STEP
Student Technical Enrichment Program

Name: _____
Grade: _____
Date: _____

This Journal is due at the end of TODAY – February 18th, 2017

Please use the sheet below to write your journal. Use the back of this sheet if you need more room.

NOTE: You must write in **COMPLETE SENTENCES**. Each response must **be 5 sentences long.**

Questions to think about while writing:

- ✓ What is one thing that you learned today that you did not know before today's tour?
- ✓ What careers discussed today did you find most interesting?
- ✓ After today's tour is there anything that you will do differently to **promote STEM Education?**

Lakeland Community College GIS Department Tour

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Program Sponsors:
City of Cleveland, Division of Water | 1201 Lakeside Avenue, Cleveland, Ohio 44114
Northeast Ohio Regional Sewer District |3900 Euclid Avenue, Cleveland, Ohio 44115
www.neorsd.org/neo_step_program

STEP Information Handout

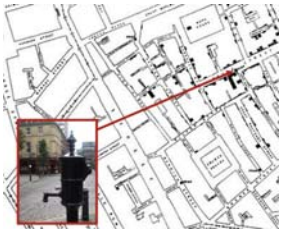
Lakeland Community College GIS Department Tour - February 18th, 2017

http://edcommunity.esri.com/educational-roles/Instructors/STEM

https://www.gislounge.com/gis-essentials/

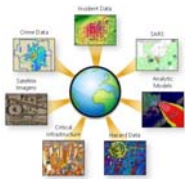
Summary

(LCC) is a two-year community college in Lake County, Ohio. Established in 1967, Lakeland was the first college in Ohio founded by a vote of the people. Today, Lakeland serves more than 12,000 full-time and part-time students each year at the main campus in Kirtland, an off-site location in Madison, and via distance learning. The current president of Lakeland is Morris W. Beverage, Jr. The LCC Geography and Geospatial Technology department program was developed in 2011 to serve the needs of the growing geospatial industry, and is the first program in Ohio to be aligned with the U.S. Department of Labor's Geospatial Technology Competency Model (GTCM).



Geographic Information Systems (GIS) is a geospatial technology, which is used with earth surface imagery, spatial data, and location information to address natural resources, planning, public health, and a multitude of other topics of interest in STEM fields. GIS supports data integration and spatial decision making. ***In 1854*** John Snow determined the source of a cholera outbreak in London by marking points on a map depicting where the cholera victims lived, and connecting the cluster that he found with a nearby water source. GIS provides an excellent way to teach mathematical concepts and skills throughout all STEM disciplines related to engineering, planning, management, transport/logistics, insurance, telecommunications, and business. Representing numbers, understanding patterns, relationships, and function, 2-D and 3-D geometric and spatial relationships, probability, statistics, change, models, measurements, problem solving, reasoning, connections, and communications are critical concepts. Every one of these can be explored using GIS tools and methods. Comparing graphs and maps of birth and death rates over time and region, analyzing the response of a stream to a recent storm through a real-time hydrograph, and creating cross-sections of terrain are three common activities in geography instruction, easily done in a GIS environment. One might say that GIS is visualizing numbers, since its basis is representing numbers as cells, points, lines, or polygons on a map.

Education Path



STEM education requirements for this career path, range from a high school diploma and GIS certification to a bachelor's degree in cartography, geography, and GIS. GIS allows us to study climate change, design cities inventory geologic samples, plan ecological growth models, catalog archaeological sites, and participate in countless other activities. For a GIS Analysis/Scientist typically need at least a bachelor's degree in geography, geospatial, cartography or science. Students who major in GIS should had course work in mathematics, computer programing, geography, cartography, critical thinking, spatial thinking, data analysis, and remote sensing (GPS).

Career Path

A GIS Analyst/Scientist Technician specialize is a high growth career field. Geospatial technology can be found in a wide range of industries and service sectors throughout the country, such as: Environmental Management, Urban Planning, Government, Transportation, Logistics, Construction, Marketing, etc. The median annual wage is $64,750.

STEP
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Name: _____
Grade: _____
Date: _____

Lake County Community College – GIS Department * February 18th, 2017

This homework is due on March18th, 2017

1. What year was Lakeland Community College established? _____

2. First College in Ohio founded by what? _____

3. Today, how many full-time and part-time students Lakeland Community College each year? _____

4. What does GIS stand for G_____ I_____ S_____

5. GIS is a _____technology, which is used with_____
_____
_____
_____

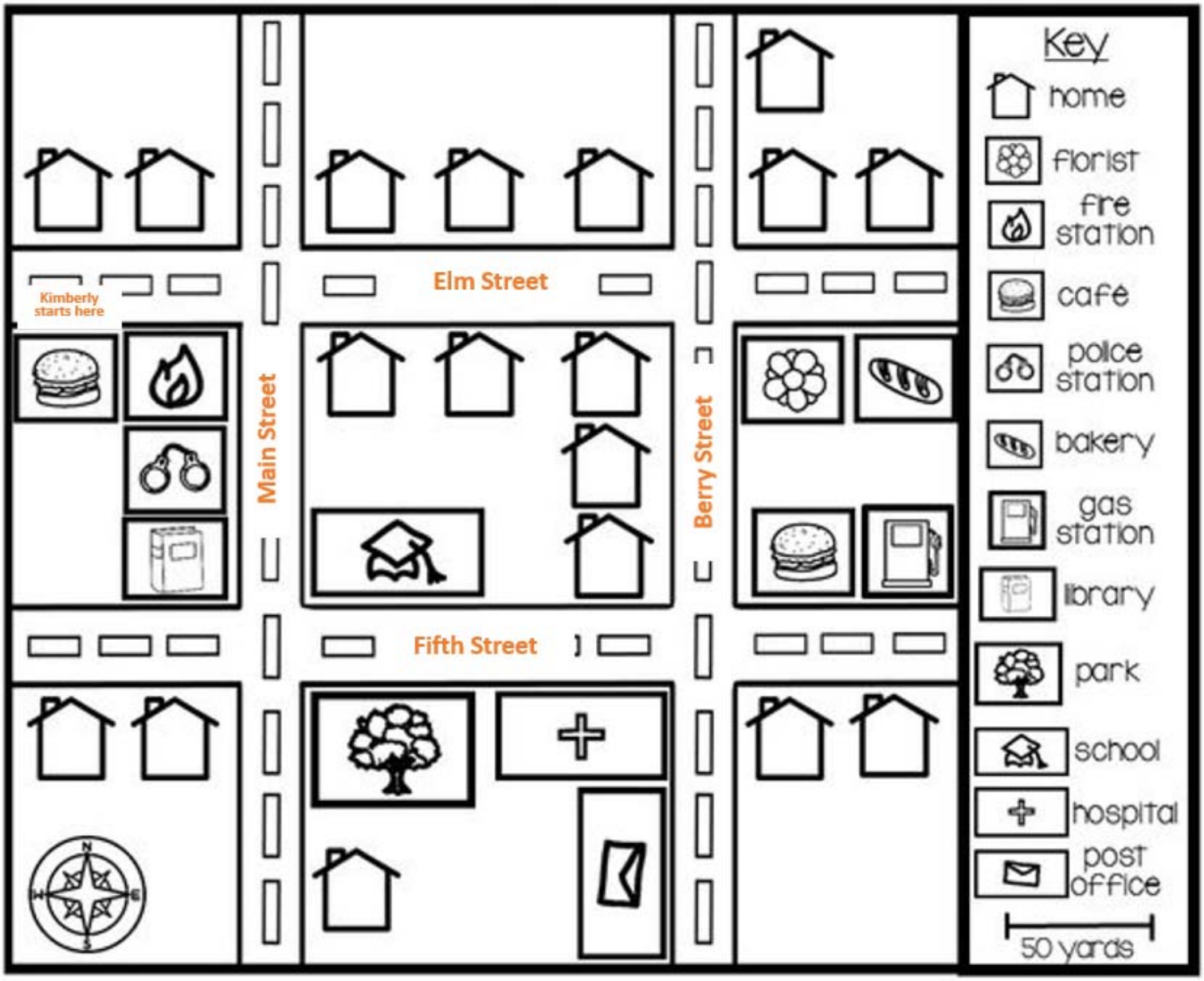
6. In 1854 John Snow determined the source of _____ in _____
by _____
_____
_____
_____

7. GIS provides an excellent way to teach mathematical concepts and skills throughout all STEM disciplines related to?
_____
_____
_____
_____
_____

8. Name 3 Areas GIS allows us to study?
   a. _____
   b. _____
   c. _____

9. What is the median annual wages a GIS Analyst/Scientist technician? _____

10. Please review map on the other side and answer the questions.



How many houses are in the map? _____

Which business is next to the florist? _____

What is represented by the envelop symbol? _____

What is about 50 yards east of the Library? _____

Kimberly leaves the Café and walks east on Elm Street. She makes a right and heads south on Main Street. When she reaches Fifth Street she turns east. At Berry Drive, Kimberly walks south. She walks past the hospital about 50 yards. Where is Kimberly? _____

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