

## GEOGRAPHY STANDARD 12: The processes, patterns, and functions of human settlement



Image credit: D.J. Zeigler

From Victoria Peak, people can quickly see why Hong Kong ranks as one of the world's most densely populated places, with an average approaching 7,000 people per square kilometer.



Image credit: University of North Alabama/Lisa Keys-Matthews

The settlement pattern of the densely populated Kibera slum appears in sharp contrast to the golf course (top center) and urban neighborhood (top right) in Nairobi, Kenya. Data source: ©Google Earth, ©2012 GeoEye.

**The geographically informed person** must understand the varying forms of human settlements in terms of their size, composition, location, arrangement, organization, function, and history. People seldom live in isolation. Instead, they live in clusters ranging from small villages with hundreds of people to megacities with tens of millions of people. The organized groupings of human habitation are the intense focus of most aspects of human life: economic activities, transportation systems, communications media, political and administrative systems, education, culture, and entertainment.

Therefore, Standard 12 contains these themes: Functions of Settlements, Patterns of Settlements, and Urban Forms and Functions.

Of great importance to understanding human spatial organization are the relationships among settlements: their spacing, arrangement, functional connections, and economic specialties. Relationships between settlements are shaped by trade and the movements of raw materials, finished products, people, capital, and ideas. Patterns of settlement across Earth's surface differ markedly from region to region and place to place. Settlement patterns change through time.

Cities, the largest and densest human settlements, are the major nodes of human society. Throughout the world, cities are growing rapidly, but none so rapidly as those in developing regions. Urbanization is changing the current patterns of both rural and urban landscapes around the world.

Settlements and the patterns they etch on Earth's surface provide not only information on current economic, political, and social conditions, but also a historical record of past conditions. Today's settlement patterns provide information about past settlement processes and land-use patterns.

Students must understand the processes underlying the patterns of human settlement over space and time. Understanding these themes enables students to see settlements as a record of human history and as the fulcrum of many of the human processes that are changing Earth's surface.

## GEOGRAPHY STANDARD 12: The processes, patterns, and functions of human settlement

**4<sup>th</sup> GRADE**

the student knows and understands:

## Functions of Settlements

**1. People benefit from living in settlements**

Therefore, the student is able to:

- A. Explain the benefits gained by living in settlements, as exemplified by being able to
- ▶ Identify and describe the services (e.g., movie theaters, hospitals, religious centers, schools, banks, shopping malls, museums, libraries) available in the student's town or city and explain why people may view these as benefits to living in the community.
  - ▶ Describe and explain how the number and types of services (e.g., movie theaters, hospitals, religious centers, schools, banks, shopping malls, museums, libraries) differ for small and large settlements.
  - ▶ Describe how different people in the community might value services (e.g., movie theaters, hospitals, religious centers, schools, banks, shopping malls, museums, libraries) differently.

**2. Settlements occur where locations provide opportunities and therefore advantages**

Therefore, the student is able to:

- A. Explain why some locations are better for settlement than others, as exemplified by being able to
- ▶ Identify and explain the factors that might make a location good for settlement (e.g., flat land for building, access to a river or the sea, resources nearby for building).
  - ▶ Describe and explain the advantages of locations where settlements developed in the United States (e.g., Boston on a natural harbor, New Orleans at the mouth of the Mississippi, Chicago at the intersection of Great Lakes water traffic and the railroads).
  - ▶ Describe the factors that contributed to successful settlement locations (e.g., harbors, resources for housing and fuel, reliable fresh water supply, nonhostile neighbors, natural defenses, reliable food sources, suitable land for agriculture).

**8<sup>th</sup> GRADE**

the student knows and understands:

## Functions of Settlements

**1. Different types of functions can influence the success or failure of settlements**

Therefore, the student is able to:

- A. Describe the typical functions of settlements and explain how they might influence the success or failure of a settlement, as exemplified by being able to
- ▶ Describe and explain the reasons people may choose to settle in cities (e.g., diverse employment opportunities, educational and cultural opportunities, sports and entertainment venues, health and social services, public transportation alternatives, retail shopping centers).
  - ▶ Describe and explain the reasons why people may choose to move away from cities (e.g., high crime rates, congested traffic, lack of adequate health and social services, inadequate education facilities).
  - ▶ Describe the role that the routes of transportation systems (e.g., steam railroad requiring water stations, the Pony Express, overland trails, stagecoach lines) played in the growth or decline of frontier settlements during the late 1800s and early 1900s in the United States.

**2. A combination of a favorable location and human activities lead to the growth of settlements**

Therefore, the student is able to:

- A. Explain the human activities in favorable locations that attracted people and resulted in the development of settlements, as exemplified by being able to
- ▶ Describe and explain the human activities (e.g., trade, political administration, transportation, exploiting resources) that led to the development of cities (e.g., Shanghai is a major world port and commercial city, Pittsburgh was a transportation and iron and steel center near large deposits of coal, Singapore is located along one of the world's major ocean transportation corridors).
  - ▶ Analyze the growth of three major world cities and explain reasons why their locations may have been favorable for human activities resulting in the development of these places.
  - ▶ Describe and explain how recent human activities contributed to the development of cities in different locations (e.g., development of electrical energy capacity and air conditioning in southern US cities, irrigation to increase the number of golf courses in resort towns, tax incentives or policies encouraging new business development).

**12<sup>th</sup> GRADE**

the student knows and understands:

## Functions of Settlements

**1. The numbers, types, and range of the functions of settlements change over space and time**

Therefore, the student is able to:

- A. Explain how and why the number and range of functions of settlements have changed and may change in the future, as exemplified by being able to
- ▶ Analyze the reasons for and results of policies of municipal governments on the internal structure of cities (e.g., zoning ordinances to determine the location and characteristics of residential, commercial, and industrial sectors, incentives to encourage development, legislation of flood-plain regions restricting development).
  - ▶ Analyze the effects that a nearby resource discovery has on the internal structure and functions of an urban place (e.g., petroleum and Houston, Texas, gold and Anchorage, Alaska, lithium and Salar de Uyuni, Bolivia).
  - ▶ Explain the changes in the size and spatial organization of cities as a result of gains or losses of particular industries (e.g., gain of automobile manufacturing in Spartanburg, South Carolina, loss of steel manufacturing in Birmingham, England, gain of a high-tech corridor in Boston, loss of textile manufacturing in the Carolinas as a result of offshore production).

**2. Settlements can grow and/or decline over time**

Therefore, the student is able to:

- A. Explain and compare the factors that contribute to the growth or decline of settlements over time, as exemplified by being able to
- ▶ Analyze and explain the factors that led to the decline and/or disappearance of towns and cities (e.g., rail lines did not connect with the town, relocation of the county seat, decline in resource extraction or production, **single-industry towns** in periods of recession, bypassed by road development, **out-migration** of people, especially young people).
  - ▶ Analyze and explain how historic changes in transportation may have contributed to the growth or decline of settlements (e.g., shift from overland to water routes with improved navigation, growth of river port cities following the invention of the steamboat, effect of access to railroads, interstate highway system, establishment of regional airports).
  - ▶ Analyze the fastest growing cities in different world regions and explain the reasons for growth (e.g., access to education, natural resources, presence or absence of conflict, reliable food supplies, employment opportunities, health care, human rights).

## GEOGRAPHY STANDARD 12: The processes, patterns, and functions of human settlement

**4<sup>th</sup> GRADE**

the student knows and understands:

## Patterns of Settlements

**3. There are different types of settlements**

Therefore, the student is able to:

- A. Compare and explain the different types of settlements in the local region and the United States, as exemplified by being able to
- ▶ Analyze satellite images and compare the patterns of different types of settlements (e.g., rural farmsteads and small towns, urban centers and corridors, suburban, wilderness).
  - ▶ Analyze and compare the patterns of settlement of selected US cities (e.g., suburban sprawl of Los Angeles, linear mountain valley town of Aspen, Colorado, riverfront settlement of Charleston, South Carolina, the planned city of Washington, DC).
  - ▶ Analyze a map of US population density and describe where the major clusters of settlements are located.

**8<sup>th</sup> GRADE**

the student knows and understands:

## Patterns of Settlements

**3. There are patterns of settlements in regions**

Therefore, the student is able to:

- A. Compare and explain the location, number, and sizes of settlements in regions, as exemplified by being able to
- ▶ Analyze maps and satellite images and compare different types of settlement patterns observed across regions (e.g., linear rural settlement along roadways, railways, and rivers; urban centers that spread from a central node; village clusters or rural landscapes; seaport settlements that are interrupted by water, such as a water body or a large river).
  - ▶ Explain possible reasons why some locations can support more population in settlements than other locations.
  - ▶ Compare the settlement patterns in three different regions of the world and describe the particular patterns (e.g., linear patterns, clustered patterns, dispersed patterns).

**12<sup>th</sup> GRADE**

the student knows and understands:

## Patterns of Settlements

**3. The spatial patterns of settlements change over time**

Therefore, the student is able to:

- A. Compare and explain the changing functions, sizes, and spatial patterns of settlements, as exemplified by being able to
- ▶ Analyze late 20th-century changes in urban patterns and functions (e.g., edge cities, gentrified districts, more specialized services in sub-urban areas, urban sprawl).
  - ▶ Compare satellite images of cities to identify the growth or decline of different sectors in the settlement (e.g., squatter settlements, central business district [CBD], green spaces, government buildings).
  - ▶ Analyze and explain the differences in the patterns of cities in light of automobile transportation (e.g., London versus Los Angeles, Rome versus Dallas).
- B. Analyze and explain the structure and development of megacities and megalopoli, as exemplified by being able to
- ▶ Analyze and explain the factors contributing to the development of urban corridors in megalopoli such as the Boston–Washington, DC, corridor and the Taiheiy Belt (Tokyo–Osaka corridor) in Japan.
  - ▶ Analyze the spatial pattern of cities with populations larger than 10 million (megacities) to determine if the pattern is associated with specific features (e.g. coastal locations, major rivers, inland waterways, political centers) or with particular regions (e.g., South America versus South Asia).
  - ▶ Analyze the technological developments that have contributed to the growth and changing spatial distribution of megacities and megalopoli (e.g., changes in agricultural production; infrastructure developments such as sanitation, railroads, interstate highways, airports; construction technologies).



*This night lights satellite image illustrates the settlement patterns of the most urbanized areas, but not necessarily the most populated. These urban areas tend to grow along coastlines and transportation routes.*

Image credit: NASA Visible Earth

**GEOGRAPHY STANDARD 12: The processes, patterns, and functions of human settlement**

**4<sup>th</sup> GRADE**

*the student knows and understands:*

**Urban Forms and Functions**

**4. There are different types of urban land uses**

*Therefore, the student is able to:*

- A. Analyze the different ways land is used in the community, as exemplified by being able to
  - ▶ Analyze community maps and satellite images to describe the different ways land is used (e.g., parks and recreation, sports complexes, shopping areas, medical facilities, residential areas, educational institutions, parking lots, industrial parks, airports).
  - ▶ Analyze a community history to describe changes in land use over time (e.g., farms developed into suburbs, factory buildings changed to urban malls, unused train depots transformed to restaurants or art centers).
  - ▶ Describe the different land uses along a waterfront in a port or river city (e.g., warehouses or industry, residential, entertainment or recreation, commercial).

**8<sup>th</sup> GRADE**

*the student knows and understands:*

**Urban Forms and Functions**

**4. Land uses in urban areas are systematically arranged**

*Therefore, the student is able to:*

- A. Describe and analyze the spatial patterns of land use in cities, as exemplified by being able to
  - ▶ Analyze a city map and describe the differences in the spatial patterns of the central business district (CBD) versus residential areas (e.g., flowing traffic patterns to facilitate business versus cul-de-sac design in residential areas that restricts traffic).
  - ▶ Describe how transportation systems are arranged to provide access to the commercial and industrial areas of a city (e.g., locations and routes of public transit systems, locations and proximity of railroads to power stations and industrial parks).
  - ▶ Identify and describe a controversial land-use issue in the community and analyze the advantages and disadvantages of making the change in use (e.g., widening a street for more lanes of traffic, tearing down an old building for a new park, converting green space into a new building complex).

**12<sup>th</sup> GRADE**

*the student knows and understands:*

**Urban Forms and Functions**

**4. Urban models are used to analyze the growth and form of urban regions**

*Therefore, the student is able to:*

- A. Explain and compare the growth and structure of cities using different urban models, as exemplified by being able to
  - ▶ Identify and analyze the structure of urban places in comparison to general models of urbanization (e.g., concentric rings, sectors, specialized functions, walled cities).
  - ▶ Construct a map of a hypothetical city and explain the internal spatial structures (e.g., central business district, industrial zones, residential, service activities, suburban retail, and information-based activities).
  - ▶ Identify and explain contemporary urban conditions that may not be addressed in urban models (e.g., homelessness, squatter settlements, transitions in ethnic neighborhoods, low-income public housing, gentrification).



*Port cranes in Auckland, New Zealand are prominent in the foreground of this view of the city skyline.*

Image credit: NASA Earth Observatory



*Due to its location, water-based transportation is important to the busy ports of Auckland, New Zealand that have access to harbors on both the Tasman Sea and Pacific Ocean.*