

## Mapping MS/HS H-LP Grounds

Travis Sprague – Harris-Lake Park School District

Grade Level (Req.): 9th grade	Content Area (Req.): Physical Geography, Technology	Unit (Opt.): Creating Maps
Connections to Other Disciplines (Opt.): <ul style="list-style-type: none"> <li>• Math</li> <li>• Social Studies</li> <li>• Iowa History</li> </ul>		
Time Frame (Req.): 3 class periods (45 minutes each; 135 minutes total)	Goal (Req.): Utilize GPS devices to mark and explain the significance of geographic features of the school district	
	Objective (Req.): Students will identify and describe important geographic features of the school district's property.	
Materials Needed (Req.): <ul style="list-style-type: none"> <li>• Teacher GPS</li> <li>• Classroom set of GPS</li> <li>• Notebook paper</li> <li>• Plain White Paper</li> <li>• Pens/Pencils/Coloard Pencils</li> <li>• Whiteboard and Expo Markers</li> <li>•</li> </ul>	New Vocabulary (Opt.): <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
Anticipatory Set/Introduction [Inquiry Question is required] (Req.): Bellringer written on whiteboard (the students write question and answer in notebook): "What are the 5 most important areas on the school district's property and why?" Students take 2 minutes to write the question and answer in their notebook. Then they partner up and discuss there answers. Finally the class discusses and makes a list of the 10-15 most selected areas and why these areas are important.		
Instructional Sequence/Procedure (Req.): <ol style="list-style-type: none"> <li>1. Bellringer (listed above; 7-10 minutes)</li> <li>2. Explain lesson...Each group with geographic map 5 of the most important areas using GPS devices (marking latitude and longitude of each area) then create maps to show the distance between the areas, a walking route that links each of the areas together, latitude and longitude coordinates, and buildings and other features (5-7 minutes)</li> <li>3. Split students into groups of 3 (5-6 groups) (3 minutes)</li> <li>4. Go over GPS devices (figuring latitude and longitude; 3 minutes)...TSW have previous knowledge of the devices (3 minutes)</li> <li>5. Have groups (staying together) go outside and mark the spots they selected (examples: 50-yard line of football field, goal posts of football field, pitchers mound of softball field, big oak tree in park, mounds near parking lot, home plate of baseball field, FFA test plot, community center, greenhouse, Frisbee golf course, press box of football field, soccer practice field, concession stand... (around 22-27 minutes; please note all of these places are withing 5-6 blocks of each other; this will be the end of the 1st class period)</li> <li>6. Continue #5 procedure until all groups have finished (15-20 minutes of 2nd class period)</li> <li>7. Begin creating maps: In groups 1 student creates a longitude and latitude map marking the 5 locations, another student creates a map showing a walking route between locations using distance (in feet), the last student creates a map showing the entire school groups including</li> </ol>		

<p>buildings, fields, parking lots...all of these maps need to have basic features in common (25-30 minutes)</p> <p>8. Continue #7 procedure until all groups have finished (15-20 minutes)</p> <p>9. Groups present their maps to the class and answer questions (25-30 minutes)</p> <p>10.</p> <p>11.</p> <p>12.</p> <p>13.</p> <p>14.</p> <p>15.</p> <p>16.</p> <p>17.</p> <p>18.</p> <p>19.</p> <p>20.</p>	
<p>Formative Evaluation (Req.): Longitude and latitude coordinates of 5 locations; distance between 5 locations; marking of buildings and other features; teacher questions to groups when they are out searching for their locations; informal questions when the students create their maps</p>	<p>Assessment (Req.): Student maps (latitude and longitude map; distance map; school grounds map) with presentations to class</p>
<p>Iowa Core Curriculum Standards Used (Req.):</p> <ul style="list-style-type: none"> <li>• Understand the characteristics and uses of geographic technologies</li> <li>• Understand geographic representations and tools used to analyze, explain and solve geographic problems.</li> <li>• Understand technology and human mobility have changed various cultural landscapes.</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<p>Common Core Curriculum Standards Used (Opt.):</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<p>NGS Standards Used (Req.):</p> <ul style="list-style-type: none"> <li>• How to Use Maps and Other Geographic Representations, Tools, and Technologies to Acquire, Process, and Report Information From a Spatial Perspective</li> <li>• How to Use Mental Maps to Organize Information About People, Places, and Environments in a Spatial Context</li> <li>• How Human Actions Modify the Physical Environment</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>	

<ul style="list-style-type: none"><li>•</li><li>•</li><li>•</li></ul>	
Five Themes of Geography Used (Req.): <ul style="list-style-type: none"><li>• Location</li><li>• Place</li><li>• Human-Environmental Interactions</li><li>•</li><li>•</li></ul>	School District Standards and Benchmarks (Opt.): <ul style="list-style-type: none"><li>•</li><li>•</li><li>•</li></ul>
21 <sup>st</sup> Century Universal Constructs (Opt.):	
Other Disciplinary Standards (Opt.): <ul style="list-style-type: none"><li>•</li><li>•</li><li>•</li><li>•</li><li>•</li></ul>	
Other Essential Information (Opt.):	
Other Resources (Opt.): <ul style="list-style-type: none"><li>•</li><li>•</li><li>•</li><li>•</li></ul>	