

PROFESSIONAL DEVELOPMENT

AP[®] Human Geography
Urban Geography

Curriculum Module

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Introduction

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The Industrial Revolution ushered in a new age of great urbanization in the world's history. The urban population is growing at a much faster rate than that of the rural population. Nearly half of the world's people now live in cities, and this proportion is higher in the developed regions of the world. Seventy-five percent of Americans now live in urban areas, and more than two-thirds of the people of Europe, Russia, Japan, and Australia do as well. Cities, it would seem, are our future.

Although many students live in or near cities, and believe they know a great deal about them, the AP[®] Human Geography course and curriculum will present them with information that will challenge their current understanding of cities. Questions such as how to define and categorize cities, how to dissect and understand their functional regions, and the impact of changing population and land use matrixes in cities will likely be new to most students.

This curriculum module presents AP Human Geography teachers with resources and ideas for addressing the final content area of the AP course outline — Cities and Urban Land Use. Four lessons are presented here, but it might be helpful for teachers to think of what follows more as “activities” that have been organized according to the curriculum framework of the AP Human Geography course. These lessons do not cover the entirety of the curricular requirements of the urbanization portion of the AP Human Geography course outline. It is not necessary to teach these lessons in any particular order, nor is it necessary to present them in their entirety. It is not even necessary to teach these lessons at the same point in your academic year. Some teachers may choose to introduce cities and the models that describe them (Lesson 1) very early in the year, and they may use the rest of the lessons at a much later date. Other teachers may feel that introducing the idea of a specific location as a case study is important at a point earlier in their year than when they will be discussing cities; they may choose to use Lesson 2, which presents urban changes in Pittsburgh as a case study, separate from the rest of the lessons.

Lesson 1: Urban Models

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Plan the Lesson

Connections to the Course Outline

The content of this lesson addresses the following areas of the AP Human Geography course outline:

- **I.B. The evolution of key geographical concepts and models associated with notable geographers** is addressed through the examination of the three classic North American models and their evolution and reinterpretation into the new ideas informing our view.
- **VII. A.4 Suburbanization and edge cities** are explored by students as they investigate changes and current developments in urban forms.
- **VII. C Models of internal city structure** are studied as students will analyze three classic models of urban structure for North American cities and then compare and contrast them with a model of a Latin American city and the recent interpretations of North American cities.
- **VII. D.4 Urban planning and design** is explored by students as they investigate changes and current developments in urban forms.

Objectives

This lesson helps students come to an understanding of the basic elements of urban models outside of North America and more recent interpretations of urban structure. The students may also gain an increased understanding of urban structure models describing North American cities by comparing them to a model describing a Latin American city. The students will understand how the classic North American models are being reinterpreted as new forces act upon and change cities today.

Background Information

The internal organization of cities may be taught by comparing different models that attempt to describe cities. The major textbooks all discuss three classic models describing North American cities: concentric zone, sector, and multiple nuclei. Understanding these models provides a foundation from which students examine more recent interpretations of cities. This lesson asks the students to compare the North American models to a model of the typical Latin American city and to more recent interpretations of urban forms in North America.

Through a classroom discussion, check for understanding of student reading of the text regarding the classic North American models. The following notes could be written on the whiteboard as the students make contributions, and/or students can amend their own notes as the discussion progresses.

All Three Models

- Developed during the first half of the twentieth century, a period of rapid urbanization in North America
- Based on studies in Chicago (Burgess and Hoyt)
- Focus of the models is different types of land use

Concentric Zone Model

- Developed by E. W. Burgess.
- Argues that urban land use is best represented by a series of concentric circles.
- Recognizes five distinct zones:
 - The central business district/nonresidential
 - Zone in transition/poorest quality housing/immigrants/apartments
 - Zone of workingmen's homes/second-generation immigrant settlement
 - Zone of "better residences"/middle class
 - Commuters' zone/high-class residential
- The concentric pattern arises as land uses compete and are sorted according to ability to pay for land. As one moves toward the central city, land becomes scarcer but accessibility improves, the rent therefore increases, and land uses that cannot exact sufficient rent are sorted out. Similar activities are likely to be found at similar distances from the central business district (CBD).

Sector Model

- Developed by H. Hoyt.
- This model assumes the land use is conditioned by transportation routes radiating outward from a city center.
- Industrial, retailing, and residential districts extend out from the CBD like wedges.
- Hoyt saw the best housing extending north from Chicago along Lake Michigan.

Multiple Nuclei Model

- Developed by C. D. Harris and E. L. Ullman.
- This model assumes that urban areas have more than one focal point influencing land use.
- Land-use patterns are formed around several discrete nuclei that attract certain uses and repel others. These nuclei most often develop in response to the evolving transportation network. They form, for example, around major highway intersections and surrounding airports.
- These multiple nuclei may have arisen in one of two ways:
 - They were once separate settlements but were absorbed by growth of the urban area.
 - They appeared as urban growth stimulated specialization and specialized centers outside the CBD, around which complementary uses then located.
- Residential land use develops in response to the influence of the various nuclei.

Tell the students that they will make comparisons between these three models and two others. The first is a parallel model of a typical Latin American city. The second is a look at newer interpretations of the North American city.

Teach the Lesson

1. Students read a description of the model of a typical Latin American city and complete a table in which they list similarities and differences between the classic models of North American cities and that of a typical Latin American city (see Appendixes A to C). Many textbooks contain selections describing the Latin American model. The source of this model was published as “A Model of Latin American City Structure” (Ford and Griffin 1980). Basic information regarding the model is also readily available from online sources.

2. Ask the students to think about the three basic geometric forms used to describe urban structure in the models: concentric circles, sectors, and polygons. They should use these forms as they compare the models and describe their similarities and differences.
3. Review the charts together as a class. Be sure the students understand the following main points:

Similarities and differences between the Latin American model and the concentric zone model

- Concentric zones of housing of different quality exist, radiating from the city center.
- The housing in the zones, however, is reversed from that which exists in North America. The highest-quality homes are in the innermost rings and the poorest quality are in the outermost.
- The market is centrally located, as opposed to North American cities where retailing is becoming increasingly suburbanized.

Similarities and differences between the Latin American model and the sector model

- In both models spines of land use radiate from the city center.
- The “Grand Boulevard” of elite shops is in the Latin American model only.
- North American–style suburbanization may occur associated with the spine of development.
- An industrial spine may develop along a transportation route such as a railroad or highway in both models.

Similarities and differences between the Latin American model and the multiple nuclei model

- Both may contain government housing projects.
- Both may contain industrial parks.
- Disamenity zones exist in association with less-desirable land only in the Latin American model.

4. By conducting brief research on a list of suggested topics, the students will examine important changes and developments in land uses and land use patterns in North American cities. You can introduce the research activity by informing the students of two of the most important changes:
 - a. Inner cities that were once reserved for business and a ring of the poorest-quality housing are being “revived.” A resource that may be of help is the scoring guideline for Question 3 from the 2005 AP Human Geography Exam. See http://apcentral.collegeboard.com/apc/public/repository/_ap05_sg_human_geogra_46637.pdf.

- b. Suburbs have begun to take on the roles more typically associated with the central business districts.

The students will research elements that contribute to the two trends described above. Some possible topics for student research include:

- Edge cities
- Decentralized cities
- Gentrification
- High-tech corridors
- Master-planned communities
- New urbanism
- Office parks
- Postindustrial cities
- Suburbanization of business
- Technoburbs
- The “galactic city”/peripheral model
- Urban realms

The students should be instructed to find and report on three things in regard to their topics: a definition of the term, specific examples, and a description of how this represents a change in land use from earlier models.

Differentiate the lesson by allowing the students to present their information in a variety of ways. PowerPoint presentations, poster-board discussions, skits, Web pages, or illustrated handouts could all be used effectively according to the students’ desires and abilities.

5. The students can practice the information covered in the lesson, and the teacher can check for understanding, by using a free-response question similar to those used on the AP Exam. Appendix B contains a suggested question and rubric. Having the students work in groups allows the teacher to circulate around the room and use the scoring rubric and student conversations and responses to determine which areas of the lesson need clarification and reteaching.

Reflect on the Lesson

The students should come away from the lesson with a clear understanding of several important points regarding the urban models that geographers use. These include:

- Human geographers have developed tools for describing cities.
- These models focus on different types of urban land use and their locations relative to the central business district.
- There are different models, but they contain many of the same or similar elements.
- Urban land use has changed since the models were developed and continues to change today.
- The models may need to be adjusted in order to reflect current land use in urban areas.

Resources

Brockerhoff, Martin. "An Urbanizing World." *Population Bulletin* 55, No. 3 (Sept. 2000): 3–44.

Ford, Larry. "Cities and Urban Land Use in Advanced Placement Human Geography." *Journal of Geography* 99 (May–August 2000): 153–168.

Ford, Larry, and Ernest Griffin. "A Model of Latin American City Structure." *Geographical Review* 70, No. 4 (Oct. 1980): 397–442.

Goodall, Brian, ed. *The Penguin Dictionary of Human Geography*. Bungay, Suffolk, Great Britain: Richard Clay (The Chaucer Press) Ltd., 1987.

Jordan-Bychkov, Terry, Mona Domosh, Roderick P. Neuman, and Patricia L. Price. *The Human Mosaic: A Thematic Introduction to Cultural Geography*. New York: W. H. Freeman and Company, 2006.

Rubenstein, James M. *The Cultural Landscape: An Introduction to Human Geography*. Upper Saddle River, N.J.: Pearson Prentice Hall, 2005.

Lesson 2: Case Study of Pittsburgh

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Plan the Lesson

Connection to the Course Outline

The content of this lesson addresses the following areas of the AP Human Geography course outline:

- VII. D **Built environment and social space** is explored as students look carefully at urban land use and consider problems and possible solutions. Transportation and urban infrastructure, public spaces and their use by different types of people, housing, and other relevant issues — as determined by students — could all be examined.

Objectives

In this lesson, the students will research an actual urban problem on several scales by collecting and analyzing spatial data using maps and other graphic media. They will practice decision-making skills as they work through community planning to solve urban problems presented by vacant lots.

Background Information

This lesson examines some of the ways modern cities cope with the increasing pressures of crowding, pollution, and wasted space. These processes are examined through a case study of Pittsburgh, Pennsylvania — a postindustrial city that is successfully turning urban challenges and problems into productive opportunities. The lesson examines how Pittsburgh faced the challenges of reclaiming unproductive vacant lots as part of the city’s strategy to fight urban decay. After the steel mills began to close, Pittsburgh underwent an urban renaissance that created one of the leading “green” urban areas in the country. Through the combination of work by the community, the city government, nongovernmental organizations (NGOs), and industries, vacant lots were reclaimed and turned into productive gardens that generated revenue, fed residents, and beautified neighborhoods.

Teach the Lesson

You should have a video clip or slide of an urban area on the screen as the students come into class. In lieu of using this technology, hold up or pass around large photos from magazines that depict a central urban issue. The video clip or slide should show an obvious problem occurring in the city. Have the students identify the problem, and begin a discussion of why the problem exists. (Example: a slide showing urban crowding and congestion. The reason it is happening: Migration from rural areas is occurring faster than the city has the resources or the time to cope.) The students may have the following common misconceptions about urban crowding and congestion:

- Urbanization is inherently bad.
- Most urban growth is occurring in megacities.
- Rural–urban migration should be controlled.
- The poor are a drain on the economy.
- City growth inevitably hurts the environment.

Begin a brainstorming session by asking the students to list some of the major problems currently facing world cities, starting with the local urban area and expanding to the region, the country, and the world. This demonstrates the application of human geography at various scales.

Learning Activity #1

The teacher assigns the students to research the actual case study performed by graduate students at the Carnegie Mellon Heinz School of Public Policy and Management in 2006. This case study, “Greening Vacant Lots for Pittsburgh’s Sustainable Neighborhood Revitalization,” can be found at http://itclass.heinz.cmu.edu/greenlots/Archives/PolicyRec_website.pdf.

Students can either access this study online in a school computer lab, or the teacher can reproduce the referenced pages for the students. Differentiate the instruction by allowing students who are especially computer literate to use the computer in this activity and proceed at their own pace. Students who require more guidance can be provided with hard copies of the maps while you provide additional support through the use of an overhead or digital projector.

1. Ask the students to interpret the map of Pittsburgh neighborhoods on page 2 of the “Policy Recommendations” by doing the following three activities in class together; provide immediate instructional feedback to the students’ responses:
 - a. Locate and identify the three rivers on the map.
 - b. Locate and identify the Hill District, one of Pittsburgh’s most economically distressed neighborhoods. (Middle Hill and Upper Hill are two of the neighborhoods included in this district.)

- c. Ask the students what relationship between the map key and the toponyms clues them in on the location of the Hill District. (Orange vacant lot densities are high in this area. Also, topographic maps of the Pittsburgh urban area can be used to cross-reference topography for additional clues.)
 - d. Ask the students to identify and list other urban neighborhoods that have high densities of vacant lots. Have them list some of the other urban problems that are also likely to be found in these neighborhoods.
 - e. Ask the students to locate and list the neighborhoods with a low density of vacant lots. Who lives there? (Squirrel Hill North and South — 76 and 77 — are affluent suburbs adjacent to Carnegie Mellon University, the University of Pittsburgh–Oakland campus, and several private colleges and prestigious research hospitals.) Help the students come to the conclusion that the density of urban lots is directly related to the economic level of the neighborhood’s inhabitants. Ask the students what a possible connection could be between these neighborhoods and the major neighborhoods just named.
2. Ask the students to examine the choropleth map on page 5 and answer the following questions:
 - a. Using the map key, ask the students what conclusions they can draw about the density of vacant lots in relation to the fair market values in the three Pittsburgh neighborhoods shown. (Fair market values are markedly lower in areas that have the highest density of vacant lots. The areas with the greatest amount of “blue” are embedded in areas with housing in the “less than \$50,000” market value range.)
 - b. Ask the students to refer to the map of Pittsburgh neighborhoods on page 2 and label the map on page 5, “The Negative Effects of Vacant Lots in Urban Neighborhoods,” with the number and name of the following three neighborhoods: East Liberty, Point Breeze, and Homewood. Ask the students what some of the problems might be for residents who live in these neighborhoods, which are afflicted with high densities of vacant lots (e.g., higher crime rates, more drug-related activity, trash dumping areas, lower real estate values, etc.).
 3. Ask the students to examine the map on page 7 showing Pittsburgh’s neighborhood greenways and parks and respond to the following:
 - a. Using the map on page 7, name the Pittsburgh neighborhoods in which the four largest parks are located. (Perry North, Marshall, Highland Park, and Squirrel Hill South.)
 - b. Develop a neighborhood profile for the areas surrounding the four parks. What kinds of people live in the neighborhoods surrounding the parks? Hint: Refer to the map on page 2 to determine the vacant lot density. (The neighborhoods with the four largest parks are affluent areas with historically Caucasian populations.)

4. Divide the students into four groups, based on your knowledge of the individual students' strengths and abilities. Assign each of the four student groups to one of the four vacant lot reclamation projects in Pittsburgh listed below:
 - a. South Side Slopes Neighborhood Association (www.southsideslopes.org)
 - b. Nine Mile Run Watershed Association (www.ninemilerun.org)
 - c. Rosedale Block Cluster (www.rosedaleblock.org)
 - d. The Brassica Project (Sponsor: Steel City Biofuels, www.omnibydesign.com/steelcity/home.html)

Have each group develop a summary report of the project. The report should describe the best practices and strategies for managing vacant lots that the sponsor group (one of the four listed above) is following. Each report should include a map of the project area, what neighborhood is involved, who is involved in the project, what “green” strategies are being implemented, and the results of the project so far. Each group should present their project to the class.

Based on the students' reports to the class, the teacher should assess student learning at this point in the lesson. If the teacher observes that some students do not grasp a concept, she or he can design a review activity or use a different instructional strategy.

Learning Activity #2

Have the students research and investigate an urban problem in the nearest large urban area. This topic should be chosen by each student to reflect his or her area of interest. As a formative assessment, have the students complete the two tables in Appendix C. Provide feedback for each student as they are completing the two tables in Appendix C to ensure they understand the concepts. For example, for Table 2, using the Pittsburgh plight of underutilized vacant lots, neighborhoods could create urban gardens with the motivation and benefit of neighborhood safety and unity. Homeowners could buy adjacent vacant lots with the incentive to have larger yards and a safer neighborhood. Entrepreneurs could grow cash crops on vacant lots for an economic incentive, and the city government could expedite the regulations releasing these vacant lots for neighborhood garden plots with the incentive of decreasing crime and property devaluation. NGOs could use grant money to “seed” these neighborhood garden projects and provide volunteers to lend leadership and labor with the incentive or motivation that they are furthering their cause of “greening” the city. You could use the Pittsburgh example to explain how each party can make a meaningful contribution by working together and solving a urban problem if you feel the students need further clarification of this activity before undertaking it, or if you want to generate a discussion on how the different parties can work together to contribute to a positive outcome.

Learning Activity #3

Using Activity #2 as a model, have the students research and complete Appendix C on a global scale by examining an urban problem in a world city. The topic each student selects should be based on a region and topic of the student's particular interest. (For example, the street monkeys in New Delhi, India, are an urban problem. A contributing factor could be the Hindu religion and their reverence for a monkey god, thus bringing in cultural factors. A possible creative solution could be devising monkey "lures" to attract the monkeys into certain areas of the city where they can be distracted by food or play and, therefore, they will not steal from vendors or harass people.) This activity should also serve as a formative assessment to check for understanding of the concepts on different scales. Provide immediate written or oral feedback for each student as they complete Appendix C.

Reflect on the Lesson

Consider with students how they would respond to the following questions, having completed the lesson:

- What are some of the pressures on the built environment of a city as more of the world's population moves to urban centers?
- How are modern cities coping with these pressures?
- What are some of the ways Pittsburgh has solved these problems, and how can these solutions be used by other urban centers of the world?

This lesson may be modified in the following ways:

- **Limited resources:** If the teacher does not have computers for all students to access the Web site, the case study can be printed and enough copies made for all the students. If the teacher is unable to show a video clip due to necessary classroom technology, magazine photos or posters of scenes depicting urban problems can be displayed or passed around the classroom.
- **Limited time:** If the teacher's time for this lesson is restricted, Activity #1 or Activity #2 could be used as stand-alone instruction on this topic. Activity #3 could also be used as an individual instruction with slight modification to include additional research time on other countries. This extra time could consist of a class period in the school library or in the school computer lab.
- **Block scheduling:** This lesson lends itself well to block scheduling. The activities provide the teacher with many opportunities for spending time with the students on an individual basis. Videos on urban topics can be shown for part of each extended period. The group summary reports give the teacher an opportunity to diversify the instructional period with a good small-group activity.

Resources

“Greening Vacant Lots for Pittsburgh’s Sustainable Neighborhood Revitalization.” Carnegie Mellon Heinz School of Public Policy and Management’s graduate students in 2006.
http://itclass.heinz.cmu.edu/greenlots/Archives/PolicyRec_website.pdf.

Lesson 3: Ghettoization and Gentrification

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Plan the Lesson

Connections to the Course Outline

The content of this lesson addresses the following areas of the AP Human Geography course outline:

- VII.C.5; 6 **Changing demographic and social structures: Uneven development, ghettoization, and gentrification** are addressed when students discuss and define relevant terms related to these concepts.
- VII.D.1; 4; 5 **Housing, urban planning, and design: Patterns of race, ethnicity, gender, and socioeconomic status** are investigated through a discussion of the merits and problems of changes in the neighborhoods in inner-city zones.

Objectives

The students will be able to use various resources to investigate the causes and outcomes of ghettoization and gentrification. Working in pairs, the students will develop skills in researching, working collaboratively, and defending viewpoints as they analyze the pros and cons of both gentrification and ghettoization of an urban neighborhood.

Background Information

Some additional materials will be required for the lesson:

- Excerpt from *Unafraid of the Dark* by Rosemary Bray
- Video trailer from *Flag Wars*

Teach the Lesson

The teacher will read a passage aloud from Rosemary Bray's autobiography, *Unafraid of the Dark*. This is the author's account of her childhood growing up in a Chicago ghetto in the 1960s. An excerpt for reading aloud or for copying and distributing to the students can be found at www.readinggroupguides.com/guides_U/unafraid_of_the_dark3.asp#excerpt.

Discuss the origins of the term "ghetto" and discuss how ghettos result from involuntary segregation of a group of people based on their race or ethnicity, among other factors.

Ask the students to define "gentrification" (the revitalization and renovation that takes place in an older urban neighborhood as a result of new residents' efforts). Show the class the video trailer from *Flag Wars* (available at www.pbs.org/pov/pov2003/flagwars/update.html).

Discuss how gentrification sets in motion forces that disperse the lower-income residents of the gentrified neighborhood. Ask the students how both ghettoization and gentrification often lead to a similar outcome.

Learning Activity #1

Group the students into pairs. One student in each pair will defend gentrification as a positive contribution to the urban community (reduced crime, new investment in buildings and infrastructure, and increased economic activity). The second student will take the opposing side and discuss the negative effects of gentrification (large increases in rents and home prices, increases in the number of evictions, crowding out of lower-income residents, racial unrest, etc.). After 10 minutes of discussion in pairs, list the pros and cons of gentrification on the board by letting each pair of students contribute their arguments to the lists. The students may have the following misconceptions regarding gentrification:

- Racial diversity always leads to social conflict.
- Neighborhoods cannot retain ethnic and racial diversity while gentrifying.
- Gentrification is always disruptive to a neighborhood.

In fact, research has shown that several U.S. cities have been able to provide public policies enabling peaceful and successful gentrification in their urban neighborhoods while maintaining ethnic and racial diversity (Nyden et al. 1997). Provide ongoing verbal feedback to the students as they give their arguments. To differentiate this activity, arrange the students in groups of four and allow each student to choose whether to defend or protest gentrification in a mock neighborhood setting.

To differentiate the instruction, you can also ask each student to demonstrate the concepts of ghettoization and gentrification in one of the following ways:

- Create a graphic organizer using either the word “ghetto” or the word “gentrification” as the central concept.
- Design a project that could solve a major neighborhood problem in either a ghettoized or gentrified neighborhood (e.g., safety of residents or trash accumulation).
- Write a newspaper article.
- Create and label diagrams of a gentrified neighborhood and a ghettoized neighborhood to compare them spatially.
- Build models of a gentrified or ghettoized neighborhood.

If this approach is chosen, rubrics that explain the requirements of the assignment and how the activity will be evaluated should be created. The students will present and explain their projects to the class. Provide the students with immediate verbal feedback on their projects.

Reflect on the Lesson

Use the following questions to promote discussion and check for understanding:

- What is the difference between ghettoization and gentrification?
- How are the outcomes of ghettoization and gentrification similar?
- What are the conflicts associated with both practices?

This lesson may be modified in the following ways if there are time or resource constraints:

1. Limited time: The teacher can use Activity #1 as a stand-alone lesson in teaching the concepts of ghettoization and gentrification.
2. Block scheduling: The teacher can expand the background information to include a longer portion of Bray’s autobiography or include additional literature excerpts that reference life in a ghetto. An expanded discussion can be used to engage students in exploration of life in the ghetto. In addition, an age-appropriate video that depicts life in a ghetto may be shown.

Resources

Beauregard, Robert A. "Federal Policy and Postwar Urban Decline: A Case of Government Complicity?" [www.mi.vt.edu/data/files/hpd%2012\(1\)/hpd%2012\(1\)_beauregard.pdf](http://www.mi.vt.edu/data/files/hpd%2012(1)/hpd%2012(1)_beauregard.pdf).

Birch, Eugenie. "Housing and Urban Communities" In *Planning for a New Century: The Regional Agenda*, edited by Jonathan Barnett. Washington, D.C.: Island Press, 2000.

Bray, Rosemary. *Unafraid of the Dark*.

http://www.readinggroupguides.com/guides_U/unafraid_of_the_dark3.asp#excerpt.

Flag Wars. www.pbs.org/pov/pov2003/flagwars/update.html. This website gives useful information about the film *Flag Wars* and provides additional resources and links on housing, zoning, and gentrification issues.

Nyden, Philip, John Lukehart, and Mike Maly. "The Emergence of Stable Racially and Ethnically Diverse Urban Communities: A Case Study of Nine U.S. Cities." *Housing Policy Debate* 8, No. 2 (1997): 491–534.

"A Tale of Three Cities" interactive map case studies of gentrification of Columbus, Ohio; San Francisco, California; and New York, New York. Click on these three maps to access interviews with residents, pictures of landmarks, U.S. Census data, and historical information about each neighborhood. Ten years of change (1990–2000) are represented in each map in addition to a brief history of the neighborhood.

http://www.pbs.org/pov/pov2003/flagwars/special_tale.html.

U.S. Department of Housing and Urban Development. <http://www.hud.gov>. This is the official site of the U.S. Department of Housing and Urban Development and includes a wide range of information on housing issues.

Lesson 4: Megacities in Less-Developed Countries

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Plan the Lesson

Connections to the Course Outline

The content of this lesson addresses the following areas of the AP Human Geography course outline:

- VII. A.2 **Rural-urban migration and urban growth** are presented as one of the main causes of megacities and their growth in LDCs.
- VII. A.3 **Global cities and megacities** are studied as students work with maps and graphs to identify and analyze the largest cities in the world.
- VII. D.1: 5 **Housing: Patterns of race, ethnicity, gender, and socioeconomic status** are explored as students investigate and learn about squatter settlements, their inhabitants and characteristics.

Objectives

In this lesson the students will examine various aspects of the world's megacities. At the conclusion of the lesson, they should be able to define megacities, describe their historic and current distributions, and understand some of the problems associated with them in LDCs.

Background Information

Discuss the following information with students:

According to the United Nations, 60 percent of the world's population will be living in urban areas by 2030. Although the more developed countries (MDCs) are more urbanized than the LDCs, urbanization is increasing at a higher rate in the LDCs. One of the results

of urbanization has been the creation of megacities, defined as urban agglomerations of more than 10 million inhabitants. Two aspects of these megacities become important. First, the distribution of the urban centers has been changing. In the past, most of the world's largest cities were in MDCs, but currently (and increasingly) a greater number is found in the LDCs. Second, the impact of the spectacular growth in the cities of LDCs has had an enormous impact on both the environment and the quality of life of the millions of new immigrants who live in settlements on the edges of these centers.

Teach the Lesson

Learning Activity #1

Assess the students' prior knowledge about urbanization around the world by asking the following questions and discussing answers:

- What is a city?
- What does it mean to be “urbanized”?
- Which regions of the world are the most “urbanized” and which are the least “urbanized”?
- Is urbanization increasing or decreasing worldwide? Or it is increasing in some regions and decreasing in others?

The students may respond by characterizing urban areas and cities as places with tall buildings, crowded places, places with more inhabitants than towns, or places with lots of businesses. Provide a more formal definition of a city for them, such as a large settlement, whose population is engaged in secondary and tertiary economic activities, and which has a greater diversity of retail and service functions than smaller settlements (Goodall 1987). See Appendix G for an instructional activity with a formative assessment designed to help the students clarify their definitions of a city.

Learning Activity #2

Have the students use colored pencils to construct a graph showing world urbanization trends. This graph can be found in Appendix D. Use the line graphs they create to discuss the following questions:

- Which region showed the largest, most consistent increase in urbanization during the period?
- Which region had the largest percentage change in urban population during the period?
- Which region is likely to experience the fastest growth in urbanization in the next decade? Why do you think so?

- Which region is likely to experience the slowest growth in urbanization in the next decade? Why do you think so?

Learning Activity #3

Show the students the information in Appendix E: Ten Largest Cities Over Time. You can make an overhead transparency or project the image from a computer. Ask the students to make generalizations about what they see. Prompt them to consider questions such as the following:

- Which cities appear multiple times?
- Which cities appear only in later lists? Which cities drop out?
- What regions of the world are the most/the least represented in the lists?

Help the students understand that the largest cities in the world are increasingly found in the less-developed countries.

Learning Activity #4

Have the students create maps of the distribution of the world's megacities by using Appendix F. The students will likely need access to a world map in order to locate some of the cities. This activity could be used as a homework assignment or could be completed by small groups of students working together to find the listed cities. You may wish to extend this activity by having the students focus more specifically on the number of cities in MDCs versus LDCs. Do this by helping the students do the following:

- Draw a line separating the MDCs from the LDCs. Most textbooks contain maps that show this division. This is often in a chapter or section on development. Otherwise, an example can be found online at www.geographyalltheway.com/ib_geography/ib_development/patterns_in_development.htm.
- Count the number of megacities located on each side of the line.

Learning Activity #5

It is important for students to understand the impact of rapid urbanization on the lives of the inhabitants of the world's megacities. Given that most of these cities are now located in LDCs and that most AP Human Geography students live in MDCs, they may not have much of an understanding of this. It is appropriate to introduce the concept of "squatter settlements" at this point. Allow the students to define this term from their textbook. Alternatively, use the information found at www.gdrc.org/uem/define-squatter.html. Be sure that the students understand that there are a variety of terms, used regionally, that refer to these areas; these terms include the following:

- Favelas = Brazil

- Barong-Barong = Philippines
- Gecekondü = Turkey
- Bastei = India

Have the students consider the following statement: Many residents in LDCs lead rural-like lifestyles even though they live in massive urban areas. Ask the students to explain what these rural-like lifestyles might include. They should suggest things such as the following:

- Lack of access to electricity, plumbing, and public transportation
- The practice of subsistence agriculture and “barnyard” animals living in close proximity to humans
- Long distances to schools and services

Emphasize that growth is generally not controlled by municipal governments and is often not welcomed.

Reflect on the Lesson

Political cartoons dealing with the presence of megacities in LDCs and/or the squatter settlements associated with them are not difficult to find from online, international newspaper sources. Use one of these to finalize your discussion of megacities in LDCs. The students can be asked to answer basic questions about the cartoon. One idea for an analysis worksheet is available from the National Archives website at www.archives.gov/education/lessons/worksheets/cartoon_analysis_worksheet.pdf.

Resources

www.archives.gov/education/lessons/worksheets/cartoon_analysis_worksheet.pdf

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Appendix A

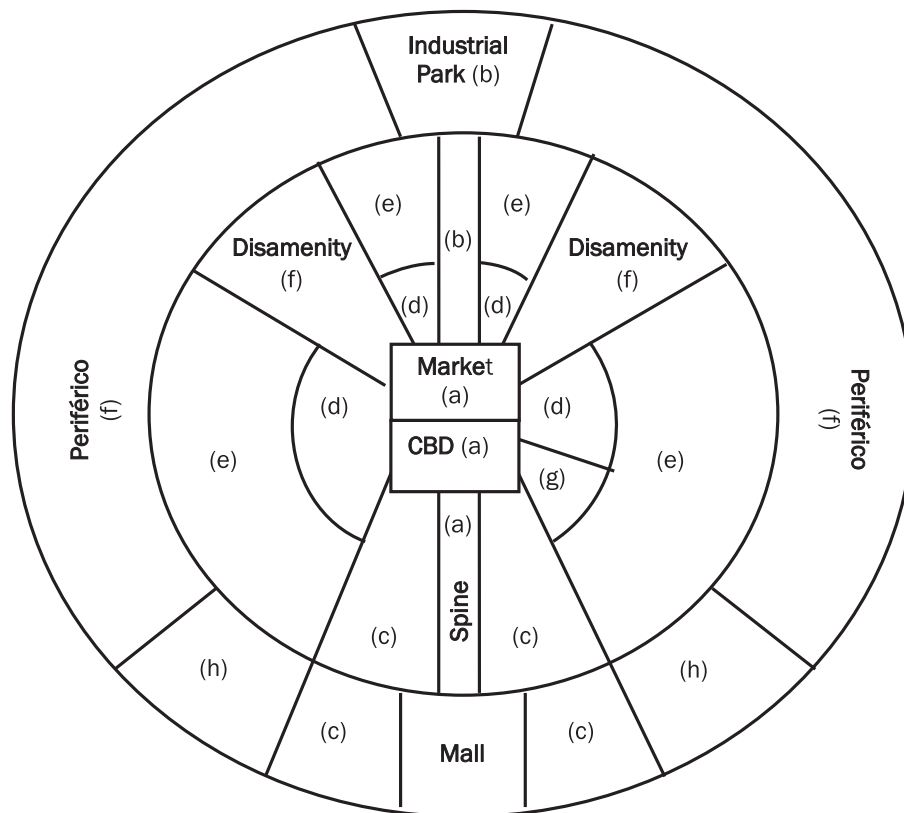
Model Comparison Table

				Comparison to Latin American City Model		
				Concentric zone model	Sector model	Multiple nuclei model
Similarities						
Differences						

Appendix B

Latin American Model

1. Shown here is the urban land use model of a typical Latin American city.
 - a. Identify and describe TWO ways in which the model is similar to models of North American cities.
 - b. Identify and describe ONE feature that differentiates land use in a typical Latin American city from one of the North American models.



- Key:
- a. Commercial
 - b. Industrial
 - c. Elite residential sector
 - d. Zone of maturity
 - e. Zone of *in situ* accretion
 - f. Zone of peripheral squatter settlements
 - g. Gentrification
 - h. Middle-class residential

Source: The Cultural Landscape, 8th edition by James M. Rubenstein (Pearson Prentice Hall, 2005)

Suggested Rubric

A. Two ways the model is similar to North American models:

Identification	Description
Concentric rings	The concentric zone model and the Latin American model include rings of different land use that surround the central city.
Sectors	Both the sector model and the Latin American model have areas of land use that radiate outward from the city. The highest quality of housing, in both cases, extends in an elite sector from the central city.
Separate nucleus	Both the multiple nuclei model and the Latin American model propose nuclei of land use separate from the central city. The Latin American model indicates a mall and an industrial park.

2 Points

2 Points

B. One feature that differentiates the model from the North American models:

Identification	Description
Location of lowest quality of housing	Whereas the highest-quality housing areas are indicated in the outermost ring of North American cities, in the Latin American city the lowest quality of housing is found in squatter settlement there. The lowest-quality housing is expected to be found in the inner city (concentric zone model) or near transportation routes (in the sector model), but in the Latin American model this type of housing is found in a ring around the periphery.
Presence of disamenity zones	None of the North American models show the existence of disamenity zones. Although there are sectors of poor housing in those models, they are associated with nearness to the central city in the concentric zone model, or to a transport route or an industrial area in the sector model and the multiple nuclei model. In neither North American case is a physical feature such as steep or unstable terrain a consideration.

1 Point

1 Point

TOTAL POSSIBLE: 6 points

Appendix C

Urban Problem Table

1. Name a major problem in your city. Complete the two tables below. Be ready to share in class.

	Name of City and State	
Major Urban Problem	Factors Contributing to Problem	My Creative Solutions

2. List the possible tasks each group below could assume to alleviate the problem listed above. Be realistic. City government budgets are financially strapped already.

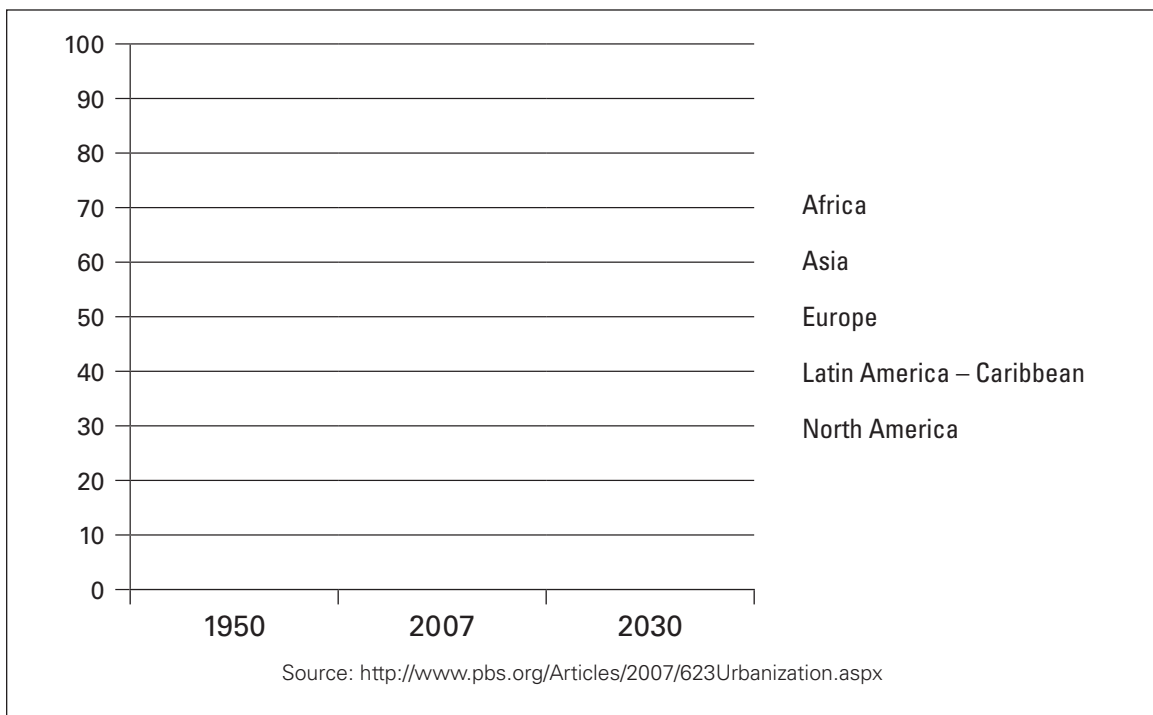
Responsible Party	Solution	Incentive or Motivation
City government		
Entrepreneurs		
Homeowners		
Nonprofit organizations		
Neighborhood		

Appendix D

Urban Percentages Worksheet

Transfer the data presented in the chart into the blank graph to create a line graph. Use a different color for each region and, in the lower chart, shade the name of the region with the color to create a key.

Percent Urban Source: Population Reference Bureau			
	1950	2007	2030
Africa	15	37	51
Asia	17	41	54
Europe	51	72	76
Latin America – Caribbean	42	76	84
North America	64	79	87



Appendix E

Ten Largest Cities Over Time

Top ten largest urban agglomerations in 1950, 2000, and 2015

1950	2000	2015
1. New York, USA 12.3 million	1. Tokyo, Japan 26.4 million	1. Tokyo, Japan 26.4 million
2. London, England 8.7 million	2. Mexico City, Mexico 18.4 million	2. Bombay, India 26.1 million
3. Tokyo, Japan 6.9 million	3. Bombay, India 18.0 million	3. Lagos, Nigeria 23.2 million
4. Paris, France 5.4 million	4. Sao Paulo, Brazil 17.8 million	4. Dhaka, Bangladesh 21.1 million
5. Moscow, Russia 5.4 million	5. New York, USA 16.6 million	5. Sao Paulo, Brazil 20.4 million
6. Shanghai, China 5.3 million	6. Lagos, Nigeria 13.4 million	6. Karachi, Pakistan 19.2 million
7. Essen, Germany 5.3 million	7. Los Angeles, USA 13.1 million	7. Mexico City, Mexico 19.2 million
8. Buenos Aires, Argentina 5.0 million	8. Calcutta, India 12.9 million	8. New York, USA 17.4 million
9. Chicago, USA 4.9 million	9. Shanghai, China 12.9 million	9. Jakarta, Indonesia 17.3 million
10. Calcutta, India 4.4 million	10. Buenos Aires, Argentina 12.6 million	10. Calcutta, India 17.3 million

Source: Population Reference Bureau

Appendix F

The World's Megacities

Using a colored dot, locate each of the following cities to create a map of the 20 largest cities in the world.

Megacities, 2005



Rank	City	Population in millions
1	Tokyo, Japan	35,197
2	Mexico City, Mexico	19,411
3	New York–Newark, USA	18,718
4	Sao Paulo, Brazil	18,333
5	Mumbai (Bombay), India	18,196
6	Delhi, India	15,048
7	Shanghai, China	14,503
8	Kolkata (Calcutta), India	14,277
9	Jakarta, Indonesia	13,215
10	Buenos Aires, Argentina	12,550
11	Dhaka, Bangladesh	12,430
12	Los Angeles–Long Beach–Santa Ana, USA	12,298
13	Karachi, Pakistan	11,608
14	Rio de Janeiro, Brazil	11,469
15	Osaka–Kobe, Japan	11,268
16	Al-Qahirah (Cairo), Egypt	11,128
17	Lagos, Nigeria	10,886
18	Beijing, China	10,717
19	Manila, Philippines	10,686
20	Moskva (Moscow), Russia	10,654

Source: Population Reference Bureau

Appendix G

Formative Assessment: Defining a City

Part 1: Background

Defining a city is a more complicated task than it might at first seem. The term “city” is used to mean different things to different people. Perhaps the greatest problem with the term is that when the average person refers to a city, he or she generally uses the term without providing any qualification. Do they mean the legally defined city, or are they referencing an entire metropolitan area? Is the term used to refer to a way of life, as it is when employed as an adjective (“city life”) or to a landscape description meant to evoke tall buildings?

The students will have diverse preconceptions of what a city is and is not. Two possible definitions are: (1) an agglomerated settlement whose inhabitants are primarily engaged in nonagricultural activities; and (2) a population cluster having a continuous built-up area with a population of at least 5,000 people. Students in an AP Human Geography class should be exposed to simple definitions such as these, but they also should have an understanding of the complexity of the term.

There are at least two basic ways to define a city. The first is structurally or administratively. Definitions of this type will consider things such as the total number of people or the population density. In both cases, a minimum threshold is usually offered. However, these standards are applied in different ways in different states. In some countries, settlements with as few as 100 inhabitants are classified as urban. Most North American students would find this standard far too low, and because of this it is almost impossible to make international comparisons of cities without first adopting a single definition to be applied to all, regardless of their defined legal status in the country where they are found. Additionally, the standards themselves are changeable and often do change. For example, in the 1980s the Chinese government reclassified hundreds of places that would be considered rural in the United States as urban. In the history of the United States, the minimum size of a “city” has changed several times.

Legally defined boundaries of municipal areas are also part of this type of definition. Only the area located within these boundaries forms part of the legal city. A city may also be considered to include the continuously built-up areas surrounding the legal city. “Urban” areas, which may extend far beyond the city, may also include the suburban fringes and even engulf neighboring towns.

Another way to define cities is functionally or behaviorally. The most important functional definition of a city for the AP Human Geography student is the metropolitan

statistical area (MSA). Defined in this way, the entire county in which a major city lies is classified as part of the “city,” and it may include a number of adjacent counties if a number of people from those counties commute to the major city. Another functional consideration for defining cities is the type of activities that take place there. Urban areas distinguish themselves from rural areas because it is in settlements, in cities both large and small, that populations find that most of their goods and services are provided. In this sense, a city is a commercial center, a place for businesses, shops, and manufacturing. These distinctly urban activities are nonagricultural and their presence distinguishes the places where they are found as cities.

Cities were famously defined by Louis Wirth as a “way of life.” This is a behavioral definition of a city. Wirth considered that cities differentiated themselves from rural areas by their heterogeneous populations and the distinctive social interactions between them. For example, he described interpersonal contacts in cities as more superficial and anonymous than in rural settings. He further characterized urbanites as having “segmental roles” and being “dependent upon more people for the satisfactions of their life-needs than...rural people” (Wirth 1938).

In summary, cities do not defy definition, but an AP Human Geography student must be aware of the many possibilities and difficulties that exist in defining them. Teachers should present students with multiple ways of defining cities, but they should also realize that we must be able to talk about cities rather generically. The activity that follows asks students to focus on the most basic definition of a city and asks them to think critically about what complications and extensions may be part of this definition.

Part 2: For the Students

1. Compare the following definitions of a city:
 - Definition 1: an agglomerated settlement whose inhabitants are primarily engaged in nonagricultural activities
 - Definition 2: a population cluster having a continuous built-up area with a population of at least 5,000 people

What elements do these definitions share? What elements are present in one definition but not in the other?

2. Define or describe a “metropolitan statistical area.”

Part 3: Interpretive Framework

Compare the Definitions

There is not a single word that is used in both definitions. Some students may be looking for this. Remind them that the assignment asks for them to find “elements” of the definitions that are shared. In this case, they should think about “parts” of a city, or “characteristics” of an urban area that are used by both definitions.

Some of the elements that students may identify include: (a) people and size, (b) contiguousness, and (c) goods and services.

A. People and Size

The first definition talks about “inhabitants” and the second refers twice to the “population.” The first definition uses the term “agglomerated,” which implies a certain number of people, and the second definition specifically identifies a minimum size of 5,000 people.

Review with students the idea of a city as defined “legally”: a government may decide that unless a settlement has a population of a certain number, it will not be considered a city. Because there are many different governments (as a general rule there is one for every country in the world, although some countries have more than one and others do not arguably have one at all), there are many different ideas about the minimum size of a city. The size of a city changes over time as well. In the United States this number has changed from 8,000 (in 1874) to 4,000 (in 1880), and then lowered to 2,500 in 1906. Additionally, a legal definition requires that a line be drawn around an area — a legal boundary of the city. If people live within the line, they are residents, inhabitants of the city. If they live beyond the line, then they are legally not a part of the city.

When first asked for elements that define a city, students will typically mention large buildings and populations. These are quickly followed by a description of elements of city life, that is, the amenities that have come to be identified with urban life (e.g., electricity, running water, transportation, and service industries). Size cannot be the only part of a definition of a city: A large population size will not necessarily have all the characteristics that one associates with urbanization and the concept of a city. For example, in Asia, Africa, and South America there are enormous settlements in which residents lack one or more of the above-referenced amenities. Conversely, there are small towns and even isolated settlements in the more developed world where residents have ready access to these amenities. It should not be difficult for students to see that size alone is therefore not enough for defining a city.

B. The Idea of Contiguousness

The first definition uses the term “agglomerated” and the second definition uses the term “continuous.” Each of these terms should help students to think of a city as compact and relatively unbroken. It may be useful to show students an image of a region as seen from space at night. Bright white areas of light are evidence of larger urban areas, of

cities. It is easy to see — rather intuitively — where the cities begin and end based on the “agglomerated” and “continuous” lights. Areas of darkness separate the various cities, or urban areas, on the map.

Students often struggle with the concept of multiple continuous municipalities that are so compact and connected as to defy separation visually. This generally occurs because they may speak about something being in a city — or someone living in a city — when in reality they live in a smaller municipality adjacent to the city. The best way to make this clear to students is to show them a map of a city that is familiar to them and that makes clear the various municipalities that surround the city. Remind the students that each of these municipalities constitutes a separate, legally defined city. The definition of a municipality is “a town, city or district having local powers of self-government” (*The New Lexicon Webster’s Dictionary of the English Language: Encyclopedia Edition* 1990). These municipalities often have their own police force. The various names on the sides of the vehicles serve as a visual reminder that what one thinks of as a single city may in fact be a conglomeration of several self-governing entities.

C. Goods and Services

The first definition, “nonagricultural activities,” and the second definition indicate that the area of the city is “built up.” In each case, the idea of “buildings” is conjured up. The students will be familiar with the image of a city as an area covered with buildings. The terms “nonagricultural” and “built up,” however, will be less familiar.

“Nonagricultural” is a term whose definition is fairly intuitive: It refers to economic activities that do not deal with the production of food. Help the students realize that by excluding food production we are left with manufacturing and service industries. Cities are zones of manufacturing and the exchange of goods and services as opposed to areas where crops or animals are raised. In fact, cities are often divided into specific zones wherein these various activities will take place. The legal authorities who administer cities usually create laws that keep the economic activities of cities separated from each other and from the homes of the inhabitants discussed above. Sometimes agricultural activities are forbidden by law (as in the case of keeping livestock) or sometimes it is simply not economically feasible to conduct agricultural activities, such as raising wheat, on land that is very valuable due to its proximity to other land uses (such as central business districts, train stations, or office parks).

Metropolitan Statistical Area: The City as a Region

In reviewing their text for information about defining cities, the students will come across the concept of the metropolitan statistical area. Definitions and descriptions MSAs are often confusing to students. They will likely be able to list the required characteristics without fully conceptualizing the definition.

Remind them of the definition of a “functional” (sometimes called nodal) region. It is fairly simple for students to visualize people flowing to a node, and therefore creating a functional region. The concept of an MSA is, in effect, defining a city as a functional region. In this case, a legal city is the node and people from surrounding counties flow to it for work and to access its services. This region is clearly “part” of the city in that it serves as the node to which they go for their needs. It “functions” as a part of it.

It may also be helpful to show students the definition of the term “metropolitan”: the chief city of a region (*The New Lexicon Webster’s Dictionary of the English Language: Encyclopedia Edition* 1990). The very use of this term in defining a city implies two things — first that there are multiple “cities” (one of which is “chief”) and that they operate together in a region.

Resources

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About the Contributors

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