
4. Develop, defend, and present solutions to problems.

**Objective:** Students will be developing a hypothesis while using an online Latitude and Longitude finder that allows students to punch in the City, and State/Country and will give them the Latitude and Longitude. Also, it allows you to switch it and convert the latitude and longitude to the address.

**Activity Procedure:**

1. The teacher will find a variety of locations to use as clues and pieces of the puzzle to help the students solve the mystery about “How to Create the Best Stuffed Breadstick.” Each location will lead the students to another ingredient to help in their creation. These sources will be provided to students through a link on the Internet.
2. The teacher will have copies of the clues in individual envelopes labelled with the club number. They will not open the next clue until finding the information.
3. Students will think about the question and develop an initial hypothesis on the accompanying worksheet.
4. Students will investigate and find the locations using the pieces individually or with a small group using the class set of iPads. Each location students will take notes on the given information. As students are researching and finding locations, the teacher will pose related questions about latitude and longitude, and how to write them in DMS coordinates, and normal coordinates.
5. After students have found locations of all ingredients, they will determine where the home location is and will discuss within their small groups.
6. Each group will share the results and final hypothesis with the class.

Clues for Students:

Students are going on a quest to find the ingredients to create the best stuffed breadstick. You are going to start at the Detroit Metro Airport in Detroit, Michigan. Students will be using miles graciously donated by the teachers in our school. We had all of our locations including our latitude and longitude all figured out but the computer got jumbled and lost some of our information! So before you go from location to location, it is your job to figure out the exact locations. Each location needs the city and country it is located in AND the latitude and longitude.

Go to this website to begin!

<http://www.latlong.net/convert-address-to-lat-long.html>

When finding the City and State/Country name, insert the Latitude and Longitude in the correct boxes.

When finding the Latitude and Longitude, switch screens by clicking on the

Lat Long 🡪 Address button. (As shown to the right).

Start in Detroit, Michigan at the DTW airport. What is the Latitude and Longitude?

Our airline ticket comes with the first clue!

**Clue 1:**

Welcome to the skies! You are going to get bread and are given the latitude of 48.86 and longitude of 2.35 to travel to. Where are you going to land?

After picking up the bread, we get clue #2. This clue reads:

**Clue 2:**

After getting *French* bread, you will be traveling South West to Barcelona, Spain for sauce. What Latitude and Longitude do we give to the pilot?

When we found our sauce, the chef was waiting, clue #3 in hand:

**Clue 3:**

Mmm good sauce! Congratulations on making it this far! Welcome to… well, I was given a latitude and longitude but I don’t know what city and country. The latitude I was given was 37.60 and the longitude was 14.02. Where am I going?

Sicily, Italy welcomes you! We hope you got plenty of cheese so we can make the best breadstick around! Through some holes in the Swiss Cheese preview we were able to spot the next clue!

**Clue 4:**

So glad you could see through the cheese to find this clue! Next we are headed West across the North Atlantic Ocean! We have some inside knowledge about some delicious peppers in Puebla, Mexico! But what is the latitude and longitude?

¡Bienvenido a Mexico! (Welcome to Mexico!) So glad you found the perfect peppers! Clue #5 was waiting for us:

**Clue 5:**

Mushrooms, mushrooms everywhere… but where is everywhere? The numbers I was given are -25.47 latitude and 30.99 longitude But I have no idea where we are actually going? Help me out!

While searching and studying for those wild mushrooms, I looked under the cover and found our next Clue!

**Clue 6:**

We are headed to Rosenberg, Texas in the good old USA! We are looking to get some delicious pepperoni! What are the exact latitude and longitude degrees to get us there?

When you get the pepperoni, the salesperson at the store hands you this final clue/card!

**ALMOST THERE!**

CONGRATULATIONS! You made it! You have found all of your ingredients and are on the way to making the perfect stuffed breadstick! Now, we only have one more location to put it all together! We are traveling to our very home in Bowling Green, Ohio! As you now know, we need to find the latitude and longitude of Bowling Green, Ohio! Once there, we can use a map to find Pagliali’s Pizza and start developing the breadstick! See you soon!

Fill In the blanks on the worksheet given the clues

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Clue #** | **City and Country** | **Latitude** | **Longitude** | **DMS Latitude\*** | **DMS Longitude\*** |
|  | **Detroit, Michigan** |  |  |  |  |
| **1** |  | **48.86** | **2.35** |  |  |
| **2** | **Barcelona, Spain** |  |  |  |  |
| **3** |  | **37.60** | **14.02** |  |  |
| **4** | **Puebla, Mexico** |  |  |  |  |
| **5** |  | **-25.47** | **30.99** |  |  |
| **6** | **Rosenberg, Texas** |  |  |  |  |
|  | **Bowling Green, Ohio** |  |  |  |  |

\*Extra Credit! Using the website, determine the DMS Latitude and DMS Longitude