

# The U.S. Coast and Geodetic Survey to the Rescue

## Category

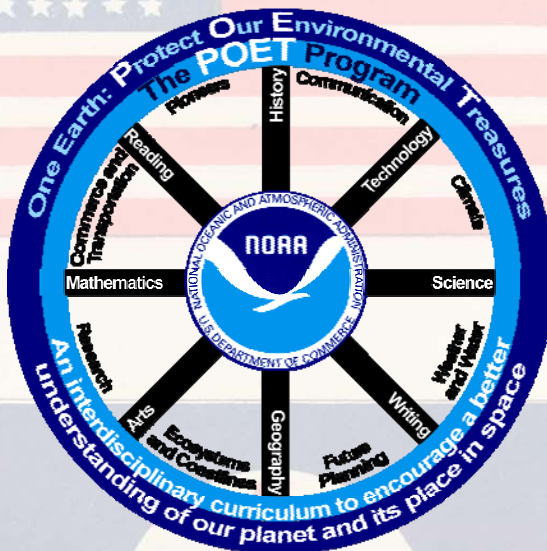
Writing, Reading, Science, Geography, History

## Materials

Excerpts from the NOAA feature story, "Directions to the Party", by George E. Leigh (Included)

## Real World Connection

Commerce and Transportation, Communication



## Problem Question

How can easy-to-follow travel directions be created and communicated?

### Prior Knowledge What I Know

Based on your prior knowledge, answer the problem question to the best of your ability.

### Conclusion What I Learned

Answer the problem question after completing the activity.

## Background

Have you ever had trouble giving clear and complete directions to a birthday party or to your house? Have you traveled with someone who got lost because directions were hard to follow?

To learn how to give good directions, let's consult the experts...the

**U.S. Coast and Geodetic Survey.**

## What is the U.S. Coast and Geodetic Survey?

Since the early 1800s, the U.S. Coast and Geodetic Survey (USCGS) has worked to establish a network of permanent markers accurately showing the marker's location on Earth's surface. There are literally hundreds of thousands of these permanent survey marks or monuments scattered throughout the United States. The marks are still in use today and each mark provides one or more types of accurate data for those interested in precise positioning on the Earth's surface.



Today, this survey network is called the National Spatial Reference System (NSRS). The NSRS includes a set of points on the Earth's surface which precisely determine latitude, longitude, elevation, shoreline, scale, and gravity. Uses for knowing an accurate location include finding accurate boundaries for construction, for map making, and for recreation activities like orienteering and geocaching.

## What is a Bench Mark?

Over the last 200 years, the USCGS has developed systems that define latitude, longitude, height, scale, gravity, orientation, and shoreline throughout the United States.



This survey mark, first set in 1917, is a bench mark, meaning it marks a point whose elevation above or below a geodetic vertical datum is known. Bench marks are just one type of survey mark set by the National Geodetic Survey.

**Two organizational elements within NOAA's National Ocean Service are the successor agencies to the USCGS, the National Geodetic Survey and the Office of Coast Survey.**

## Procedure

1. To learn how to give directions that a person can readily follow, read the excerpts from the article, "Directions to the Party", that follows on this page.
  - A. An introductory paragraph that describes where the person needs to go and explains why the person needs directions. Include the form of transportation – pedestrian, automobile, or a combination.
  - B. Directions in paragraph format to the location of your choice. Refer to the "To Reach" instruction box.
  - C. A concluding paragraph that explains what to do if the person cannot find the destination.
2. Write directions to a location of your choice. Organize your thoughts in the space provided. Use an organizational technique that works for you – web, outline, lists, columns, etc.
3. In a three paragraph essay, write easy to follow directions to the location that you chose. Be sure to include the following criteria:
4. Draw a diagram to illustrate the route that you describe. Include an arrow that indicates "north".



## Excerpts from the NOAA Feature Story

"Directions to the Party" by George E. Leigh



### To Reach

To give easy to follow directions, use the steps provided by NOAA's National Ocean Service – National Geodetic Survey.

1. Start from a well-defined point, such as a school or the intersection of major streets.  
*Example: "From the intersection of Main Street and Fourth Avenue about one block east of the high school..."*
2. State the street to travel on by name and/or number and the direction to travel.  
*Example: "Go north on Main Street..."*
3. State the distance to travel on that street and state the next landmark.  
*Example: "Travel for six blocks to an intersection..."*
4. State the action to take at that next landmark and the next direction of travel.  
*Example: "Turn right on Walnut Avenue and go east..."*
5. State the distance on that next route and the next landmark.  
*Example: "Go one block to the stadium..."*

**Continue repeating the steps until the destination is reached.**

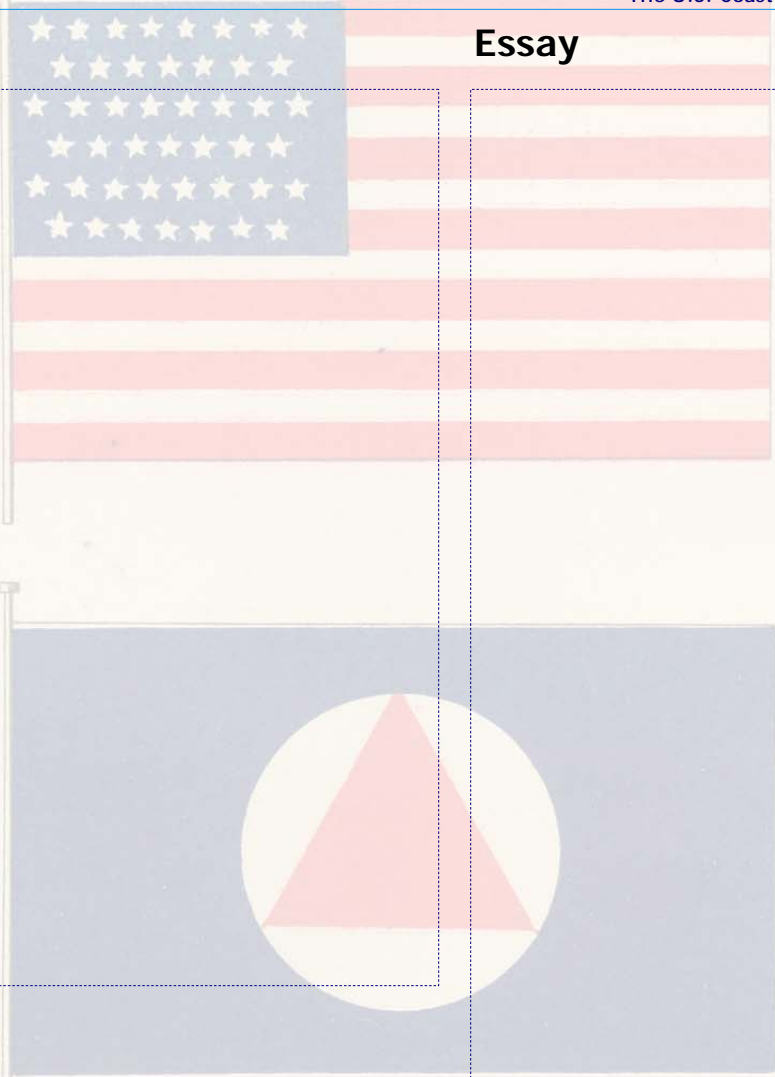


### Notes

- > Odometer distances are given to tenths of kilometers (followed by tenths of miles).
- > For roads with names and numbers, both are provided in the first occurrence.
- > If a road goes due east, the word "EAST" is used; if the road wanders in a general easterly direction, the word "EASTERLY" is used instead.
- > If the distance becomes longer than about five miles, more details are given.
- > The place at the end of truck (or car) travel is typically mentioned.
- > If walking is required, the approximate time required for packing is included in the description.
- > If travel to a station is by boat, the place of landing is stated.

# Plan

# Essay



# Diagram

