

Doing Geography: The Geographic Lens on the World

The goal of teaching geography is to equip students with the knowledge, skills, and perspectives to do geography. Reaching this goal requires that students learn how to use geographic thinking and information to make well-reasoned decisions and to solve personal and community problems. Many valuable applications of K–12 geography education lie beyond the classroom walls. Geographic education enables students to use geographic perspectives, knowledge, and skills to engage in ethical action with regard to self, other people, other species, and Earth’s diverse cultures and natural environments. Geography connects students to world events, problems, and decisions throughout their lives.

What Is a “Geographic Lens”?

The geographic lens enables students to acquire and use spatial and ecological perspectives to develop an informed worldview.

The geographic lens incorporates three enduring understandings:

1. Geographic representations, analyses, and technologies support problem solving and decision making by enabling students to interpret the past, understand the present, and plan for the future.
2. Human cultures and identities are deeply connected to the physical and human features that define places and regions.
3. Spatial patterns on Earth are ever changing, and human actions contribute to the changes as people constantly modify and adapt to the realities of their cultural and physical environments.

These three understandings capture the essence of what a geographically informed person knows and can do with geography.

Geography is not just a school subject. As the title of this document states, geography is for life. Geography applies to daily life and is valuable over a lifetime. The overarching goal of these National Geography Standards is to ensure that students become geographically informed citizens. Becoming an informed citizen requires going beyond only *knowing* the disciplinary content of geography. Students must also be able to use geographic reasoning and do geography.

What Does “Doing Geography” Mean?

Doing geography requires students to actively use three main aspects of inquiry—geographic perspectives, knowledge, and skills. All three in combination are required to do geography. Considered separately, each is important but incomplete. If a teacher focuses on geography content knowledge alone, students may score well when tested on facts but will not be able to apply their memorized knowledge to make well-reasoned decisions or offer solutions to significant problems. If students focus on skills alone without an understanding of the spatial and ecological perspectives that primarily guide geographic thinking, they may not correctly formulate a geographic question to investigate.

Students use **geographic perspectives** to formulate questions and approaches to investigating the question. Students use **geographic knowledge** illustrated by the 18 Standards. Students use **geographic skills** to systematically conduct geographic investigations and construct answers and possible solutions. A geographically informed person simultaneously uses all three of these to do geography.

What Does Doing Geography Look Like in a Classroom?

Consequently, doing geography is an active inquiry process that integrates geographic perspectives, geographic knowledge, and geographic skills. Each is important and essential. To connect the inquiry process involved in doing geography to the classroom, three vignettes are provided below.

A vignette for each of the three grade bands used in the Standards follows. Regardless of which band holds the most interest, reading and reflecting on all three will provide a more complete picture of what doing geography looks like in the classroom. Each of the five geographic skills is called out as it occurs. These do not always fit into a neat, orderly process but may involve some back and forth between questioning, acquiring, or organizing new geographic information as the inquiry progresses. It is not a lock-step process but rather an active, formative process that encourages students to become actively engaged.

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4th GRADE

Doing Geography: Grades K-4 Community - Based Observations and Investigations

Mr. Rice's fourth-grade students arrived to class on Tuesday morning excited by the installation of a new traffic signal at the corner near the school. Mr. Rice suddenly recognized a teachable moment and realized he could use geographic perspectives and skills to connect the students' interest in the new traffic signal event to the geography standards he would be teaching during the upcoming weeks as a part of his social studies curriculum (**Geography Standards 1, 2, and 3**). During social studies class that day, the students discussed why a new traffic signal might be needed at the corner. The students expressed concern about safety for all students walking to school. Mr. Rice guided the discussion and helped the students formulate their concerns into a geographic question. The students asked, "How many dangerous street crossings do students in our class make on their way to and from school, and where are these crossings located?" **[ASKING GEOGRAPHIC QUESTIONS]** The students talked about the factors that would make crossings more or less dangerous, such as speed limits, one-way traffic flows, the amount of traffic, crosswalks and traffic signals, and the presence of school crossing guards.

Mr. Rice asked each student to sketch a map of his or her route to and from school and identify each of the crossings the student makes on this route. Mr. Rice then asked the students to observe and record the safety details of the crossings identified on their maps during their walks to school during the next couple of days. **[ACQUIRING GEOGRAPHIC INFORMATION]** After recording their observations during this fieldwork phase of the activity, the students then found a satellite image of their school and the surrounding neighborhood using the Internet. Working in pairs, students took turns zooming in to view the details at the crossings identified on their maps. **[ACQUIRING GEOGRAPHIC INFORMATION]** They selected and displayed the traffic data provided by the online mapping service to determine if there were any potential traffic issues at the identified crossings.

8th GRADE

Doing Geography: Grades 5-8 Investigating Water Use in the Colorado River Watershed

While reading the weekend newspaper, Ms. Ramirez noticed an article focused on a topic that would connect with the next curriculum unit on Environment and Society she would be teaching in her seventh-grade geography class (**Geography Standards 14, 15, and 16**). Her students would be learning about watersheds, water resources, and how human actions modify the physical environment. At the start of the unit, Ms. Ramirez shared the new article with her class. The students were shocked to discover that literally all of the water in the Colorado River gets used up before the river reaches the Gulf of Mexico and to learn about the controversy and conflicts over water resources from the river. Because they lived in Colorado, the students wanted to know where and how much Colorado River water is currently used. **[ASKING GEOGRAPHIC QUESTIONS]**

The students were asked to search the Internet for maps of the Colorado River watershed to launch their investigation into this geographic issue. Using digital maps, they discovered that this huge watershed actually covers a large part of the southwestern United States. They also learned that numerous laws and water compacts or agreements allocated much of the water from 'their' river for use in cities and states throughout the Southwest. Some of these cities, such as Phoenix and Los Angeles, are located hundreds of miles from the path of the river. Using various state maps, students identified canals or aqueducts that are used to transport the Colorado River water to these places. The maps also revealed the location of dams that are used to control water supplies along the river. Students learned that the level of water in the reservoirs behind the dams fluctuates depending on the amount of snowpack in the Rocky Mountains at the source of the river. **[ACQUIRING GEOGRAPHIC INFORMATION]**

12th GRADE

Doing Geography: Grades 9-12 A Geographic Investigation of International Cooperation and Conflict

Ms. Lincoln started preparing for her tenth-grade geography class. The class was starting a unit focused on the geographic forces that drive political cooperation and conflict (**Geography Standard 13**). Ms. Lincoln thought about how best to apply a geographic perspective to a recent world event that would result in a variety of investigation questions on cooperation and conflict. Ms. Lincoln wanted her students to consider future aspects of cooperation and conflict as well as past conditions that shaped current patterns and processes.

When the students arrived at class the next day, Ms. Lincoln divided them into small groups and handed out a map of reported pirate attacks off the coast of Somalia in the Gulf of Aden. First, she asked students to study the geographic characteristics of the area with the greatest number of reported attacks. Then, she prompted them to formulate geographic questions about the physical and human characteristics that may contribute to the high incidence of pirate attacks in that location. **[ASKING GEOGRAPHIC QUESTIONS]** The students shared a list of questions from each of their groups.

- ▶What made the Gulf of Aden a place with a high number of pirate attacks?
- ▶How does the number of attacks at this location compare to the number of attacks in other similar locations?
- ▶What physical and human factors contribute to the high number of attacks in this location?

Ms. Lincoln then explained to students that locations where traffic is more congested due to narrow passages are often called "choke points." She handed out a world map and asked students to identify as many geographic choke points for maritime traffic similar to the Gulf of Aden as they could find. The students went to work identifying places where shipping traffic could be congested or slowed due to narrowed passages or straights, high density of shipping, and the location of canals that are important to many shipping routes. **[ACQUIRING GEOGRAPHIC INFORMATION]**

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Based on this research, each pair of students then developed criteria for ranking the crossings as safe, dangerous, or very dangerous. The students then created a symbol for each of the three types of crossings and constructed a map of the neighborhood with each crossing identified by the appropriate symbol indicating its safety level. **[ORGANIZING GEOGRAPHIC INFORMATION]** After they finished creating this neighborhood map, the class was very surprised to learn there were two “very dangerous” crossings near the school.

Students were then asked to conduct a survey with the other members of their class to determine how many students used the two very dangerous identified crossings each day. The students graphed the survey results for each of the two crossings. The class discovered that 16 of the 29 students in the class used these very dangerous crossings. **[ANALYZING GEOGRAPHIC INFORMATION]** The class decided they should meet with school officials to discuss the very dangerous crossings they had identified.

As a culminating activity, Mr. Rice invited the school principal to visit the class to listen to the students give oral presentations on their research using the maps and graphs they created to illustrate their findings. **[ANSWERING GEOGRAPHIC QUESTIONS]** As a key part of their presentation, students suggested possible changes needed to make the crossings less dangerous in the future. Before she left class that day, the principal assured students that she would talk with the Parents’ Advisory Committee and city traffic officials about the two very dangerous crossings the students identified in their research.

8th GRADE

Doing Geography: Grades 5-8 Investigating Water Use in the Colorado River Watershed

Students then worked in pairs to create graphs that showed water levels in the reservoirs for the years 2000 through 2010. Next, they researched and graphed the amount of snowpack in the Colorado Rockies for the same years to determine if there was any connection between their two graphs of data. Students also made charts to show the amount of Colorado River water allocated yearly to each of the places. **[ORGANIZING GEOGRAPHIC INFORMATION]** They then compared the data on their graphs to determine in which years there might not have been enough Colorado River water to meet the amounts promised to each location.

Using their new understanding of the challenges facing Colorado River drainage in the Southwest, students then brainstormed possible solutions for cities and states during low-water years when the Colorado River water resources are scarce. **[ANSWERING GEOGRAPHIC QUESTIONS]** The class was surprised to learn that in most years, much of the water in the Colorado River was claimed for use by cities and states for agricultural production located far from Colorado. They began to understand the competition among places for shares of the water and the need for cooperative agreements and active participation in problem solving by citizens in diverse locations. Ms. Ramirez divided the students into groups to develop a presentation explaining possible solutions to water shortages in the region in the future.

Students wondered if other regions of the world experienced similar problems in sharing scarce water resources. **[ASKING GEOGRAPHIC QUESTIONS]** Ms. Ramirez said that question would require another investigation. During the discussion evaluating their research on the Colorado River watershed, the students concluded that what they learned had far-reaching implications on a wide range of economic and quality-of-life issues for people living in the region. They realized how a geographic perspective helped them understand more fully where the water came from as well as who and where it was being used. The use of water in the Southwest was an issue they would certainly be hearing more about in the future.

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Doing Geography: Grades 9-12 A Geographic Investigation of International Cooperation and Conflict

Ms. Lincoln projected a world map from her computer to the interactive white board at the front of the room and had a representative from each group locate the choke points his or her group identified as having characteristics similar to the Gulf of Aden location. Despite identifying many strategic world locations, the students failed to find any areas with as many pirate attacks as the Gulf of Aden. **[ANALYZING GEOGRAPHIC INFORMATION]** Students then were asked to focus on identifying the geographic conditions that might make the Gulf of Aden a more susceptible location for pirate attacks. **[ASKING GEOGRAPHIC QUESTIONS]** Ms. Lincoln pressed the students to brainstorm sources of data they would need to examine to answer the question.

The students brainstormed more questions about the human aspects of the Gulf of Aden location. Why did so many incidents take place at this particular location? Who provided insurance for ships and cargoes in this region? What type of governments controlled the countries at this location? Were there established navies or coast guards responsible for patrolling this location? This question raised the issue of territorial versus international waters and the Law of the Sea, which is a United Nations (UN) convention defining the boundaries, guidelines for maritime navigation, and exclusive economic zones (EEZ) that stretch out into the oceans. **[ACQUIRING GEOGRAPHIC INFORMATION]** Students used a GIS to identify the 12-mile territorial water boundary as well as the 200-mile EEZ boundary from a world coastline map to look for areas of overlap and potential disputes. **[ORGANIZING GEOGRAPHIC INFORMATION]**

Ms. Lincoln pointed out to students that the UN Convention on the Law of the Sea is an example of an international cooperation drafted and signed by many countries to prevent future conflicts. The student groups also cited the unstable political status of places such as Yemen and Somalia that border the passage and the high volume of shipping traffic that would be passing through this area to take advantage of the Suez Canal and its connection to the Mediterranean Sea. **[ANALYZING GEOGRAPHIC INFORMATION]**

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The examples in each of the classroom vignettes illustrate how students use geographic perspectives, knowledge, and skills to do geography. Geography is a very content-rich discipline. It is always relevant because the world we live in changes daily; there are always questions to pursue, challenging issues to analyze, and problems to solve. It is essential that geography is taught at the K–12 level as the active and engaging discipline it is. The next sections provide more detail and explanation of the geographic perspectives, content knowledge, and skills that are necessary to be a geographically informed person.



This image taken on September 9, 2011 shows Arctic sea ice at its lowest coverage in that year. As a result of warmer summer temperatures, an ice-free Northwest Passage through the northern islands of Canada can be seen connecting the Atlantic and Pacific Oceans.

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Ms. Lincoln asked students to look back at their maps of identified choke points to predict the locations of future piracy issues or susceptibility to attacks. Students debated the characteristics of countries that controlled or claimed control of choke points, including those in close proximity to many oil-producing and shipping points in the world. Ms. Lincoln pressed the students to look at the map of choke points more closely to try to identify other potential future issues. **[ANALYZING GEOGRAPHIC INFORMATION]** The students were stumped by her insistence that there was more to see on the map than they had initially observed. Ms. Lincoln then changed the map they had been looking at to a polar projection of the Arctic Ocean. Suddenly, hands shot up immediately! This new view of the world's northernmost coastlines suddenly revealed locations where navigation and resource exploration could become an issue. Ms. Lincoln reminded them that as Arctic sea ice melts, new navigation and shipping lanes would need to be established and confirmed in the Arctic. She added a layer showing proposed shipping routes by the North Atlantic Treaty Organization Parliamentary Assembly to address these very issues. **[ANALYZING GEOGRAPHIC INFORMATION]** Territorial claims will definitely become more important in this part of the world in the future.

Ms. Lincoln then assigned the students to choose one choke point in the world and to write a geographic assessment of the location's physical and human characteristics to identify its susceptibility to future cooperation and/or conflict issues. **[ANSWERING GEOGRAPHIC QUESTIONS]** She reminded the students to be sure to include a map of the location along with their assessment and to be prepared to share their results with the class during the next class period. Key to her evaluation would be the students' abilities to apply geographic perspectives, knowledge, and skills in their presentations to discuss current and future examples of international cooperation and conflicts.