



# RUBRIC: GEOTECHNOLOGIES/GEOSPATIAL LITERACY

Live Performance at State Championship

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Team Event

One Team TITLE PER SCHOOL ALLOWED TO APPLY

More and more students are using software and Web sites that utilize Geotechnologies. Do you have students that can create a project around these tools and solve a problem? A student using Geographic Information Systems (GIS) or the Global Positioning System (GPS) can demonstrate a GIS/GPS event for the school or community; and can create, manipulate and analyze geospatial datasets to discover Earth-based facts to find a solution to a problem.

First and second place will be recognized at the State Championship Awards.

What the STLP Coordinator/Coach/Teacher should do:

- Share the rubric with students
- Determine which students should apply for this category
- Elementary and Middle School use of Google Earth, ArcExplorer
- High School ArcGIS or ArcGIS Online with analytical layers
- Find a professional in the field of GIS, GPS, Remote Sensing, STEM

What the student should do:

- Review the rubric
- Research Geographic Information Systems (GIS), Global Positioning System (GPS), Remote Sensing
- Find someone in the field of GIS, GPS, Remote Sensing

## RESOURCES

- <http://stlp.education.ky.gov/?p=417> (2014 STLP Guide to Geotechnologies & Geospatial Literacy)
- <http://www.edutopia.org/naturemapping-technology-fieldwork-video>
- <http://www.ilovegis.com/inde.html>
- <http://www.esri.com/industries/k-12/inde.html>
- [http://www.esri.com/products/inde.html#free\\_viewers\\_panel](http://www.esri.com/products/inde.html#free_viewers_panel)
- <http://www.arcgis.com/home/>

School Articles:

Geo-Cool: Exploring with geotechnologies

- [http://www.learningandleading-digital.com/learning\\_leading/20100910#pg30](http://www.learningandleading-digital.com/learning_leading/20100910#pg30)

Get Outside with GPS

- [http://www.learningandleading-digital.com/learning\\_leading/201102?pg=33#pg36](http://www.learningandleading-digital.com/learning_leading/201102?pg=33#pg36)

**See Rubric on Page 2**



# RUBRIC: GEOTECHNOLOGIES/GEOSPATIAL LITERACY

State Championship	Criteria	Points Earned
<b>COPYRIGHT</b>	Intellectual property is respected; Copyright rules are followed for audio and text; Any text, audio or images are school appropriate	
	0 10	
<b>CARTOGRAPHY</b>	Map is balanced	
	Many softcopy maps are created and used as graphics in media	
	No map elements are missing	
	Symbolization is effective for each layer	
	Labeling of various layers is harmonized	
	Classification of features and surfaces is effective	
	No grammatical or accuracy errors	
	Credits and explanation are present	
0 1 2 3 4		
<b>GIS</b>	Sophisticated use of geoprocessing tasks: distance, proximity, overlay, queries	
	Collected, organized and documented large volume of complex data with both spatial and attribute data	
	Map uses both vector and surface datasets	
	Depth of GIS analysis and use is evident	
	The map includes a layer which is the result of analytical operations	
	Static or animated (e.g. movies) 3-D geovisualizations	
0 1 2 3 4		
<b>GEOGRAPHIC COORDINATES</b>	Geographic coordinates were acquired.	
	Methods are described (GPS, mobile device, on-screen)	
	Students are aware of and discuss positional uncertainty and spatial accuracy in the context of map-making and spatial analysis	
	Maps showing locations where data collection took place and valuable spatial layers are used for contextualization	
0 1 2 3 4		
<b>VISUAL DESIGN AND COMMUNICATION</b>	Publication of project materials as video/slide show on YouTube or school/district website	
	Animations using 3-D geovisualizations may be present	
	Presentation has video or audio of critical moments in the project	
	The project lifecycle is documented in detail	
0 1 2 3 4		
<b>COMMUNITY IMPACT</b>	Project addresses a real world problem	
	Community and expert involvement is evident from beginning to end of project	
	Final project results were presented to the community	
	Net steps are identified based on analysis and conclusions	
	Data and/or metadata are published on Kentucky Geoportal ( <a href="http://kygeonet.ky.gov">http://kygeonet.ky.gov</a> ), ArcGIS.com or other geoportals or web mapping applications	
0 1 2 3 4		
<b>SPATIAL THINKING IN PROJECT SOLVING</b>	GIS is used to answer questions relevant to solving the problem	
	The answers are formulated in a spatial way and translated into maps	
	The problem is analyzed in terms of basic questions to be answered	
	The questions are translated into GIS tasks or functions	
	Spatial and attribute queries are used to answer main questions in the problem	
0 1 2 3 4		
<b>Team Work</b>	Team work is evident in all aspects	
	All team members participate in the presentation	
	All team members respond to questions	
	All team members have a thorough knowledge of the project	
0 1 2 3 4		
<b>TOTAL SCORE of 38</b>		