Where Are We?

Supporting Questions

1. Where are we, as a class community, located?
2. Where are we, as people on Earth, located?
3. Why are we where we are?
4. Where are the “human footprints” on the Earth?
### 3rd Grade Global Geography Inquiry

#### Where Are We?

<table>
<thead>
<tr>
<th>New York State Social Studies Framework Key Ideas &amp; Practices</th>
<th>3.1: Geographic regions have unifying characteristics and can be studied using a variety of tools.</th>
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<tr>
<td></td>
<td>3.2: The location of world communities can be described using geographic tools and vocabulary.</td>
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<td>3.3: Geographic factors often influence where people settle and form communities. People adapt to and modify their environment in different ways to meet their needs.</td>
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**Staging the Question**
Explore time-lapse videos and images taken from the International Space Station to launch the inquiry.

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<td><strong>Understand</strong></td>
<td><strong>Assess</strong></td>
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<tr>
<td>Where are we, as a class community, located?</td>
<td>Where are we, as people on Earth, located?</td>
<td>Why are we where we are?</td>
<td>Where are the “human footprints” on Earth?</td>
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<td><strong>Formative Performance Task</strong></td>
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<tr>
<td>Describe the location of the school using geographic tools and vocabulary.</td>
<td>Complete a two-column chart that describes the location of the world’s people in terms of population density.</td>
<td>Assemble an I Notice/I Think chart drawing conclusions about geographic factors that encourage or deter human settlement.</td>
<td>Create a concept web that makes and supports a claim about how the choices and actions of people influence our planet.</td>
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**Featured Sources**

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<th>Source A: Google Maps</th>
<th>Source A: Population density map</th>
<th>Source A: Global climate zone map</th>
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<tr>
<td>Source B: Earth’s City Lights</td>
<td>Source B: Global elevation zone map</td>
<td>Source B: Human Footprint Consumption</td>
<td>Source C: US Environmental Protection Agency website on climate change</td>
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**Summative Performance Task**
ARGUMENT Where are we? Construct an argument supported with evidence that addresses the compelling question from the concrete (our class) to abstract (human impact on the environment).

**Taking Informed Action**
ACT Host an environmental fair or Earth Day celebration to share information about “human footprints” with the local community.
Overview

Inquiry Description

This inquiry engages third-grade students in exploring world geography through the compelling question "Where are we?" This question sparks students' intellectual curiosity through the study of geographic location and the impact of humans on their environment. Working with evidence from sources, students should understand that, although we can be in different "places," our impact on Earth is worth considering.

This inquiry embeds the part of the Taking Informed Action sequence through the formative performance tasks. The understand element is developed through Supporting Questions 1 and 2, and the assess element is represented in Supporting Questions 3 and 4. The action piece, the development of an environmental fair or Earth Day celebration, can be done in addition to, or as a substitute for, the Summative Performance Task.

In addition to the Key Ideas listed earlier, this inquiry highlights the following Conceptual Understandings:

- (3.1a) Earth is comprised of water and large land masses that can be divided into distinct regions.
- (3.1b) Globes, maps, photographs, and satellite images contain geographic information. Maps often have a title, legend or key, compass orientation, author, date, grid, and scale.
- (3.2a) World communities can be located on globes and maps.
- (3.3a) Geographic factors influence where people settle and their lifestyle. Some geographic factors make a location more suitable for settlement, while others act as deterrents.
- (3.3b) People make adaptations and modifications to the environment. Advancements in science, technology, and industry can bring about modifications to the environment and can have unintended consequences on the environment. People have attempted to take actions to protect the environment.

NOTE: This inquiry is expected to take four to six 30-minute class periods. The inquiry time frame might expand if teachers think their students need additional instructional experiences (i.e., supporting questions, formative performance tasks, and featured sources). Teachers are encouraged to adapt the inquiries to meet the requirements and interests of their particular students. Resources can also be modified as necessary to meet individualized education plans (IEPs) or Section 504 Plans for students receiving special education services.

Structure of the Inquiry

In addressing the compelling question "Where are we?" students work through a series of supporting questions, formative performance tasks, and featured sources in order to construct an argument supported by evidence from a variety of sources.
Staging the Compelling Question

This inquiry opens with the compelling question “Where are we?” To engage students in considering this question, teachers can share a combination of time-lapse videos and images taken from the International Space Station (ISS) and ask students to discuss what most surprises them about the images:

- Fede Castro, Our Earth, National Geographic channel: [https://www.youtube.com/watch?v=TGBQaz0QfoE](https://www.youtube.com/watch?v=TGBQaz0QfoE) (4-minute video). (NOTE: The aurora borealis, a dramatic display of lights that can be seen in the northern night skies, occurs when electrons in solar winds encounter Earth’s atmosphere)

Supporting Question 1

The first supporting question—“Where are we, as a class community, located?”—initiates a discussion about the concept of place and the idea that, at any one time, we can be in several different locations. The formative performance task asks students, in small groups or as a whole class, to describe the location of their school community using geographic terms and vocabulary and to record their responses on a chart or graphic organizer. Using Featured Source A, Google Maps, teachers and students should select the “Earth” view and locate their class community by typing the name of their school into the search box. Once the school is located and pinned, students can zoom out and work together to identify and describe the location of their school in an increasingly globalized context (for example, Schlegel Road Elementary School < Webster < New York State < Northeast United States < United States of America < North America < Western Hemisphere < Earth). (NOTE: Teachers will also want to use maps and globes in order to show students different representations of place.)

Supporting Question 2

The second supporting question—“Where are we, as people on Earth, located?”—builds on and contextualizes students’ understandings of the first question. In Supporting Question 1, “we” was interpreted in the literal sense to represent the students’ classroom as a community. In Supporting Question 2, “we” represents all people on Earth. The formative performance task asks students to complete a two-column chart, labeled “High Population Density” and “Low Population Density,” that describes the location of the world’s people in terms of population density. Featured Sources A and B (a population density map and a nighttime satellite image) help students understand where people are distributed on the planet. For example, students should notice that the population density of the United States as represented on Featured Source A is lower than that of other parts of the world, but the high concentration of electric lights in the United States, shown in Featured Source B, is actually brighter than that of other areas of the world (such as western Africa) that have greater population densities.

NOTE: Students are likely to require a high level of scaffolding in navigating the information on these maps, including the legends and keys, scales, and orientations.
The third supporting question—“Why are we where we are?”—calls on students to integrate information from the sources featured in the previous task with information gleaned from two new sources. Students explore Featured Sources A and B (climate and elevation zone maps) and compare them with the first featured source for Supporting Question 2 (population density map). In the formative performance task, students express their conclusions on a two-column chart labeled “I Notice” and “I Think.” In the I Notice column, they list their observations; in the I Think column, they list the inferences they have drawn.

The final supporting question—“Where are the ‘human footprints’ on Earth?”—challenges students to broaden their understandings of “Where are we?” to include inquiry into where our impact on the environment is located geographically and over time. Teachers should explain that a “footprint” is a metaphor used to explain how humans change and alter Earth’s environment. Featured Source A offers the example of diaper usage in the United States to demonstrate the enormity of human consumption and waste production. Featured Source B is an online interactive resource through which students can explore the ways increasing levels of consumption of various goods contributes to a greater footprint. As part of the Taking Informed Action task, students will assess their capacity to reduce their own footprint by thoughtfully considering the suggestions in Featured Source C, How to Reduce your Carbon Footprint. The formative performance task asks students to construct a wheel-spoke concept web with a claim about human impact on the environment at the center and pieces of evidence from the featured sources that support the claim branching off from the center.

Students draw upon understandings developed through the formative performance tasks to craft an evidence-based argument responding to the compelling question “Where are we?” The argument can be presented through written expression, or a combination of drawing and writing. To prepare for crafting an argument, students may gather their sources and notes and discuss in small groups the relationship between the compelling question and the supporting questions and featured sources.

Student arguments will likely vary but could include any of the following:

- We are located on Earth, in the Western Hemisphere, in the United States, in New York . . .
- We are all over Earth, and there are large numbers of us close together in . . .
- We are in places that leave the biggest footprint.

Students have the opportunity to Take Informed Action by hosting an environmental fair or Earth Day celebration in which they display their projects and encourage others to consider reducing their footprint through changes in habits and behaviors.
## Supporting Question 1

| Featured Source | Source A: Google Maps |

*NOTE: The screenshot below is from Google Maps ([http://www.google.com/maps](http://www.google.com/maps)), a website that allows students to explore maps and geographic features of any place on Earth.*
Supporting Question 2

**Featured Source**  

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The data in this map represents 2010. These Population Density layers, for 1990, 2000, and 2010 were were developed for the Global Rural-Urban Mapping Project, Version 1 (GRUMPv1). They were created by dividing the 1990, 2000, and 2010 UN-adjusted population (POP) count grids by the land area (LA) grid. The pixel values for the resulting grid layers, one each for 1990, 2000 and 2010, were then aggregated to form the 12 population density classes. Source information: http://sedac.ciesin.columbia.edu/gpw/.

Supporting Question 2

**Featured Source**

**Source B:** Craig Mayhew and Robert Simmon, image of lights on Earth’s surface, *Earth’s City Lights*, 1995

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Supporting Question 3

**Featured Source**

**Source A:** Center for International Earth Science Information Network, map of global climate zones, *Climate Zones, Global*, 2007

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**Climate Zones**

**Global**

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Climate zones were taken from the Köppen Climate Classification map of the world, distributed by the U.N. Food and Agriculture Organization (FAO). Sustainable Development Agrometeorology Group (February 2006). The classification system is based on annual and monthly averages of temperature and precipitation ranges. Map data were received by CIESIN as .5 degree grids, in Geographic projection and resampled to match the extent and resolution of GPAv3 (.5 arc-minute). The 46 global classes possess membership to 5 super classes, based on general annual distributions of temperature and rainfall. Tropical systems are coded as "A", Dry systems as "B", Temperate systems "C", Cold systems as "D" and Polar systems as "E". Each of these 5 main classes contains combinations of two levels of subclass identifiers, based on seasonality, precipitation and temperature patterns. For more information see FAO's Sustainable Development (SD) Dimensions web site. Source Information: FAO's Sustainable Development Department (SD) - 2006. Global Climate Maps. Köppen Climate Classification Map. http://www.fao.org/ed/direct/climate/Elg0002.htm.

Elevation Zones

Global

Digital elevation data (meters above mean sea level) were obtained as a 1 kilometer resolution elevation/bathymetry raster product from ISciences, L.L.C. Elevation zones were created by aggregating ranges of land elevation values into 12 thematic elevation classes. The 2004 ISciences data were resampled from their native 30 arc-second resolution to match GPW’s population and land area 2.5 arc-minute spatial footprint.


NOTE: This link goes to a National Geographic video on the use of disposable diapers:
Supporting Question 4


*NOTE: This link goes to a National Geographic web page that illustrates the many components that go into producing the goods we use: [http://channel.nationalgeographic.com/channel/human-footprint/consumption-interactive.html](http://channel.nationalgeographic.com/channel/human-footprint/consumption-interactive.html).*
## Supporting Question 4

| Featured Source | Source C: United States Environmental Protection Agency website, Climate Change: What You Can Do |

**NOTE:** The US Environmental Protection Agency website features resources describing What You Can Do at home, on the road, and at school to protect the climate ([www.epa.gov/climatechange/wycd](http://www.epa.gov/climatechange/wycd)). The At School link provides materials for students, educators, and administrators.

![Screenshot from the US Environmental Protection Agency, [www.epa.gov/climatechange/wycd](http://www.epa.gov/climatechange/wycd).](image)