

Mapping Our Community

A unit in eight lessons, grades K-12

Stage 1 – Desired Results

<p>ESTABLISHED GOALS</p> <p>Content Standard: - A student should be able to make and use maps, globes, and graphs to gather, analyze, and report spatial (geographic) information. -A student should be able to utilize, analyze, and explain information about the human and physical features of places and regions.</p> <p>Cultural Standards: -gather oral and written history information from the local community and provide an appropriate interpretation of its cultural meaning and significance; - identify appropriate forms of technology and anticipate the consequences of their use for improving the quality of life in the community</p>	<i>Transfer</i>	
	<p><i>Students will be able to independently use their learning to...</i></p> <p>Create a grade-appropriate map portfolio that addresses patterns and spatial relationships at the local scale.</p>	
	<i>Meaning</i>	
	<p>UNDERSTANDINGS <i>Students will understand that...</i></p> <ul style="list-style-type: none"> - Geography offers a set of concepts, skills, and tools that facilitate critical thinking and problem-solving. - Geographical skills provide a foundation for analyzing patterns and processes on a community, regional, and global scale. 	<p>ESSENTIAL QUESTIONS</p> <ul style="list-style-type: none"> - What considerations should be taken when organizing information? - What are the limitations of using images as a source of information?
<i>Acquisition</i>		
<p><i>Students will know...</i></p> <ul style="list-style-type: none"> -know that places have distinctive geographic characteristics; -analyze how places are formed, identified, named, and characterized -discuss how and why groups and individuals identify with places -describe and demonstrate how places and regions serve as cultural symbols -understand the varying capacities of physical systems, such as watersheds, to support human activity 	<p><i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> -asking Elders about the physical features of the community, its uses, and stories associated with those places. -identifying local places in their community's language and understanding the importance of maintaining cultural place names. -explaining major geographical concepts underlying the geographic perspective. -using landscape analysis to examine the human organization of space -using and interpreting maps 	

Stage 2 – Evidence and Assessment

Evaluative Criteria	Assessment Evidence
<p>Analyze data Use a variety of maps Research Present information clearly</p>	<p>PERFORMANCE TASK(S): Create a variety of maps that demonstrate geographic knowledge to catalog and document community land use for subsistence activities, waste disposal, and cultural activities.</p>
	<p>OTHER EVIDENCE: -Chart of map types with evidence -Journals with reflections on culture and land use</p>

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Preparation: Two-three weeks prior to the launch of the unit.

- Contact Elders about sharing local knowledge on community walks (see Cultural Notes).
- Check computer availability and installation of mapping software (see Suggested Resources).
- Find a speaker of your community’s local language. Ask if students know how to say words or phrases related to subsistence (animal and plant names, the actions of hunting, fishing, gathering, preserving)
- Share the scope of this project with the village council and ask that they make or share a Google account with you as the Editor. Communicate that the final map will belong to the village to use and share as they decide.
- Scout the school yard for materials to make ephemeral maps: sticks, rocks, sand, dirt.
- Gather blank photocopy paper, grid paper, clear overhead transparencies, one four-pack of overhead markers for every four students, clipboards, pencils, colored pencils, and rulers.
- Have a camera or phone with a working camera for recording ephemeral maps.
- Install a voice recording app that formats in mp4, such as [Voice Recorder](#) (Android), [Voice Record Pro](#) (iOS)
- Local materials for mapmaking: ie, hand-sized flat, smooth stones, red rocks, birch bark, burnt end of a stick.

Day 1: Theme - Maps are a Way to Provide Directions

- *Hook:* Could you get to this girl's house? Play [video](#). Time 53 seconds
- *Discuss:* Does she see in her mind how to get to her house? Do you?
- *Question:* Before maps, what did our ancestors use to get from one location to another? How are trails marked? What are important landmarks in our community?
- *Chart:* Who would find these directions useful? Who would **not** find these directions useful?
- *Define:* Maps provide a written record of place locations.
- *Move;* to the schoolyard: with materials at hand make a map of the classroom. Put in at least 5 important features and let each student decide what those are.
- *Circulate:* discuss and photograph.
- *Regroup:* When students are done, have class move to each map to discuss similarities and differences.
- *Discuss:* How are our maps like the Jamaican girl’s directions? (they are difficult to take with you).
- *Journal:* “When I try to think of what [my community] looks like, I see... What are some important landmarks you might use to give people directions to your house?”
- *Print:* a copy of each student’s map and place it in the student's map folder.

Day 2: Theme - Making a Portable, More Permanent Map with Local Materials

- *Review:* Last session's maps of our classroom were left on the schoolyard.
- *Discuss:* Could a newcomer to our community find our class based on those maps if they found our maps right now?
- *Teach:* ephemeral (temporary, quickly disappearing)
- *Distribute:* local materials (stones and red rocks or bark and burnt sticks)
- *Challenge:* 1) make a map from the school to another location (home, store, church, beach, or other key landmarks), 2) limited to only these materials.
- *Circulate:* discuss and photograph.
- *View:* maps made by Native Americans on [birch bark](#) and [rock](#). Teacher Note: These maps by non-Alaskan tribes are included only because there is so little surviving evidence of map-making by Native people prior to contact and yet despite their distances from each other the techniques are very similar in using whatever local materials they had on hand.
- *Regroup:* have class move to each student map to discuss similarities and differences between each other and Native American maps.
- *Journal:* “Today I made a map from... to... It was easy because... It was hard because...If I could change one thing when making my next map it would be... because...” What are the benefits of this type of map? What are the limitations? Circulate and read as students write.
- *Prepare:* notes for the next session on common themes: perhaps, wanting to use paper, pencils, and rulers.
- *Print:* a copy of each student’s map and place it in the student's map folder.

Day 3: Theme - Mapping the Familiar, part 1 - The Classroom

- *Prep*: make a photocopy of the treasure chest (Suggested Resources). Hand color if necessary.
- *Hook*: Could you make a treasure map of this classroom? Highlight the use of paper and pencil as materials.
- *Imagine*: You have a chest filled with gold to hide in this classroom and you want to come back years from now to retrieve it. Now your memory is good, later you might need some help.
- *Ask*: What does this map need to show? How big does it need to be? What information might you want to leave off? What do you draw first? Last?
- *Challenge*: make a treasure map on this piece of blank paper.
- *Circulate*: Identify one map you want to use. Discreetly ask permission to use the student's map and urge secrecy. When the class is out of the room. Hide a paper treasure chest according to the student map.
- *Transfer*: map to Smartboard, projector, or monitor.
- *Discuss*: When the class returns, discuss the map on display.
- *List*: qualities that make the map useful.
- *Assign*: a pair of students to follow the map and try to find the treasure.
- *Ask*: the mapmaker, "How does it feel that your map was useful?"
- *Discuss*: How was your mapmaking different because of the materials? How was it the same?
- *Journal*: "I thought mapmaking on paper was...because..."
- *Place*: maps in the student's map folder.

Day 4: Elder Community Walk

- *Prep*: have greeters for Elder (younger students), students who will record (audio with previous permission) of the Elder's comments on the walk, recording device (use an app that formats in mp4), and students who will photograph locations. Communicate with the Elder that you want to walk through the community and highlight important land use over time (food, water and wood gathering, waste disposal, workspace, places of cultural and spiritual significance) and highlight words or phrases in the community language. Have students prepare questions such as: How did our village come to be here?
- *Share*: with students what you asked Elder to show and talk about before the Elder arrives.
- *Create*: students make a Before Walk Map.
- *Ask*: students how to listen to an Elder. Make a list.
- *Partner*: older students with younger students during the walk.
- *Create*: an After Walk Map with their partner. Annotate the map with community words that the Elder shared.
- *Recollect*: all the local words and phrases the Elder used. Refer to the audio recording if necessary.
- *Journal*: "On our walk today with... I learned... I think it is important because..."
- *Place*: maps in the student's map folder.
- *File*: have older students place all photos and audio in a shared drive and label them.

Day 5: Introduction to Mapping Software

- *Prep*: have one computer for each pair of students (older/younger partners from Elder walk), and folders with all of each student's maps. Print out a satellite view of the area walked with Elder for each student.
- *Review*: Give students 2-3 minutes to review all their current maps and the maps of their partner.
- *Discuss*: What makes your maps useful? How could your maps be more useful?
- *Highlight*: Many of you would like your maps to be more accurate. What would help you do that?
- *Transition*: computer-based maps can be highly accurate but they have limitations too.
- *Model*: Show how to use the software to create a satellite view of the area where you walked with the Elder.
- *Assist*: as students generate a satellite view.
- *Discuss*: Is this a map? What makes it map like? What does it lack?
- *Share*: Instead of having a big line at the printer, print one of these views for each student. Pass out.
- *Teach*: some cartographic labeling standards: Bodies of water, rivers, streets, and landmarks. Draw attention to the use of upper and lower case letters. Orientation of the map. Compass rose.
- *Provide*: sharp pencils and label maps using previous maps as necessary.
- *Journal*: "Today I made a map from a satellite image. I thought it was... because..."
- *Place*: maps in the student's map folder.

Day 6: Creating Map Layers by Hand

- *Prep*: print out a map that includes community land use of a wider area than on the previous map (landfill, berries, firewood, etc), gather clear overhead transparencies 2x per individual, overhead markers. Hand color a transparency to show a land use (clamming or setnet fishing).
- *Prep*: plan a field trip at least two sites further from school but on the prepared map
- *Discuss*: Where do people collect firewood? Berries? Dispose of their trash? Could you find it on this map? Project map for all to see. Are there natural features (water, roads, village, etc) that form boundaries for these areas? Do any of these areas overlap? How would you as a map maker show this land use? Could you show them all at the same time? Our village has its own rules regarding whether people are permitted to go or not. What areas are not permissible to go to? Why or why not?
- *Teach*: Layers. Take a printed copy of the map that you are projecting. Have the students gather close. Show your separate hand-colored transparency of clamming areas but don't overlay on the map. Ask: what does this look like? How could this be useful to my map?
- *Ask*: (after overlaying transparency on top of the paper map) What could this be showing? Why use a transparency instead of coloring the paper map?
- *Pair*: older/younger partners. Students work in pairs to agree on the boundaries of at least two community land uses. The approximate boundaries are marked lightly by the older partner on the transparency. One transparency for each community land use (they will be hand-colored by the younger partner in the next session).
- *Journal*: "Today we map a map showing...I think this will help the community because..."
- *Place*: maps in the student's map folder.

Day 7: Creating Layers with Mapping Software

- *Prep*: computers with mapping software, student map folders, and transparency markers. Import photos and voice files of elders to a shared folder.
- *Differentiation*: younger students will be hand coloring transparencies from the last lesson (this will take less time than older students' computer-based lesson. Plan additional center activities).
- *Collaborate*: with older students to make a list of all the community land uses mapped during the last session, on the walk with the elder, and local language place names. Assign pairs or individuals until each land use is covered.
- *Watch*: [video](#) on how to use Google My Maps Engine. Time 15:18 minutes
- *Export*: all layers to one master map which should be the village account for which the teacher has editor status.
- *Set*: map sharing settings on the most restrictive level. This map contains significant cultural information and the decision of how the map shall be shared belongs to the community.
- *Journal*: for older students: "When I saw all our work together I felt...because..."

Day 8: Sharing

- *Prep*: Invite elders, parents, and other community leaders. Train older students on how to organize a presentation.
- *Welcome*: guests and ask them to shadow a pair of students for the first five minutes.
- *Reunite*: younger/older partners. Have younger partner share their hand-colored transparencies. Have the older partner share layers created on the computer with the younger partner.
- *Preface*: sharing of the online map with the privacy setting in place.
- *Present*: Older students share mapping presentations. Q&A.
- *Journal*: "I think our presentation was... because..."

Cultural Notes

*General guidelines for school and community success
and space to make notes specific to your community*

Asking for help from Elders

- Ask a trusted colleague about the accepted community norms for requesting help from an Elder. These may include the following considerations: making a personal visit, using a liaison, establishing first contact via phone or email, or having a conversation about a visit while at the store, post office, or other community space.
- You are asking an elder to walk around the community with the class and share community knowledge of locations and resources and their uses. Account for the physical demands of walking and speaking loudly enough to be heard outside.
- Also, ask for permission to make an audio recording of what the Elder shares on the walk. Explain that the students will use the recording as a resource to help them learn.
- For Port Graham and Nanwalek: Chief Maganack is recorded and used as an example of what he cared for and encouraged his own people to do.

Suggested Resources

Computer mapping resource:

- [My Maps](#) is available to students through their school district Google account.

Books

- A [history](#) of Native American cartography from The History of Cartography, Volume 2, Book 3 *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*, University of Chicago Press, 1998.

Additional Mapping Lessons:

- [Mapping the Village](#) is on the Alaska Native Knowledge Network website and is an integrated math/science/mapping unit focusing on waste disposal.
- [Map Skills for Elementary Students](#) is a website published by National Geographic with a full range of developmentally appropriate mapping lessons.
- [Teaching with Contemporary Art](#) from Art21 is a set of lesson ideas integrating maps.

