

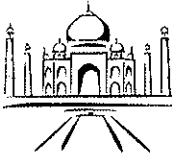





🌐 🌐 🌐 🌐 🌐 **Welcome to the AP[®] Human Geography Jam Session Review!** 🌐 🌐 🌐 🌐 🌐

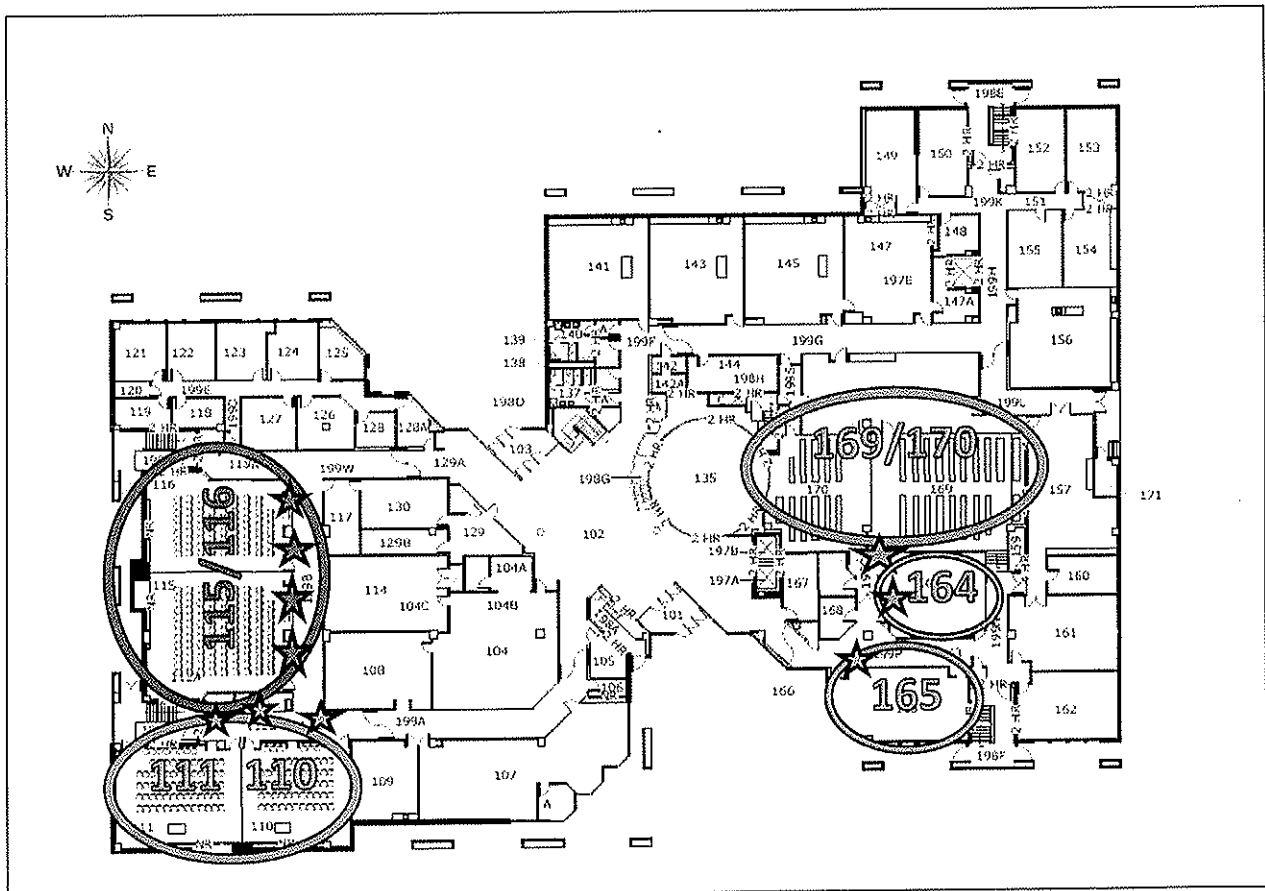
- 🌐 Date of this year's AP[®] Human Geography exam: **May 13, 2016**
 - registration required—ask your school's AP[®] coordinator or your teacher
- 🌐 How this session **MAY HELP YOU PREPARE** for the national exam:
 - Highlight the breadth and depth of the content knowledge you should have
 - Help you find the "holes" in your knowledge so that you can study that information between now and the national exam.
 - Thinking about concepts in a new way—from a peer and/or different instructors.
 - Try some different techniques for studying—both in groups and on your own.
- 🌐 What **THIS SESSION WILL NOT HELP** you do:
 - Earn an automatic "5" on the national exam!

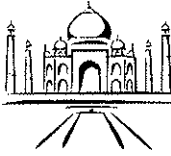





Your teachers and the UNO staff and faculty have put this session together because they **BELIEVE IN YOU** and because they love Human Geography.

Please turn off cell phones and electronic devices so that you may use these hours carefully and in earnest.

PLEASE TURN IN YOUR EVALUATION SHEET & INFORMATION CARD BEFORE YOU LEAVE TODAY! THANKS!

YOU BELONG TO THIS GROUP:	"TAJ MAHAL" GROUP 	"GREAT WALL OF CHINA" GROUP 	"PYRAMIDS OF EGYPT" GROUP 	"EASTER ISLAND" GROUP 	"ST. BASIL'S CATHEDRAL" GROUP 	"EIFFEL TOWER" GROUP 
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STUDENTS WILL ROTATE AMONGST THREE STATIONS:						
GROUPS →	"TAJ MAHAL" GROUP 	"GREAT WALL OF CHINA" GROUP 	"PYRAMIDS OF EGYPT" GROUP 	"EASTER ISLAND" GROUP 	"ST. BASIL'S CATHEDRAL" GROUP 	"EIFFEL TOWER" GROUP 
TIMES ↓						
1:00 to 1:10	Welcome, introductions, orientation—ALL students start in 115/116					
3 minute rotation						
1:13 to 1:53	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ
3 minute rotation						
1:56 to 2:36	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES
3 minute rotation						
2:39 – 3:19	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB
3 minute rotation						
3:22 – 3:30	Raffle, Evaluations, Popcorn, & Dismissal—ALL students dismiss from 115/116					

Your Instructors & Leaders	* Mr. Tom Allen, Bryan High School
	*Dr. Christina Dando, Professor, UNO Geography & Geology
	*Mr. Bill Deardoff, Bennington High School
	* Ms. Jane Erdenberger, Omaha North High Magnet School
	* Mr. Derek Fey, Westside High School
	Mrs. Kelli Florell, Admissions Counselor, UNO Dual Enrollment
	* Ms. Farrah Grant, Adjunct Instructor, UNO Geography & Geology Department
	Mrs. Kelly Malone, Assistant Director, UNO Dual Enrollment
	* Mrs. Lua McCaskill, Millard South High School
	* Mrs. Kristy McGuire, Millard South High School
	* Mr. Aaron McLaughlin, Benson High Magnet School
	* Mr. Lonnie Moore, Omaha South High Magnet School
	* Ms. Leigh Anne Opitz, Adjunct instructor, UNO Geography & Geology Department
	* Mr. Harris Payne, Social Studies Specialist, Nebraska Department of Education
	Mr. Anthony Razor, Burke High School
	Ms. Emmaline Sabin, University of Kansas & Life-Long Human Geographer
	* Mr. Lucas Varley, Lincoln High School
* Mrs. Maria Walinski-Peterson, Adjunct Instructor, UNO Geography & Geology Department	
<i>An asterisk (*) indicates that the staff member was/is a Reader for the national exam!</i>	

REVIEW PACKET: TABLE OF CONTENTS

- General Study Guides & Resources
 - Study Guides—partial anthology of commercially available resources (p.4)
 - Some suggested websites (p. 5)
 - Exam-Taking Tips (pp. 6 & 7)
 - Sample Questions from the AP[®] Human Geography Course Description (pp. 8+)
- FRQ SESSION (room 169/170)
 - Bookmap for FRQs (p. 12)
 - ☛ *Other FRQ materials will be distributed in the session*
- VOCABULARY SESSION (room 110 ~or~ room 111)
 - Massive AP[®]HG Vocabulary List [Special thanks to Mrs. McGuire & Mrs. McCaskill!] (pp. 13-6)
 - AP[®]HG “Gotta Knows” (p. 17)
 - Key People and Concepts in Human Geography (p. 18)
 - Map Projections (p. 19) [Special thanks to Mr. McLaughlin!]
 - ☛ *Other VOCABULARY materials will be distributed in the session* [Special thanks to Mrs. McGuire & Mrs. McCaskill!]
- MODELS & THEORIES (room 164 ~or~ room 165)
 - “Need to Know” & “Nice to Know”—A List of Models & Theories (p. 20)
 - “Need to Know” & “Nice to Know”—Blank Matrix for a Taxonomy of Models & Theories (p. 21)
 - Coloring Pages for Urban Models [Special thanks to Ms. Leigh Anne Optiz]
 - Instructions (p. 22)
 - North American (p. 23)
 - International (p. 24)
 - Crossword for Selected Models & Theories (p. 25)
 - Selected Models—images and annotations [Special thanks to Ms. Leigh Anne Optiz] (pp.26+)
 - ☛ *Other MODELS & THEORIES materials may be distributed in the session*

AP[®] Human Geography Exam

Regularly Scheduled Exam Date: Friday morning, May 13, 2016

Late-Testing Exam Date: Thursday morning, May 19, 2016

Section I Total Time: 1 hr. Section II Total Time: 1 hr. 15 min.

Section I **Total Time:** 1 hour
Number of Questions: 75*
Percent of Total Score: 50%
Writing Instrument: Pencil required
** The number of questions may vary slightly depending on the form of the exam.*

Section II **Total Time:** 1 hour 15 minutes
Number of Questions: 3 essays
Percent of Total Score: 50%
Writing Instrument: Pen with black or dark blue ink

AP® Human Geography Study Guides/Resources

- These are NOT officially endorsed by the College Board®, but many AP® Human Geography students and teachers find them helpful resources for any or all of the following:
 - preview unit topics before class instruction
 - review specific ideas after instruction
 - build upon existing knowledge and supplement with new content knowledge
 - common tool for [independent] student study groups to use
 - review for the national AP® Human Geography exam in May
- NOT an exhaustive list
- Purchase prices range between ≈ \$10 and \$55, depending on how recently they were published, format (softcover, e-reader, etc.) and whether copies are new or used (prices based on Amazon.com, April 2015)

📖 Barron's AP Human Geography, 5th Edition [Marsh, et.al.]



📖 Cracking the AP Human Geography Exam, 2014 Edition [Princeton Review]



📖 Kaplan AP Human Geography 2014 (Kaplan AP Series) [Swanson]



📖 Barron's AP Human Geography Flash Cards, 2nd Edition



📖 5 Steps to a 5 AP Human Geography, 2014-2015 Edition (5 Steps to a 5 on the Advanced Placement Examinations Series) [Gillespie]



📖 AP Human Geography Crash Course Book + Online (Advanced Placement (AP) Crash Course) [Sawyer]



📖 AP Human Geography: A Study Guide, 3rd edition [Wood]



📖 AP Human Geography All Access Book + Online + Mobile (Advanced Placement (AP) All Access) [Sawyer]



📖 5 Steps to a 5 500 AP Human Geography Questions to Know by Test Day (5 Steps to a 5 on the Advanced Placement Examinations Series) [Flowers, et.al.]



📖 Kaplan AP Human Geography in a Box [published by Kaplan]



📖 AP Human Geography Exam Flashcard Study System: AP Test Practice Questions & Review for the Advanced Placement Exam (Cards) Paperback [published by Mometrix Media] \$ EXPENSIVE \$

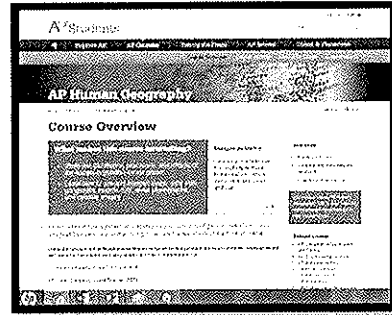


📖 AP Human Geography Exam Secrets Study Guide: AP Test Review for the Advanced Placement Exam Paperback [published by Mometrix Media] \$ EXPENSIVE \$

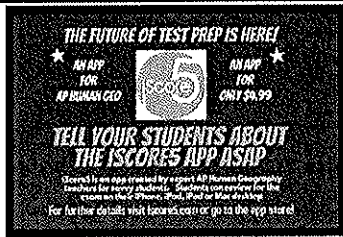


SOME SUGGESTED WEBSITES

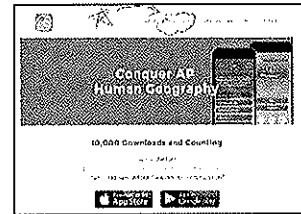
The College Board®'s COURSE OVERVIEW for AP® Human Geography
<https://apstudent.collegeboard.org/apcourse/ap-human-geography>



*** NEW APP FOR AP® HUMAN GEOGRAPHY EXAM PREP ***

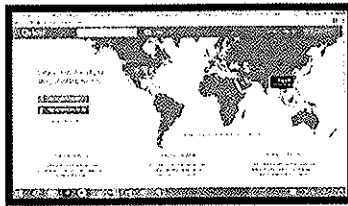


<http://www.iscore5.com/>



Search QUIZLET.com for “Human Geography” (some options better than others—perhaps your TEACHERS have posted flash card for you?)

<http://quizlet.com/>



Extensive lists of APHG concepts and definitions from APHG teachers around the country:

<http://miamibeachhigh.schoolwires.com/Page/2203>

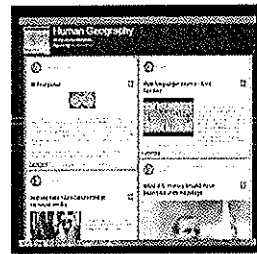
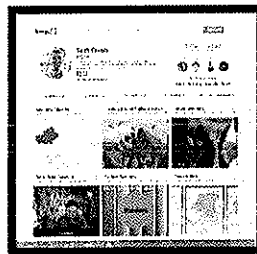
<http://www.quia.com/pages/mrsbellaphg.html>

<http://geographyeducationdotorg.files.wordpress.com/2012/07/aphg-big-ideas-review-guide.pdf>

Dr. Seth Dixon and Mr. Matt Wahl—APHG teachers with cool links via *Scoop It*

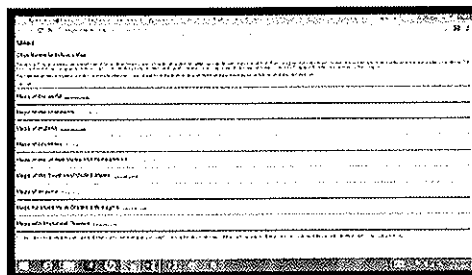
<http://www.scoop.it/u/aphumangeog>

<http://www.scoop.it/t/human-geography>



Blank Maps & Thematic Maps

<http://alliance.la.asu.edu/maps/maps.htm>



EXAM TIPS & HINTS—page 1 of 2

KNOW YOUR VOCABULARY—recognize it, apply it, use it in FRQ responses

TAKE PRACTICE EXAMS

- Practice your timing—how to make the most of your MCQ hour and your FRQ 75 minutes
- Make your own study guides using the questions/sections on which you didn't score well

TOTAL EXAM TIME ≈ 2 hours and 15 minutes

- 2 parts, each section worth 50% of final exam grade:
 - multiple choice questions (MCQs) 75 questions in 1 hour
 - free response questions (FRQs) 3 questions in 1 hour and 15 minutes

MULTIPLE CHOICE QUESTIONS

- Take the MCQ part twice
 - 1s time: Answer the questions about which you are pretty sure
 - 2nd time: eliminate the “clearly wrong” response(s) and go “GUT-BRAIN-GUT” to select your answer
- Do not leave questions blank
- Use any diagrams, maps, or charts provided
- Pay attention for different types of questions: definitions, descriptions, examples, theory and models, etc.
- Look for the indicators of “NOT” “EXCEPT” “ALWAYS” “NONE”—remember that 4 of the 5 responses are wrong

FREE-RESPONSE QUESTIONS

Attack questions methodically and plan answers before putting pencil to paper. Carefully analyze the question, thinking through what is being asked, and identifying the elements that must be addressed in the response. Be sure to carefully read the question to determine what is being asked and then plan your essay accordingly.

Pre-Think your answer for ALL 3 FRQs first

- Of the 3 FRQs, one will be easier, one will be challenging, and one will be somewhere in the middle. So...plan your “attack” accordingly.
 - Students should write responses on answer pages and in designated answer spaces only.
- Students **may use any blank space on directions and question pages to take notes and plan written responses.**
- Circle key words:
 - What KIND of answer do they want? Note the OPERATIONS/VERBS: Describe, Discuss, Analyze, Evaluate, Define, Example, Compare, Contrast, Illustrate, etc.
 - What CONTENT do they want in your answer: Circle and add notes about vocabulary, key terms

OPERATIONS/VERBS	
Describe	Write out the details or component parts of the concept or issue that the question addresses. Emphasize the most important elements and say why these are significant. The author wants you to illustrate in your writing (but don't draw a picture)
Discuss	Write about both sides of an issue or concept. State the positive and negative aspects. Explain who benefits and who loses in the process or situation. Or, explain the impacts of the issue or concept
Analyze	Write about the relationship between factors and their impacts. Look for cause and effect relationships. State why the process you describe is a problem or a benefit in the real world.
Define	Write out the definition of a term or process. Say why the concept is significant to geographic thinking or why it matters in the real world. Some definitions are simple and other can be complex.
Example	Write about a real-world place, process, or situation that captures the essence of the concept that the question addresses. Make sure that the example you give is the most topical. Don't just use one that you like. Some questions will give you the example and you will have to describe how and why that place fits the concept.
Explain	Write about a process that is implied in the question. In conceptual terms: A happens, resulting in B, which then leads to C. Say why these things occur. State why the process you describe is a problem or a benefit in the real world.
Compare	Take two or more concepts or examples and state their similarities (give more than one) If there are differences, list these as well. State why the similarities or differences are significant and say what impact they have.
Contrast	Specifically describe the differences between two or more concepts or examples. Make sure to find at least two differences (unless the question says to give only one or the primary difference)
Assess	Write about the importance, impact, or effectiveness of a concept or issue. You will need to determine the positives and negatives of the conceptual or real-world situation. It is OK if you stat that positives and negatives balance out, or if the good outweighs the bad.
To what extent (or degree)	Not all concepts or examples have the impact or effect they were supposed to. Sometimes intervening factors limit these impacts or effects they were supposed to. Sometime intervening factors limit these impacts or effects. Your job is to illustrate these processes in your writing.
The limitations of:	In addition to intervening factors, conflicts and controversies can emerge that deepen the expected result of a concept or process.

FRQ Responses

- After determining what is involved in answering the question, consider what GEOGRAPHIC THEMES can be incorporated.
- If there is A MAP, CHART, GRAPH, OR DIAGRAM WITH THE QUESTION, STUDY IT CAREFULLY BEFORE BEGINNING AN ANSWER.
- Carefully ANSWER EACH PART OF THE QUESTION, labeling responses (outline form?) as it is labeled in the question (while using sentences and paragraphs).
- Give examples, use appropriate terminology, and apply relevant information in the development of responses
- Do not include: thesis statements, opinions, closing statements, diagrams, bullet points
- Every FRQ is scored with a rubric of ≤ 10 points. Points are only EARNED, not deducted.
- Lead with your strengths—If your best answers are at the bottom of a long response, the scorers MAY not read them
- Review the evidence learned during the course which relates to the question and then decide how it fits into the analysis or explanation.
 - Does it demonstrate a similarity or a difference?
 - Does it argue for or against a generalization that is being addressed?
 - Does it ask you to identify and explain a certain number of examples or reasons?
 - For example, if it asks for two reasons, then be sure to identify and explain two reasons in your answer.
- If you intend to offer evidence to illustrate a contrast or similarity, state your intent. Then, with additional information or analysis, elaborate on the ways in which these pieces of evidence are similar or different.
- If there is evidence that refutes a statement, explain why it argues against the statement.
- Be sure to develop your answer to show that you have an understanding of the concept and how it relates to the answer.
- Use appropriate geographic terms, and reference to models or themes, when appropriate.
- Overall: Your answer should reflect an understanding of the subtleties of the questions. Thinking critically is important to show your understanding by adding information to explain concepts that may often come from more than one unit of the course.

Sample AP Human Geography Exam Items

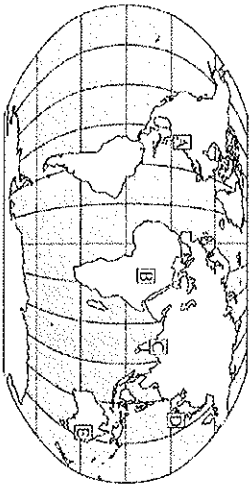
Multiple-Choice Section

The AP Human Geography Exam allows 1 hour for the multiple-choice section. The following are examples of the kinds of multiple-choice questions that appear on the exam. Answers to the following multiple-choice questions can be found on page 66.

Sample Multiple-Choice Questions

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that best answers the question or completes the statement.

- Physiological population density is viewed as a superior measure of population density for which of the following reasons?
 - It is more reflective of population pressure on arable land.
 - It yields the average population density.
 - It is more reflective of the world's largest population concentrations.
 - It measures the average by dividing total land area by total number of people.
 - It best reflects the percentage of a country's population that is urbanized.
- Which of the following regions has little dairying in its traditional agriculture?
 - Eastern Europe
 - Western Europe
 - South Asia
 - East Asia
 - North America
- On the map above, which one of the following boxes is in an area where the population density is high and the level of economic development is low?
 - A
 - B
 - C
 - D
 - E
- According to central place theory, the threshold is defined as the
 - economic base of a central place
 - distance away from a central place
 - gross value of the product minus the costs of production
 - minimum number of people needed to support a service
 - point at which consumer movement is at a minimum
- Outsourced industrial production in less developed countries often relies on female labor because
 - men are engaged mainly in agriculture
 - wage rates for women are much lower than for men
 - women are more skilled at operating machinery than men are
 - social taboos prevent women from working in the service sector
 - women are not protected by international labor laws
- The spread of specialty coffee shops across the United States in the 1990s is an example of
 - hierarchical diffusion
 - contagious diffusion
 - stimulus diffusion
 - periodic movement
 - relocation diffusion



7. Which of the following is a subsistence crop?
- (A) Corn
 - (B) Cotton
 - (C) Rubber
 - (D) Cocoa
 - (E) Timber
8. All of the following statements about the geography of meat production in the United States and Canada are true EXCEPT
- (A) Industrial farmers are raising ever-increasing numbers of animals on their farms.
 - (B) Animal slaughtering and meat-processing activities are dominated by a few large corporations.
 - (C) The development of the poultry industry has made chicken the least expensive kind of meat consumed in the United States and Canada.
 - (D) Fast-food restaurants have created a demand for increased standardization and homogeneity of animals raised for meat.
 - (E) Consumer demand for organic foods has significantly decreased the amount of meat produced by most agribusiness firms.
9. Compared with more developed countries, which of the following statements is true of less developed countries?
- (A) A higher percent of the labor force is engaged in food production.
 - (B) The population pyramids exhibit narrower bases.
 - (C) The per capita consumption of energy is higher.
 - (D) The natural increase of the population is lower.
 - (E) Fertility rates are lower.
10. Free-trade zones such as the countries of the North American Free Trade Agreement (NAFTA) are established to increase the ease and volume of international trade by
- (A) increasing diplomatic relations between member states
 - (B) opening borders to migrant guest workers from member states
 - (C) establishing a common monetary unit among member states
 - (D) offering large economic-development loans to poorer member states
 - (E) eliminating tariffs on goods that cross borders between member states
11. Which of the following best describes the process of gentrification in United States and Canadian cities?
- (A) An increase in construction of new housing for elderly and retired persons
 - (B) Privately funded redevelopment of existing commercial and residential buildings
 - (C) Government-led planning of public spaces such as parks and playgrounds
 - (D) The sale of naming rights for stadiums and arenas
 - (E) The expansion of suburban housing developments on the urban periphery

12. A formal region defines an area in which
- (A) a core dominates its surrounding hinterland
 - (B) a transportation network links different types of land use
 - (C) there is uniformity in one or more physical or human characteristics
 - (D) there are significant geographic variations in physical or human characteristics
 - (E) a unified government system has been established
13. Squatter settlements exist in cities of less developed countries because
- (A) city governments set aside vacant areas for new migrants
 - (B) people want to live near the center of the city where jobs are located
 - (C) affordable housing is not available elsewhere for new migrants to the city
 - (D) new migrants prefer to live in squatter settlements with other recent migrants
 - (E) new migrants need to be isolated from other city residents until they adjust to urban life
14. What would be the most profitable location for an ethanol manufacturing plant that converts corn into alcohol for use as an additive for gasoline?
- (A) Near a large university to facilitate recruitment of highly trained chemists
 - (B) Near a break-of-bulk point for ease of transportation
 - (C) Near a navigable river to reduce transportation costs to distant markets
 - (D) Near a prime corn-producing area to minimize transportation costs of raw materials
 - (E) Near a large metropolitan area to serve a major market
15. It is generally agreed that the current trend in climate change is caused by
- (A) sea-level rise
 - (B) increased use of fossil fuels
 - (C) reduction in biodiversity
 - (D) tilt of Earth's axis
 - (E) changes in the velocity of ocean currents
16. Which of the following originated in South Asia and subsequently spread throughout much of Southeast and East Asia?
- (A) Hinduism
 - (B) Christianity
 - (C) Buddhism
 - (D) Sikhism
 - (E) Confucianism

17. According to the rank-size rule, if the largest city in a region has a population size of 900,000, then the third largest city will have a population of
- (A) 3,000
 - (B) 9,000
 - (C) 45,000
 - (D) 300,000
 - (E) 900,000

18. Since 1960 Brazil, Kazakhstan, Myanmar, Pakistan, and Tanzania have relocated their capital cities. Which of the following statements about the new locations is true for all five countries?
- (A) A military strategic location was chosen.
 - (B) An isolated location was chosen.
 - (C) An ethnically mixed location was chosen.
 - (D) A more central location was chosen.
 - (E) A coastal location was chosen.

19. Since the 1970s, changes in the social roles, lifestyles, and employment patterns of women in Europe, Canada, and the United States have affected the overall population through which of the following?
- (A) Increased total fertility rates
 - (B) Decreased total fertility rates
 - (C) Increased death rates
 - (D) Decreased death rates
 - (E) Increased infant mortality rates

20. Which of the following is the primary assumption of environmental determinism?
- (A) Human destiny is controlled by the cultural environment.
 - (B) The physical environment has little influence on humans.
 - (C) Humans have complete control over the physical environment.
 - (D) Many human adaptations are possible within a specific physical environment.
 - (E) The physical environment controls human culture.

21. Environmental laws, labor availability, and access to markets are major factors affecting which of the following?
- (A) Political affiliation
 - (B) Gross domestic product
 - (C) Property tax rates
 - (D) Manufacturing locations
 - (E) Transportation costs

22. Which of the following is an example of a supranational organization with the main mission of increasing economic integration?
- (A) The North Atlantic Treaty Organization
 - (B) The European Union
 - (C) The United Nations
 - (D) The International Red Cross and Red Crescent Movement
 - (E) The United States Federal Reserve

23. Which of the following can be an example of a centrifugal political force?
- (A) Homogeneous ethnic population
 - (B) Strong central government
 - (C) Variation of language within the country
 - (D) Shift to tertiary economy
 - (E) Concentrated ownership of media

Answers to Multiple-Choice Questions

- | | | | |
|-------|--------|--------|--------|
| 1 - A | 7 - A | 13 - C | 19 - B |
| 2 - D | 8 - E | 14 - D | 20 - E |
| 3 - C | 9 - A | 15 - B | 21 - D |
| 4 - D | 10 - E | 16 - C | 22 - B |
| 5 - B | 11 - B | 17 - D | 23 - C |
| 6 - A | 12 - C | 18 - D | |

Human Geography – Section II Free-Response Booklet

This bookmark shows how questions and space for answers generally are distributed throughout the Section II exam booklet. Please share this information with students to help them prepare for the exam.

- Student should write responses on answer pages and in designated answer spaces only.
- Students may use any blank space on directions and question pages to take notes and plan written responses.

Front Cover Page 1	No Test Material Page 2	Directions Page 3	Question 1 Page 4	Answer Page for Q1 Continued Page 5	Answer Page for Q1 Continued Page 6	Answer Page for Q1 Continued Page 7
Answer Page for Q1 Continued Page 8	Answer Page for Q1 Continued Page 9	Question 2 Page 10	Answer Page for Q2 Continued Page 11	Answer Page for Q2 Continued Page 12	Answer Page for Q2 Continued Page 13	
Answer Page for Q2 Continued Page 14	Answer Page for Q2 Continued Page 15	Question 3 Page 16	Answer Page for Q3 Continued Page 17	Answer Page for Q3 Continued Page 18	Answer Page for Q3 Continued Page 19	
Answer Page for Q3 Continued Page 20	Answer Page for Q3 Continued Page 21	End of Exam Instructions Page 22	No Test Material Page 23	Back Cover Page 24		

Page #	Content
1	Front Cover
2	No Test Material
3	Directions
4	Question 1
5	Answer Page for Q1
6	Answer Page for Q1 Continued
7	Answer Page for Q1 Continued
8	Answer Page for Q1 Continued
9	Answer Page for Q1 Continued
10	Question 2
11	Answer Page for Q2
12	Answer Page for Q2 Continued
13	Answer Page for Q2 Continued
14	Answer Page for Q2 Continued
15	Answer Page for Q2 Continued
16	Question 3
17	Answer Page for Q3
18	Answer Page for Q3 Continued
19	Answer Page for Q3 Continued
20	Answer Page for Q3 Continued
21	Answer Page for Q3 Continued
22	End of Exam Instructions
23	No Test Material
24	Back Cover

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MASSIVE APHG VOCABULARY LIST

BE ABLE TO DEFINE EACH TERM AND PROVIDE EXAMPLES OF EACH

Geography: Its Nature and Perspectives Unit

Geography	Cultural landscape/Carl Sauer	Space-Time Compression
Cartography	Globalization	Network
Eratosthenes	Space	Resource
Map Scale—and types	Distribution	Renewable
Geographic scale	Density—definition and 3 types	Nonrenewable
Map projections—and types	Concentration	Sustainability
Meridian/longitude	Pattern	Conservation
Prime meridian	Hearth	Preservation
International Date Line	Diffusion—	Abiotic system of earth
Time zones	Expansion—	Atmosphere
Parallel/latitude	Contagious	Hydrosphere
Equator	Hierarchical	Lithosphere
Remote sensing	Stimulus	Biotic system of earth
Global positioning system	Relocation	Biosphere
Geographic information system	Distance--	Climate
Toponym	Absolute	Ecology
Site	Cognitive	Cultural ecology
Situation	Distance decay	Environmental determinism
Region—Definition and 3 types	Friction of distance	Possibilism

Population and Migration Unit

Demography	Exponential/geometric growth	Intraregional migration
Overpopulation	Family planning	Voluntary migration
Ecumene/Non-ecumene	Expansive/pro-natal policies	Forced migration
Crude birth rate	Restrictive/anti-natal policies	Wilbur Zelinsky
Crude death rate	Census	Chain migration
Natural increase rate	Baby and echo boom	Undocumented/unauthorized immigrants
Doubling time	J-curve and S-curve	Quotas
Total fertility rate	Cairo Plan	Brain drain/gain
Infant mortality rate	Carrying capacity	Guest workers
Life expectancy	Fecundity	Counterurbanization
Demographic transition	Migration	Gravity model
First agricultural revolution (Neolithic)	Emigration	Step migration
Second agricultural revolution	Immigration	Counter/return migration
Industrial revolution	Net migration	Cyclic movement
Medical revolution	Circulation	Commuting
Zero population growth	Push/pull factor	Seasonal movement
Replacement level fertility	Refugees	Periodic movement
Population pyramid	International	Transhumance
Dependency ratio (youth/elder)	Intranational (IDP)	Mobility
Sex ratio	Asylum	Eco-migration
Thomas Malthus	Intervening obstacle	Migration fields
Neo-Malthusians	Intervening opportunity	Channelized migration
Epidemiologic transition	International migration	Ravenstein's Laws of Migration
Epidemic/endemic/pandemic	Internal migration	Remittance
Linear/arithmetic growth	Interregional migration	

Cultural Patterns and Processes Unit

Culture	Barrio	Polyglot
Acculturation	Apartheid	Monolingual states
Assimilation	Ethnic cleansing	Multilingual states
Built environment	Chain migration	Reverse reconstruction
Material and nonmaterial culture	Ethnic enclave	Shatterbelt
Folk culture	Ethnic neighborhood	Religion
Popular culture	Ethnic homeland	Branch
Adaptive strategy	Ethnic island	Denomination
Indigenous culture	Cultural preadaptation	Sect
Sequent occupance	Ethnic substrate	Ethnic religion
Taboo	Language	Universalizing religion
Subculture	Dialect	Animism
Placelessness	Agricultural theory/Renfrew	Atheist
Maladaptive diffusion	hypothesis	Contact conversion
Convergence hypothesis	Conquest theory/Kurgan theory	Diaspora
Culture trait	Creole	Ecotheology
Culture complex	Pidgin	Fundamentalism
Cultural determinism	Lingua franca	Interfaith boundary
Cultural hearth	Language family	Intrafaith boundary
Cultural nationalism	Language branch/subfamily	Monotheism
Cultural imperialism	Language group	Polytheism
Cultural lag	Standard language	Orthodoxy
Ethnic group	Official language	Pilgrimage
Race	Ideograms	Proselytic religion
Nationality	Isogloss	Sacred spaces
Pluralism	Isolated language	Secularism
Ghetto	Language convergence	Syncretic religion
Segregation	Language divergence	Teleology
Racism	Language replacement	Theocracy
Social distance	Linguistic refuge area	Missionary
Ethnocentrism	Monoglot	

Political Organization of Space Unit

State	Geometric	Federal state
Nation	Relict	Confederation
Sovereignty	Antecedent	Territorial morphology
Multinational state	Subsequent	Fragmented
Immigrant state	Superimposed	Elongated
Nation-state	Boundary landscape	Compact
Stateless nation	Frontier	Prorupted
Territoriality	Manifest destiny	Perforated
Raison d'être	Phases of Boundary Creation	Landlocked state
City-state	Definition	Microstate
Self-determination	Delimitation	Core and periphery
Irredentism	Demarcation	Capital
Enclave	Administration	Forward-thrust capital
Exclave	Boundary Disputes	Nationalism
Buffer state	Positional/locational	National iconography
Satellite state	Territorial	Centripetal forces
Boundaries	Resource/allocational	Centrifugal forces
Natural/physical	Operational/functional	Balkanization
Ethnographic/cultural	Unitary state	Devolution

Regionalism
 Nunavut
 Ethnic conflict
 Shatterbelt
 Reunification
 Supranationalism
 United Nations
 European Union
 NATO
 Warsaw Pact
 Iron curtain
 UN Convention on the Law of the Sea
 Median-line principle

Exclusive economic zone
 Geopolitics
 Domino theory
 Ratzel's Organic Theory
 Mackinder's Heartland Theory
 Spykman's Rimland Theory
 Imperialism
 Colonialism
 Neocolonialism
 Treaty ports
 Conference of Berlin
 Decolonization
 Dependency theory

Global commons
 Theocracy
 Terrorism
 Sharia law
 Political ecology
 Electoral geography
 Suffrage
 Enfranchisement
 Annexation
 Reapportionment
 Redistricting
 Gerrymandering
 Annexation

Industrialization and Economic Development Unit

Economic systems
 Traditional
 Market
 Command
 Mixed
 Industrial revolution
 Cottage industry
 Guild industry
 Fordist production
 Post Fordist production
 Basic and non-basic industries
 Commodity chain
 Weber's Least Cost Theory of
 Industrial Location
 Site factors
 Situation factors
 Spatially fixed costs
 Spatially variable costs
 Bulk/Weight-reducing industry
 Bulk/Weight-gaining industry
 Perishability
 Break of bulk point
 Containerization
 Material/resource orientation
 Market orientation
 Economies of scale
 Footloose industries
 Substitution principle
 Labor-intensive industry
 Agglomeration
 Deglomeration
 High-tech corridor

Technopole or growth pole
 Backwash effect
 Locational interdependence
 Deindustrialization
 Post-industrial economy
 Multiplier effect
 Right-to-work state
 International division of labor
 Structural adjustment
 Privatization
 NGO
 Just in time delivery
 Vertical integration
 Productivity
 Value added
 Comparative advantage
 Services (business, consumer, public)
 Topocide
 Sustainable development
 Ecotourism
 Greenhouse effect
 Global warming theory
 Chlorofluorocarbon
 Acid rain
 Renewable resources
 Nonrenewable resources
 Point-source pollution
 Nonpoint-source pollution
 Development
 Fair trade
 Foreign direct investment
 Foreign aid

Gender Inequality Index
 Gross Domestic Product
 Gross National Income
 Purchasing Power Parity
 Human Development Index
 Physical Quality of Life Index
 Gini Coefficient
 Sectors of the Economy
 Primary
 Secondary
 Tertiary
 Quaternary
 Quinary
 Informal
 International trade
 NAFTA
 Self-Sufficiency Approach
 Transnational corporation
 Conglomerate corporation
 Special economic zone
 Export processing zone
 Development gap
 Rostow's Modernization Model of
 Development
 New industrial counties
 Asian Tigers
 Pacific Rim Economic Region
 BRICS countries
 MINT countries
 Maquiladoras

Cities and Urban Land Use Unit

City	CBD	Uneven development
Urban area	Central city	Food desert
Urbanization	Suburb	Cumulative causation
Urban morphology	Concentric Zone Model	Blockbusting
Urban hearth area	Succession migration	Racial steering
Borchert's Model of Urban Evolution	Zone in transition	Segregation
Urban hierarchy	Peak land value intersection	Redlining
Colonial city	Bid-rent curve	Gentrification
Urban banana	Hoyt's Sector Model	Suburbanization
Shock city	Harris-Ullman's Multiple Nuclei Model	Greenbelt
Industrial city	Galactic/Peripheral city model	Planned communities
Rank-size rule	Edge city	Gated communities
Primate city	Urban sprawl	Economic base
Christaller's Central Place Theory	Exurb	Annexation
Central Place	Counterurbanization	Public housing
Hinterland	Griffin-Ford Latin American city model	Gateway city
Threshold	Disamenity sector	New urbanism
Range	Periferico	Urban renewal
World/global cities	McGhee SE Asian city model	Census tracts
Megacity	Shantytown/squatter settlement/etc	Density gradient
Metropolitan statistical area	Zoning ordinances	Smart growth
Megalopolis/conurbation	Restrictive covenants	Rush hour
Micropolitan statistical area	Filtering	Public transit
Functional zonation	Ghettoization	

Agriculture, Food Production and Rural Land Use Unit

Agriculture	Horticulture
Crop	Truck farming/market gardening
Vegetative planting	McCormick reaper
Seed agriculture	Combine machine
Subsistence agriculture	Debt for Nature swap
Commercial agriculture	Aquaculture
Prime agricultural land	Collective farm
Agribusiness	Pesticide
Shifting cultivation	Herbicide
Slash and burn	Soil erosion
Swidden	Growing season
Pastoralism	Extractive industry
Nomadism	Feedlot
Transhumance	Staple grains
Pasture	Tragedy of the Commons
Intensive subsistence agriculture	Plantation
Double cropping	Ester Boserup
Crop rotation	Cash crop/export crop
Cereal grain	Von Thunen's Model
Milkshed	1 st Agricultural Revolution (Neolithic)
Grain	2 nd Agricultural Revolution
Winter wheat	3 rd Agricultural Revolution (Green)
Spring wheat	Plant and animal domestication
Ranching	Luxury Crops
Range wars	Dairying

1. 1st Agricultural Revolution
2. 2nd Agricultural Revolution
3. 5 Themes—region, location, place, human-environment interaction, movement
4. 8 Urban Models (Borchert/Adams, Burgess, Hoyt, Harris & Ullman, Vance, Griffin-Ford, de Blij, & McGee)*
5. acculturation & assimilation
6. activity space*
7. agglomeration & deglomeration
8. Balkanization
9. Bid Rent Theory/Bid-Rent Curve
10. boundary disputes: definitional/territorial, locational/positional, operational/functional, allocational/resource
11. Boserup, Esther *
12. break-in/of: bulk cities
13. cartography*
14. Central Business District (CBD)
15. Central Place Theory (Christaller)
16. centrifugal & centrifugal forces
17. commercial vs. subsistence agriculture*
18. conurbation & the Megalopolis
19. core-semi-periphery, periphery
20. cultural landscapes (C. Sauer)
21. culture: folk, popular, material, non-material
22. curves: J, S, bell *
23. demographic indicators/dependency ratio, CBR vs. GFR, CDR, LE, IMR, CMR, fecundity, TFR, sex ratio, RN/INRI, doubling times, density + many others!)*
24. Demographic Transition Model
25. Dependency Theory
26. diffusion: expansion (stimulus, hierarchical, contagious) & relocation (migrant) *
27. distance decay
28. doctrines of major world religions & sects/denomination: Judaism, Christianity, Islam, Hinduism
29. economic indicators: GDP, GNP (a.k.a. GNI), GDP/GNP PPP, GDP/GNP per capita, HDI, etc.)
30. economic sectors: primary, secondary, tertiary, quaternary, quinary)
31. economic structures (free market/capitalism, mixed, command)
32. epidemic vs. pandemic*
33. ecumene*
34. edge city(ies)
35. enclaves & exclaves *
36. Epidemiological Transition Model *
37. ethnicity vs. race*
38. fair trade & free trade *
39. folk culture & popular culture *
40. forward capitals *
41. Genetically Modified [Organisms] (GM) [O]
42. gerrymandering
43. geopolitical theories: Organic (Ratzel), Heartland (Mackinder), Domino, Rimland (Spykman) *
44. Global Information System (GIS)
45. globalization
46. Global Positioning System (GPS)
47. Glacialization
48. Gravity Model
49. Green Revolution (3rd Agricultural Revolution)
50. hearths (linguistic, religious, agricultural, urban) *
51. Industrial Revolution
52. irredentism
53. isotropic plane
54. language families
55. Levels of Development: DCs (≈ semi-periphery, Zone 1900, + other labels) *
56. Levels of Development: LDCs (≈ periphery, Zone 1800, + other labels) *
57. Levels of Development: MDCs (≈ core, Zone 2000, + other labels) *
58. Malthus, Thomas *
59. maquiladora
60. megacity(ies)
61. Meining (domain & sphere)
62. mental maps *
63. migration (forced, voluntary, chain, internal, external, intervening opportunities & obstacles/barriers, rural-to-urban) *
64. morphology: 5 shapes of states
65. nation vs. state *
66. nationalism vs. patriotism *
67. New Urbanism
68. population density (arithmetic vs. physiological vs. agricultural)*
69. population growth patterns
70. population pyramids (a.k.a. age-sex diagrams)
71. possibilism vs. environmental determinism
72. primate city
73. push and pull factors
74. rank-size-rule
75. religion classifications (mono- vs. polytheism vs. pantheism; universal vs. ethnic/folk) *
76. replacement rate *
77. Ravenstein's migration "laws"
78. Retireew
79. resources: renewable vs. non-renewable
80. Rostow
81. scale
82. site & situation
83. sovereignty & autonomy *
84. space-time (& vice-versa) compression
85. spatial (thinking)
86. Special Economic Zones
87. survey patterns (long lots, metes and bounds, township-and-range)
88. supranational/transnational (economic & political) *
89. sustainable development
90. time-distance decay
91. Tobler's Law
92. topography
93. transhumance
94. transportation technology: H₂O, animal, rail, truck, air, space, pipeline*
95. Von Thunen Agricultural Location Theory *
96. Wallerstein's World Systems Theory*
97. Weber's Least Cost/Industrial Location Theory *
98. World (Global) Cities
99. world religions (basic tenets: Judaism, Christianity & its ≈ 2700 sects, Islam, Hinduism, Buddhism, atheism, agnostic, animism, Sikhism, others?)*
100. Zelinsky: mobility transition *
101. zero population growth *

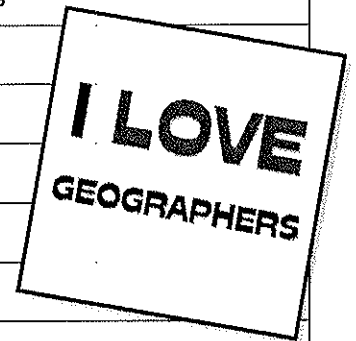
MEW-P's 5 realms: economic, environmental, political, socio-cultural, technological *

Geographer's Questions:
 What is there? Why is it there? Why do we care? *

* ▲ s made after April 2013

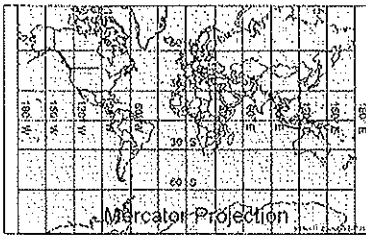
Key People in Human Geography

Adams, J.S.	Urban areas change over time based on changes in technology
Borchert, John	five distinct periods in the history of American urbanization
Boserup, Esther	cornucopian in contrast to Malthusian ideas
Burgess, Ernest	Concentric Zone Urban Model
Christaller, Walter	Central Place Theory
diBlij, Harm	Sub-Saharan African City Model
Ford, Larry	Latin American City Model (with Griffin)
Griffin, Ernest	Latin American City Model (with Ford)
Harris, Chauncy	Multiple Nuclei Model (with Ullman)
Hartshorne, Richard	Boundary system classifications: antecedent, subsequent, superimposed, relic
Hoyt, Horner	Hoyt Sector Model
Köppen, Wadimire	Köppen climate classification system
Malthus, Thomas	Crisis point when geometric growth rate of population intersects with arithmetic growth rate of food production
Mackinder, Sir Halford	Heartland Theory—political power based in the heart of Eurasia could gain enough power to dominate world
McGee, Terry	Southeast Asian City Model
Meinig, D.W.	Core-Domain-Sphere Model
Raztel, Friedrich	Organic Theory—states behave like an organism in terms of acquiring resources and territory
Ravenstine, Ernest	Laws of migration
Rostow, Walt	5 stages of economic growth for a given country/society
Sauer, Carl	cultural landscapes are made up of "the forms superimposed on the physical landscape"
Spykman, Nicholas	Rimland Theory—Eurasian rim is not the heartland, holds the key to global power
Ullman, Edward	Multiple nuclei Model (with Harris)
Vance, James	Urban Realms Model
Von Thünen, Johann	Model: location of agricultural activities based on economic concepts (rent) and type of agricultural activity
Wallerstein, Immanuel	World Systems Theory posits that there is global system of economic interdependence; core, semi-periphery & periphery countries; some countries benefit while others are exploited
Weber, Alfred	Least Cost Theory of Industrial Location: raw materials and production point and market positioning to maximize profite
Whittlesey, Derwent	Sequent occupance: cultural landscape is shaped by the succession of residents, each of whom leaves a lasting imprint
Zelinsky, Wilber	Developed a migration transition model which complements the DTM
Prince William, The Duke of Cambridge	studied geography at the University of St. Andrews in Scotland; having switched from studying the history of art

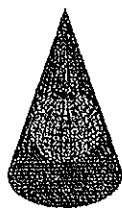
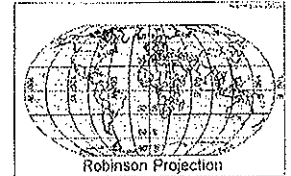
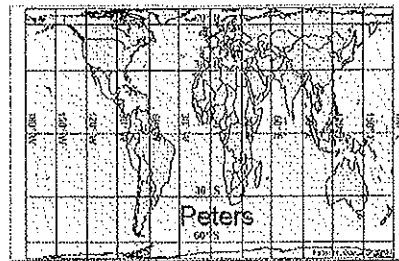
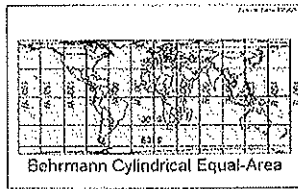


MAP PROJECTIONS

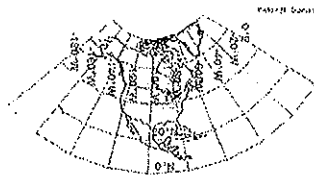
- ALL MAPS LIE! Representing our 3-dimensional planet in 2-dimensional form requires cartographers to create distortions of size, direction, scale, and/or shape. However, they remain powerful tools for Human Geographers because, considered carefully and critically, they convey a great deal of information.
- Map projections fall into four general classes: cylindrical, conic, azimuthal, & "other."
 - Cylindrical
 - Examples include the Mercator & Behrmann, Peters, & Robinson Projections



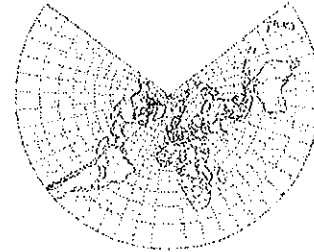
○ Conic



Conical Projection Surface

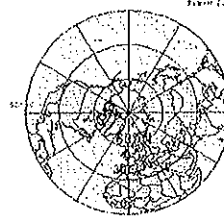


North America
Albers Equal-Area Conic
Origin: 23N, 96W
Standard Parallels: 20N, 60N

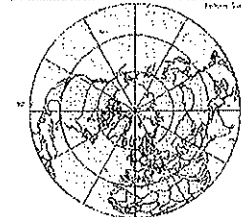


○ Azimuthal

- When directional relationships from a given central point (called an azimuth) are important, Azimuthal projections are typically used. They provide differ result from projecting a spherical surface onto a plane. Examples include the Azithmul Equidistant and the Lambert Azimuthal Equal Area



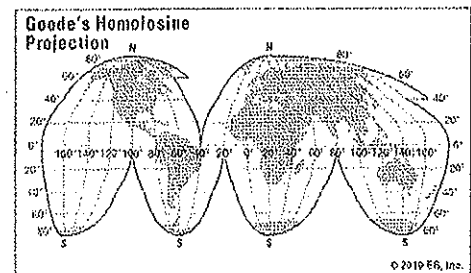
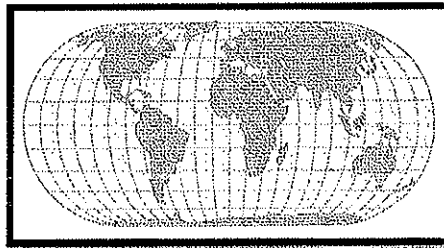
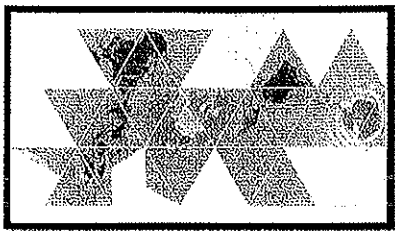
Azimuthal Equidistant



Lambert Azimuthal Equal Area

○ Others:

- Fuller: accurately depicts the size and shape of landmasses, but rearranges direction (below, left)



- Eckert IV: equal area-map, but distorts shapes near the poles (above, center)
- Goode's homolosine projection: shows size of continents accurately for comparison, but distorts shape and size of oceans (above, right)

Adapted & adopted: These materials were developed by Peter H. Dana, Department of Geography, University of Texas at Austin, 1995 http://www.colorado.edu/geography/gcraft/notes/mapproj/mapproj_f.html & Aaron McLaughlin, Benson Magnet School, Omaha Public Schools

AP® Human Geography Models/Theories

“Need to Know”

- Adams/Borchert Urban Model
- Burgess Concentric Zone Model
- Christaller’s Central Place Theory
- DeBlij’s Sub-Saharan African Urban Model
- Demographic Transition Model
- Diffusion models:
 - Expansion—contagious
 - Expansion—hierarchical
 - Expansion—stimulus
- Relocation
- Epidemiological Transition Model
- Gravity Model
- Griffin-Ford Latin American City Model
- Harris & Ullman Multiple Nuclei Urban Model
- Harris Galactic/Peripheral Urban Model
- Hoyt Sector Urban Model
- Mackinder’s Heartland Theory
- Malthusian Theory
- McGee Southeast Asian City Model
- Population Pyramids/Age-Sex Diagram
- Rank-Size-Rule & Primate Cities
- Ratzel’s Organic Theory
- Ravenstein’s Laws of Migration
- Rostow’s Stages of Economic Development
- Spykman’s Rimland Theory
- Vance’s Urban Realm Model
- Von Thünen Agricultural Model
- Wallerstein’s World-Systems Theory – Core/Semi-Periphery/Periphery
- Weber’s Model - Least Cost Theory of Industrial Location
- Zelinsky’s Migration Transition

“Nice to Know”

- Bid-Rent Curve/Theory
- Clark’s Sector Model
- Domino Theory
- Esther Boserup’s Theory/Cornucopian Theory
- Hardin’s First Law of Ecology
- Hotelling’s Model of Locational Interdependence/Spatial Competition
- Huntington’s Clash of Civilizations
- J-Curve
- Lee’s Migration Theory
- Islamic/Middle Eastern City Model
- Meinig’s Core-Domain-Sphere Model
- S-Curve
- Taylorism/Fordism
- Tobler’s First Law of Geography

TAXONOMY:
AP® Human Geography Models/Theories

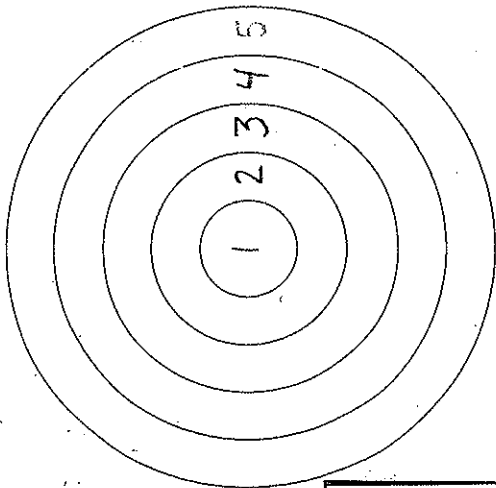
Unit	Models/Theories
Geography: Its Nature & Perspectives	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Population & Migration	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Cultural Patterns & Processes	<input type="checkbox"/>
Political Organization of Space	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Industrialization & Economic Development	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Agriculture, Food Production, & Rural Land Use	<input type="checkbox"/> <input type="checkbox"/>
Cities and Urban Land Use	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

APHG Review: Color the Models of Urban Structure!

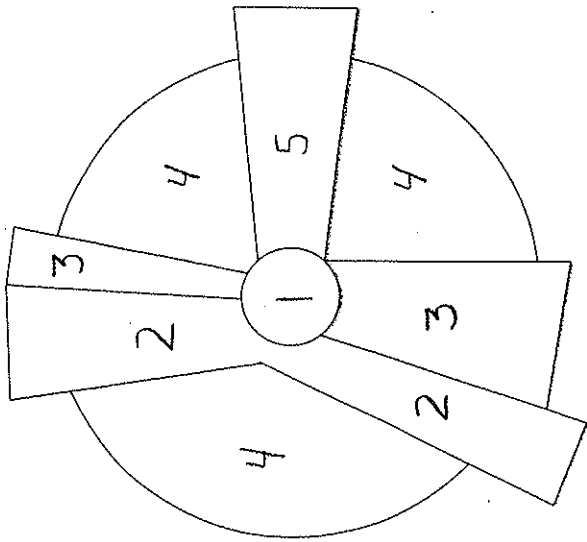
Since many of you have not covered the Unit on Urban Geography yet, this activity is meant to give you a taste of what your teacher will be covering in the weeks to come! By completing these worksheets, you will be ahead of the game! Refer to your APHG review packet to color the following models of Urban Structure. Each color is associated with a specific land use. *NOTE: The numbers labeled on the models in the review packet and the coloring sheet will not correspond!*

Zone	Description	Color
1	Central Business District (CBD) Walking/Horsecar Era Colonial CBD, Traditional CBD, Market Zone Commercial Zones (not a formal CBD): <i>Port Zone, Government Zone Alien Commercial, Western Commercial</i>	Black
2	Transportation & Industry Wholesale & Light Manufacturing Zone of Transition Walking/Streetcar Era	Green
3	Low-Class Residential Zone of Independent Workers' Homes Streetcar Era Zone of Accretion	Yellow
4	Middle-Class Residential Zone of Better Residences Recreational Automobile Era Zone of Maturity	Red
5	High-Class Residential Commuter's Zone Freeway Era Elite Residential	Blue
6	Heavy Manufacturing	Dark Green
7	Outlying Business District Edge Cities	Gray
8	Residential Suburb New Suburbs	Light Blue
9	Industrial Suburb	Light Green
10	Squatter Settlements Informal Satellite Townships	Orange
11	Market Gardening	Pink
12	New High Class Residential	Dark Blue
13	Ethnic and Mixed Neighborhoods	Purple

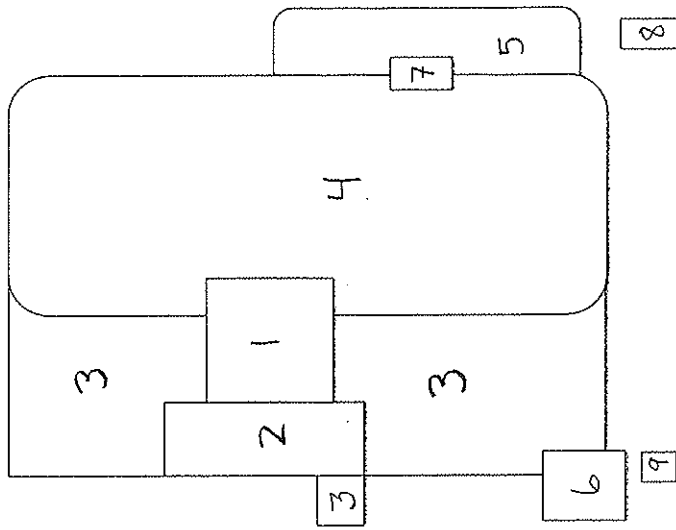
Concentric Zone Model (Burgess)



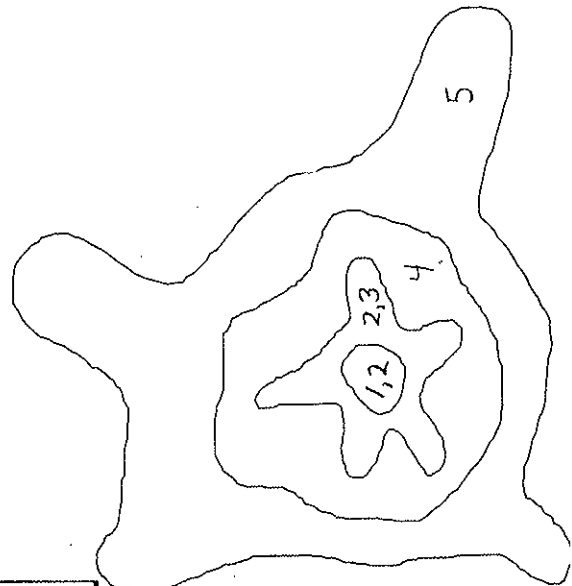
Sector Model (Hoyt)



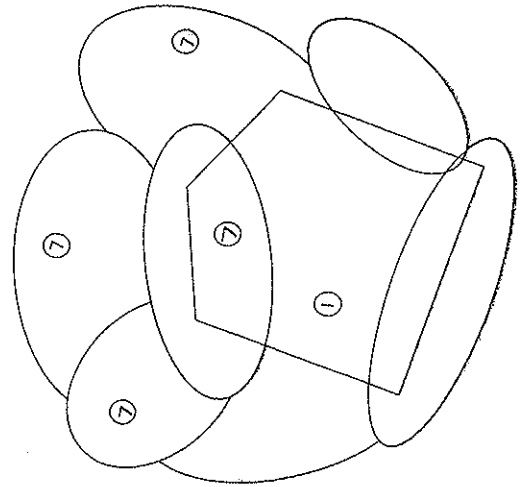
Multiple Nuclei Model (Harris/Ullman)



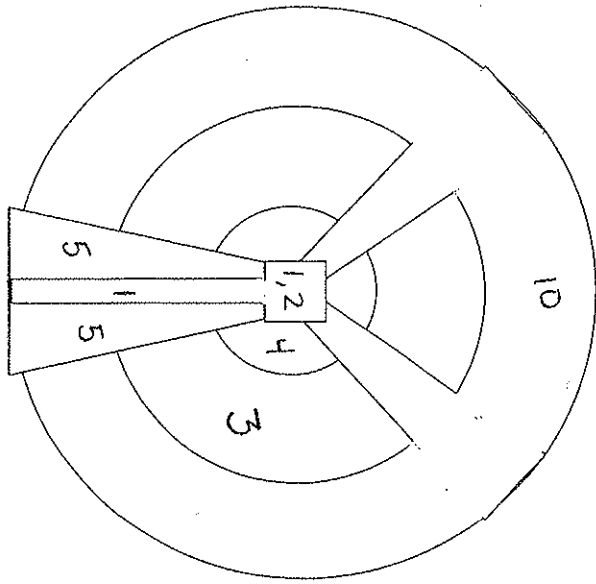
Adam's Urban Model



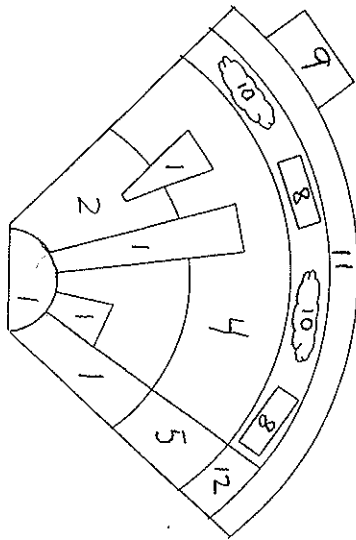
Urban Realms Model (Vance)



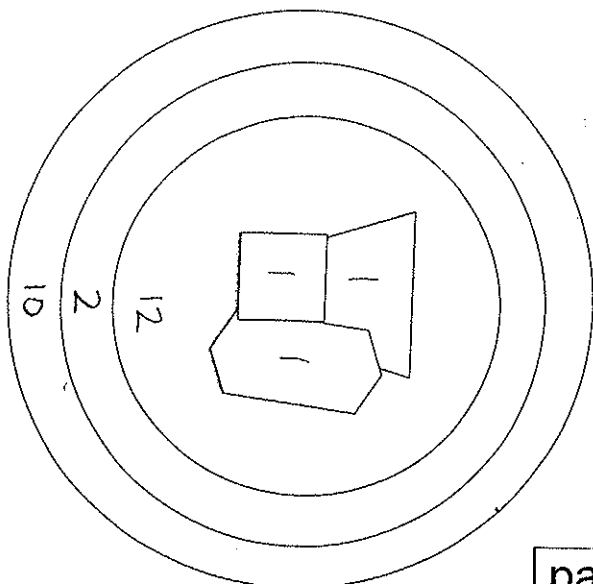
Latin American City Model



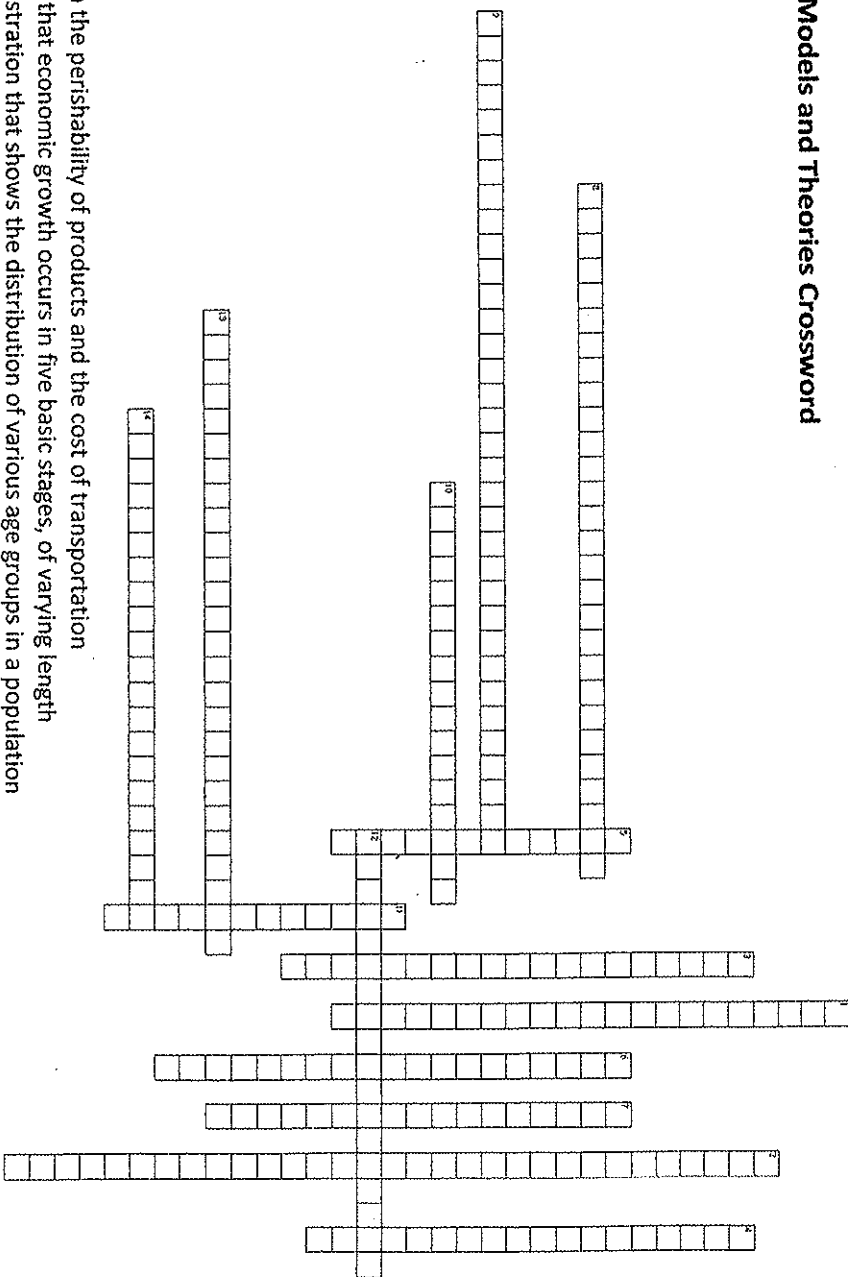
Southeast Asian City Model



Sub-Saharan African City Model



APHG Review: Models and Theories Crossword



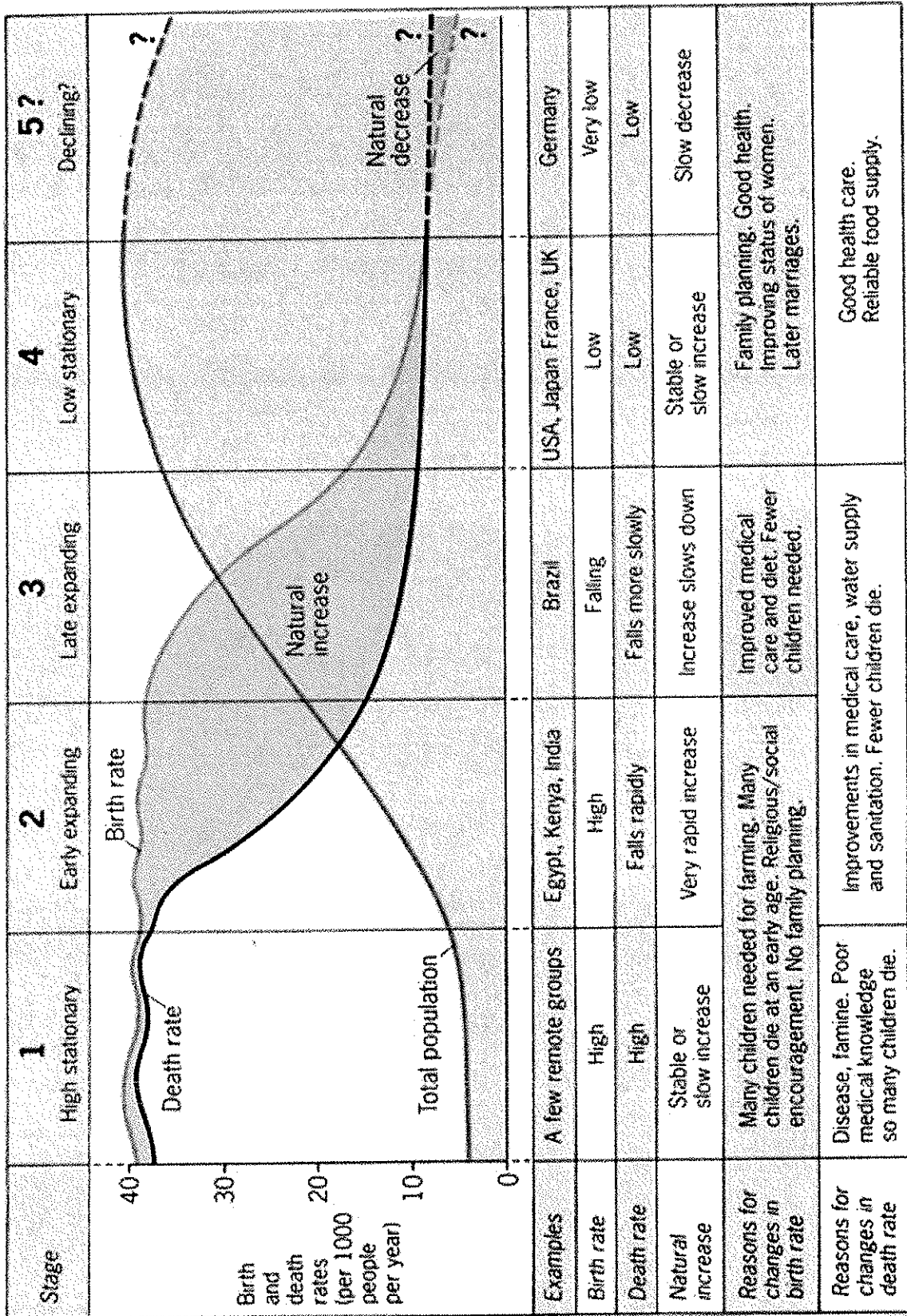
Across

- 8. a theory based on the perishability of products and the cost of transportation
- 9. model postulates that economic growth occurs in five basic stages, of varying length
- 10. is a graphical illustration that shows the distribution of various age groups in a population
- 12. the process of spreading something from one place to another in an ever-expanding "snowballing" process
- 13. refers to the transition from high birth and death rates to low birth and death rates as a country develops from a pre-industrial to an industrialized economic system
- 14. The place where concentration of culture traits that characterizes a region is greatest

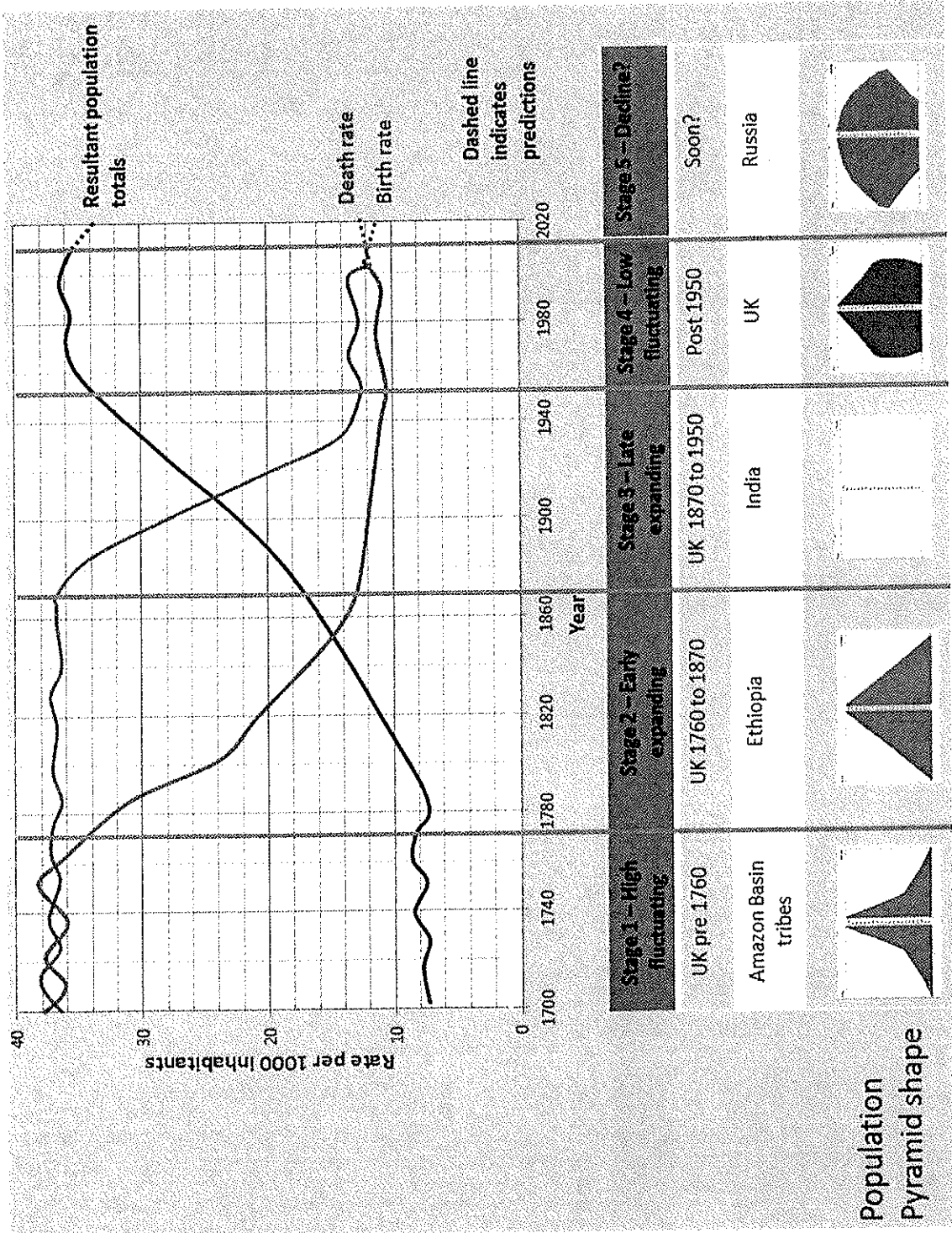
Down

- 1. when an idea is spread from a person or organization that holds authority over others
- 2. a theory of industrial location in which an industry is located where the transportation costs of raw materials and final product is a minimum
- 3. the spread that occurs when the spreading phenomena moves into new areas, but leaves behind its origin or source
- 4. explains the spatial arrangement, size, and number of settlements
- 5. a model used to estimate the amount of interaction between two cities
- 6. when a particular characteristic is rapidly transmitted throughout the population
- 7. when an idea, principle or innovation underlying a phenomena spreads to a small portion of a population, even though the phenomena itself may not be diffused
- 11. explains the size of cities in a country

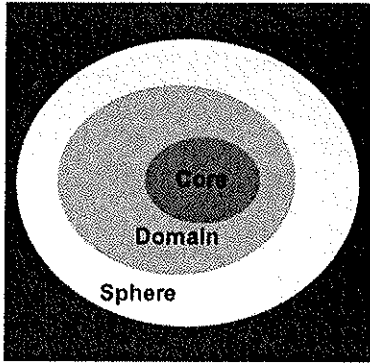
Demographic Transition Model: Version A



Demographic Transition Model: Version B



Core-Domain-Sphere Model (D.W. Meinig)



Core: the zone of greatest concentration or homogeneity of the culture traits that characterize a region. (Most "pure" region)

Domain: The area outside of the core of a culture region in which the culture is still dominant but less intense.

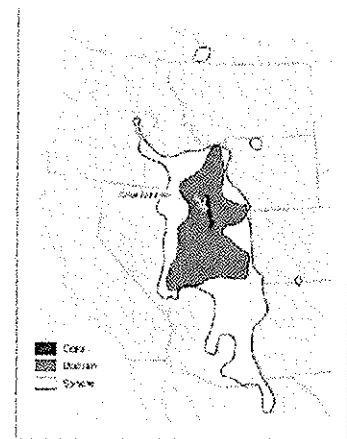
Sphere: The area outside of the core of a culture region in which the culture is still dominant but less intense.

Keep two things in mind when thinking about cores, domains, and spheres.

- 1.) One culture's core can lie within another culture's sphere. For instance, the core of Tibetan Buddhist culture, the Tibetan plateau, is also part of the Chinese cultural sphere because China conquered Tibet in the eighteenth century and has occupied it since 1950.
- 2.) The transitions between core, domain and sphere can be gradual or abrupt. Barriers to movement (physical/political) have historically created abrupt transitions. On the other hand transitions can also be gradual. In Southeast Asia, a very gradual transition occurs over a thousand miles between the curry-based flavors of Indian cuisine to the soy-based flavors of Chinese cuisine with Thai cuisine halfway between featuring major influences of both.

Meinig's Core-Domain-Sphere Model Example: Mormon Culture Region

The most famous example of a region based on religious association was proposed by Donald Meinig, that of a distinct Mormon landscape. These traits of a visible landscape are most evident in the core of settlement (core-domain-sphere model proposed by Meinig) or the place of initial settlement. Beyond this core lies the domain where many of these distinct traits can be found, but not all of them. These traits to the Mormon landscape include: Evenly distributed homesteads and settlements, not nucleated settlement; wide streets within the towns and cities; a central temple or church that also serves as a meeting hall; parallel irrigation ditches, to roads, with branches into fields (no longer in use due to modern irrigation. Example of a relic trait) the traits can all be found within what Meinig called the domain and help to separate this region from other neighboring regions.

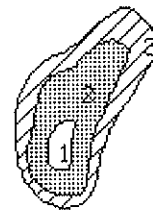


Diffusion Models—2 pages

This classification of spatial diffusion into four basic types is a starting point to describing the form which this process takes. It provides an overall framework, but is devoid of any consideration of how human reason about diffusion. We can extend this analysis by looking at the objects and operations that work together to create the process of spread from a human perspective, and consider what is the integrating framework between geographic space, the process, the entities that are affected by the process. That is, whether certain characteristics are shared among the classes depending on the user perspective or whether certain types of spread are a subset or superset of the others. We can also consider how geographic space is treated in each case, for instance, how is diffusion affected by constraints to space or barriers? From this work, a conceptual schema for spatial diffusion will be developed.

Expansion Diffusion

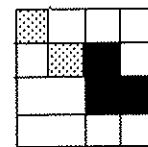
- a. Strictly defined, expansion diffusion is the process of something from one place to another in an ever-expanding process. Expansion diffusion is used to explain a variety of numerous disciplines, from the spread of disease in medicine human settlement in the study of geography. Expansion distinguished from regular diffusion when something spreads central point. Technology such as television and the internet, been instrumental in spreading ideas from place to place, while the advent of air travel has had a similar effect on contagious disease.



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Contagious Diffusion

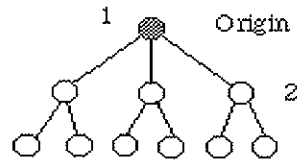
- b. As its name suggests, contagious diffusion occurs when a characteristic is rapidly transmitted throughout the population. In expansion diffusion, most adjacent individuals will be affected; an contagious diffusion is the early spread of Christianity, which Middle East to Europe. Another example can be seen in the bubonic plague that ravaged London during the 16th century, or influenza pandemic of 1918.



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Hierarchical Diffusion

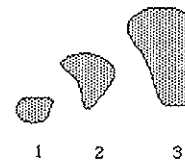
- c. Hierarchical diffusion occurs when an idea is spread or organization that holds authority over others. This type of diffusion is typically seen in cases when an idea is communicated by political leader or person of influence and spreads. This typically begins in an urban setting before eventually reaching less populated areas. An example of hierarchical diffusion can be seen in the popularity of rap and hip-hop music, which began in low-income black neighborhoods in densely populated urban areas before spreading out and gaining widespread acceptance among members of other socio-economic and geographical groups.



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Relocation Diffusion

- d. Relocation diffusion describes the spread that occurs when the phenomena moves into new areas, but leaves behind its origin common example of relocation diffusion is that of migration, movement of persons from rural to urban areas. This is NOT a diffusion.



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Stimulus Diffusion

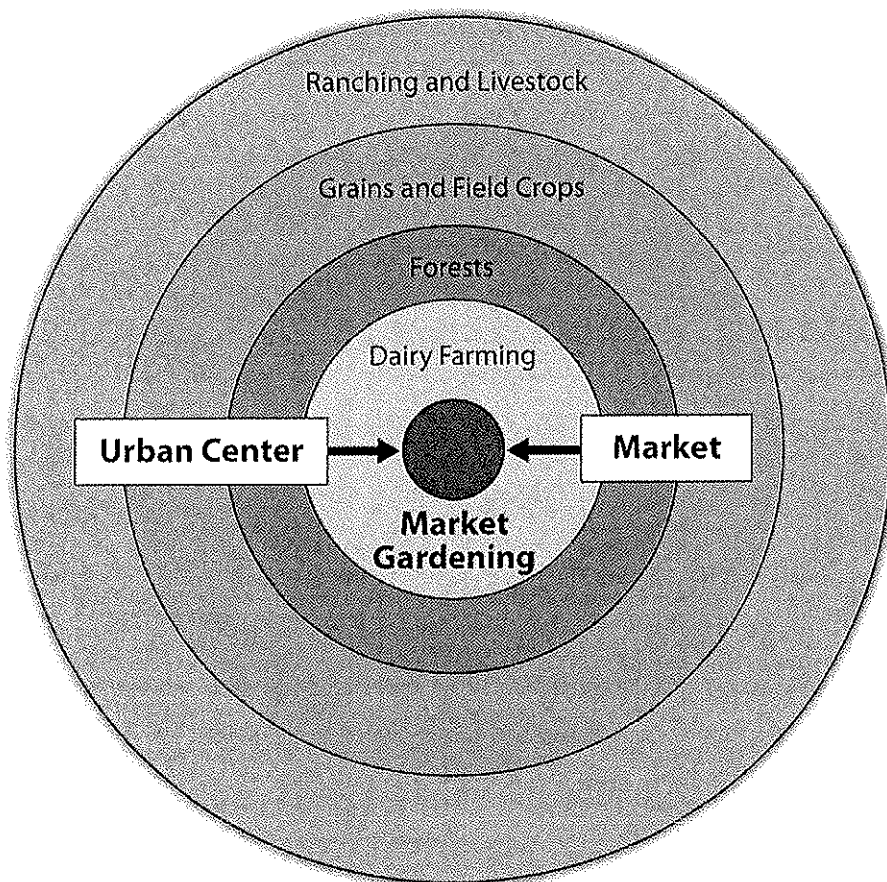
- e. Stimulus diffusion is when an idea, principle or innovation underlying a phenomena spreads to a small portion of a population, even though the phenomena itself may not be diffused. This typically occurs when, due to cultural differences, certain aspects of a phenomenon become diffused as opposed to the phenomena as a whole. An example of hierarchical diffusion can be seen in the U.S.-based fast-food restaurant McDonald's expanding its operations to India, a country in which the chain's primary product—beef hamburgers—are culturally repellent to the country's millions of Hindus. As a result, McDonald's serves no beef in its Indian restaurant, offering vegetarian patties instead. In this way, the phenomenon of McDonald's has spread to India although the fundamental principle underlying the company's success has not.

Source: http://www.ehow.com/info_8614359_types-expansion-diffusion.html

Von Thünen's Model of Agriculture (1826)—2 pages

Johann Von Thünen (1783-1850) observed in northeast Germany that each town or market center was surrounded by concentric rings with a commodity or crop dominating ring. From his observations, he formulated a theory based on the perishability of products and the cost of transportation. Given this is a theory, Von Thünen had to establish some basic assumptions: terrain was flat, conditions were all the same, no barriers to transportation, and it was an *isolated state* that had no ties to the outside world. Von Thünen stated that as you moved out into each ring, farther and farther away from the central city, the cost of transportation of goods would go up and the cost of land would go down. The rings were made up of the following:

- *Market gardening and dairy* (perishable and high priced)
- *Forest* (wood for fuel and building)
- *Extensive field crops* (wheat , corn and other grains)
- *Ranching and livestock*



The city (urban center and market) is located centrally within an "Isolated State." Intensive farming was in the second zone because items like dairy products, products that perish easily, had to be grown near their market. Also, also any product that could bring a large profit was grown in this second zone. Because land in this zone was so accessible to the central city, the cost of land in this zone was very high.

The third layer out was called the extensive farming zone. In order for the farming of these crops to be profitable, they must be grown on large tracts of land, therefore farmers that grow these crops are using sections of land much larger than those found in the intensive farming zone. Transportation costs are higher in this region, but the quantity of the product helps spread out the overall cost of transportation. Eventually, the cost of transportation cannot be spread out enough over the quantity of the product grown and farming of this type will cease to be profitable.

Ranching is the fourth ring in Von Thünen's model. Ranching requires an enormous amount of land for all the cattle needed to make a ranch profitable. Because of the enormous amount of land required, ranching is the farthest out in Von Thünen's model.

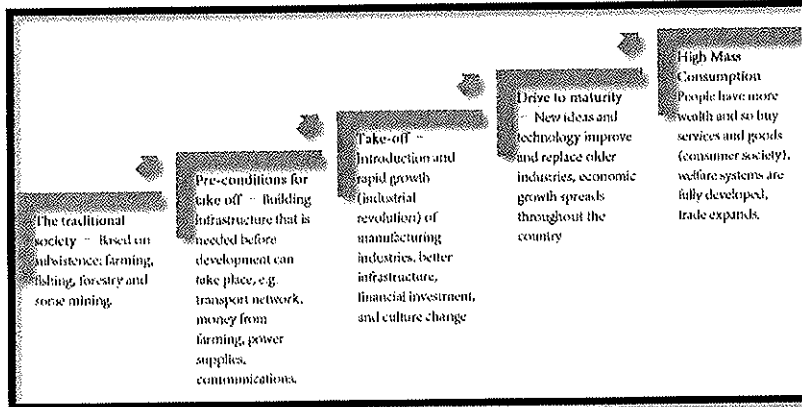
Beyond the ranching ring in the model, there is nothing but wilderness, it is not profitable for any economic activity to go on this are away from the central city or marketplace and still overcome the cost of transporting goods to market.

We can learn two geographic principles from Von Thünen's model:

1. The more land required to make an operation profitable, the farther away from the city center it will be located.
2. The size of the operation must be balanced with the cost of transportation.

Even though the Von Thünen's model was created in a time before factories, highways, and even railroads, it is still an important model in geography. The Von Thünen's model is an excellent illustration of the balance between land cost and transportation costs; as one gets closer to a city, the price of land increases. The farmers of the Isolated State balance the cost of transportation, land, and profit and produce the most cost-effective product for the market. Of course, in the real world, things don't happen as they would in model.

Rostow's Stages of Economic Development Model



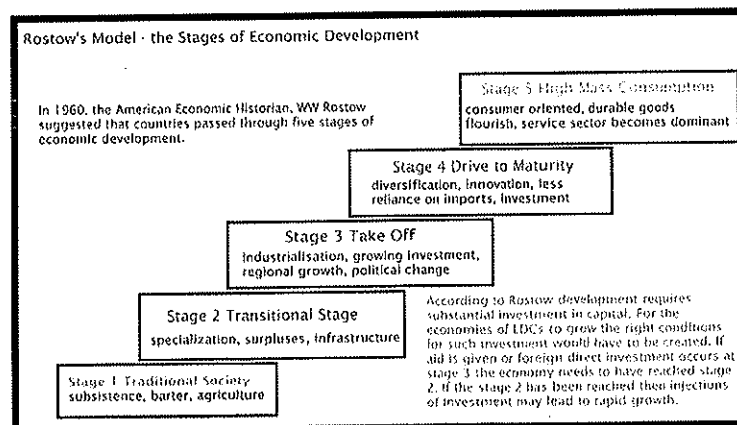
Rostow's Development Model was based on two factors:

1. The developed countries of Western Europe and Anglo-America had been joined by others in Southern and Eastern Europe and Japan.
2. Many LDCs contain an abundant supply of raw materials sought by manufactures and producers in MDCs. In the past, European colonial powers extracted many of these resources without paying compensation to the colonies, as core countries do to periphery. In a global economy, the sale of these raw materials could generate funds for LDCs to promote development.

According to the model, each country is in one of these five stages of development. With MDC's in stage 4 or 5, whereas LDCs are in one of the three earlier stages. The model asserts that today's MDC's passed through the other stages in the past. For example, the U.S. was in stage 1 prior to independence, stage 2 during the 1st half of the 1800's, stage 3 during the middle of the 1800's, and stage 4 during the late 1800's, before entering stage 5 during the early 1900's. The model assumes that LDCs will achieve development by moving along an earlier to a later stage.

A country that concentrates on international trade benefits from exposure to consumers in other countries. To remain competitive, the takeoff industries must constantly evaluate changes in international consumer preferences, marketing, production engineering, and design technologies.

Examples of countries adopting this method of development include areas in East/Southeast Asia and Arabian Peninsula, "Four Asian Dragons", and India.



Weber's Model of Industrial Location (aka Least Cost Theory, 1909)

Developed to choose a location for manufacturing plants. Assumes that the owner has three categories of costs:

- *Transportation*
- *Labor*
- *Agglomeration* (shared talents, services and facilities – advantages to clustering)

Industries use Alfred Weber's least cost theory which emphasizes that firms seek a site of minimum transport and labor costs. To Weber, transportation was the most important cost factor. The reason why manufacturers try to locate near their buyers and sellers is to reduce the costs of transportation. At the same time, they would try and minimize the costs of transporting in raw materials to their factories. The further away you are located from your buyer and dealer, the higher the cost of your transportation to travel to and from them will be.

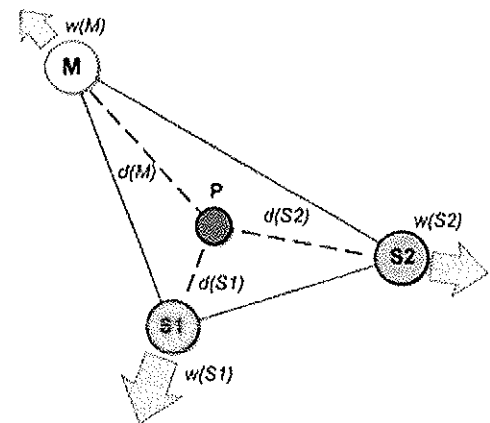
Industries will also look at the cost of labor, they will be willing to locate somewhere where they can hire people who will work for small wages because their jobs are not specialized, and do not take much skill. If cheaper labor made up for transport costs, you would locate further away but only so far from your market as you had to in order to get cheap labor. An example would be of the United States which locates its factories in places like Mexico where outsourcing workers means lower wages as well as still being close to the market and also taking advantage of a trading agreement (NAFTA). By taking advantage of NAFTA, products from Mexico can be transported across the borders for free.

Agglomeration is also a factor that industries look at, because they will have fewer costs if they locate near other factories because each factory will in some way share the costs. Of course, if things get to be expensive because too many factories wanted to be located in one area (increasing rents), de-agglomeration would occur.

- *Weight-losing case*: (bulk reducing) if the finished product costs less to transport, the firm will be located closer to the raw materials to reduce cost.
- *Weight-gaining case* (bulk gaining) if the finished product costs more to transport, the firm will be located closer to the market to reduce cost.

Solving Weber's location model often implies stages; finding the least transport cost location and adjusting this location to consider labor costs and agglomeration economies. Transportation is the most important element of the model since other factors are considered to only have an adjustment effect. To solve this problem, Weber uses the **location triangle** within which the optimal is located. The above figure illustrates the issue of minimizing transport costs.

Considering a product of $w(M)$ tons to be sold at market M , $w(S1)$, and $w(S2)$ tons of material coming respectively from $S1$ and $S2$ are necessary. The problem resides in finding an optimal factory location P located at the respective distances of $d(M)$, $d(S1)$, and $d(S2)$. Several methodologies can be used to solve this problem such as drawing an analogy to a system of weights and pulleys (Varignon's Solution) or using trigonometry. Another way preferred among geographers, particularly with GIS, is to use **cost surfaces** which are overlaid.



Weber's location theory explains well the location of heavy industries, particularly from the industrial revolution until the mid twentieth century (the sector that Weber was looking at). Activities having a high level of use of raw materials tend to locate near supply sources, such as aluminum factories will locate near energy sources (electricity) or port sites. Activities using ubiquitous raw materials, such as water, tend to locate close to markets. To assess this issue, Weber developed a **material index** which is simply the weight of the inputs divided by the weight of the final product (output). If the material index is higher than 1, location tends to be Contemporary developments in manufacturing, the reduction of transport costs and new economic sectors (high technology) has changed locational behavior substantially as it locates without much consideration to Weber's principles. Still, these principles apply well for industries with a very high material index.

Borchert's Urban Model

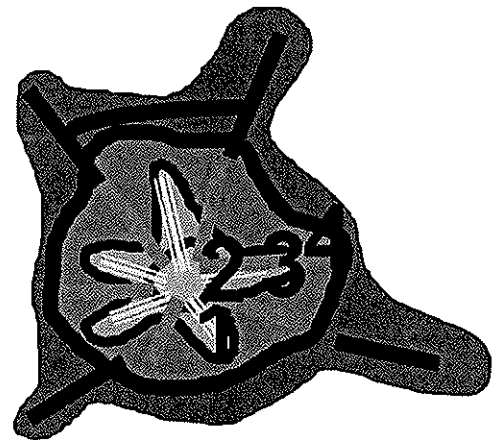
Borchert's epochs refer to five distinct periods in the history of American urbanization. Each epoch is characterized by the impact of a particular transport technology on the creation and differential rates of growth of American cities. This model was conceptualized by geographer John R. Borchert in 1967. The five epochs identified by Borchert are:

- **Sail and Wagon Epoch (1790–1830)**
 - During this period, the movement of people was limited and slow because of the difficulty of overland transportation; primary goods were moved along waterways.
- **Steamboat Iron Horse Epoch (1830–70)**
 - The system changed with the development of steam and its application to boats and early railroads. Therefore, this epoch is characterized by impact of steam engine technology, and development of steamboats and regional railroad networks
- **Steel Rail Epoch (1870–1920)**
 - Approximately at the time of the Industrial revolution, this epoch was dominated by the development of long haul railroads and a national railroad network. Cities expanded their hinterlands dramatically; goods were moved long distances, making it possible to develop intensively industrialized areas.
- **Auto/Air Amenity Epoch (1920–70)**
 - Characterized with growth in the gasoline combustion engine. The urban system has been transformed dramatically by the use of automobiles, which opened up new locations for development.
- **Satellite-Electronic-Jet Propulsion (1970–present),**
 - Also called the *High-Technology Epoch* or *Telecommunications Epoch*, since both are shaping cities in many ways

Adams Urban Model

Adam's Model for urbanization explains changes over time in spatial form of cities. There are four stages based on changes in transportation technology:

- **Walking/Horsecar Era (pre-1888)**
 - Pedestrian city, horse drawn trolleys, compact urban structure (had to be within 30 minutes walking distance), grid pattern of cities (logical, tight structure).
 - Little specialization of land use
 - Must live near where they worked
- **Electric Streetcar Era (1888-1920)**
 - Streetcar, did not have to walk everywhere, street travel wider
 - Cities expanded beyond trolley lines
 - "starburst" shaped city
 - More differentiated land use, didn't have to live near where they worked
 - City had industrial area and residential area
- **Recreational Automobile Era (1920-1945)**
 - Cars and highways, suburbanization, more individual mobility
 - Do not have to live near transportation corridors – filled in those starburst shapes
 - Center city at its peak – "downtown"
 - Residential areas broken up into distinct neighborhoods – tried to live near people like themselves, apart from people they weren't like
- **Freeway Era (1945-Present)**
 - Big impact from cars, interstates
 - Beltways bypass cities altogether, businesses moving out now
 - Creation of suburban downtown
 - "edge cities" on perimeter of city limits
 - Multi-centered metropolis

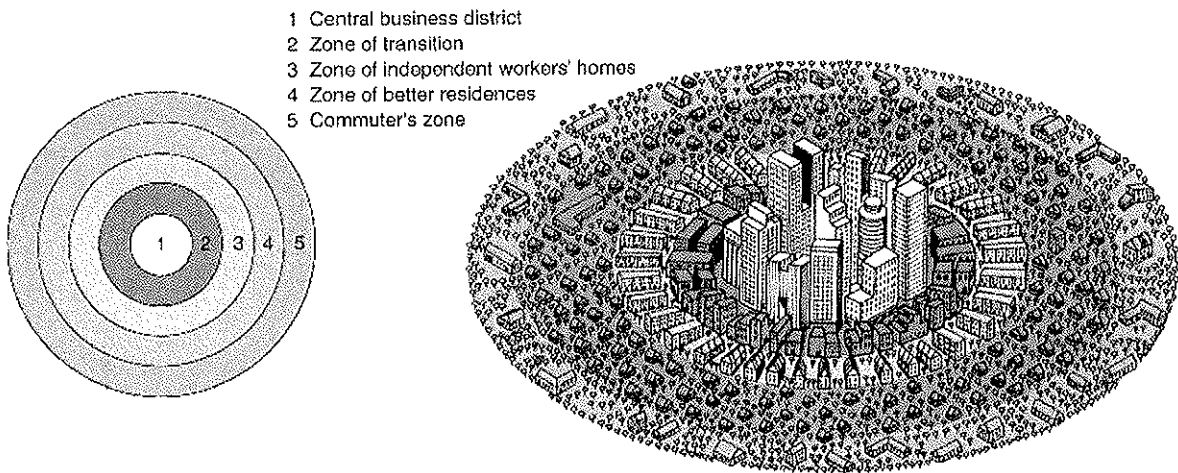


Burgess Concentric Zone Model, 1920s

Developed based on Chicago to represent American cities of that time by Park and Burgess; The city consists of 5 concentric zones – each with a different function (purpose) in the city. As the city expands, the zones expand and merge into the next adjacent zone (invasion and succession).

Characteristics of the Concentric Zone Model

- **Zone 1: CBD** (Central Business District), or “downtown.”
 - Characterized by high land values, skyscrapers, traffic, mass transit, and mostly non-residential activities
- **Zone 2: Zone of Transition**
 - Characteristics of this zone would be deteriorated housing, high population density, more renters, possibly ethnic ghettos, business and light manufacturing might be mixed in.
- **Zone 3: Zone of Independent Workers' Homes**
 - Consists mostly of blue-collar workers. Small, older single family dwellings on small lots
- **Zone 4: Zone of Better Residences**
 - Consists of the middle class. Less densely populated. Newer single-family dwellings and higher-rent apartments.
- **Zone 5: Commuters' Zone**
 - Also known as the suburbs, and the dwellings of white-collar workers.



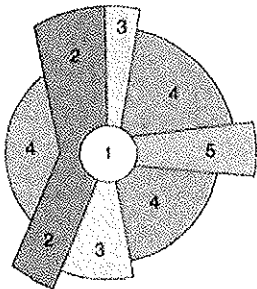
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Hoyt Sector Model, 1930s

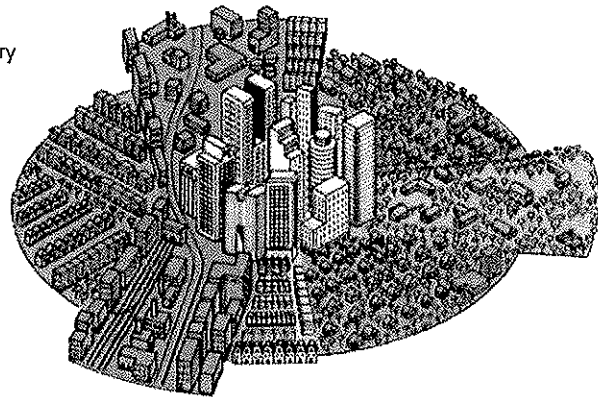
Also based on Chicago (like the Concentric Zone Model), but is an adaptation to Burgess's Concentric Zone Model. The model is pizza sliced shape or pie-shaped. The expansion is radial, not circular as in the Concentric Zone Model.

Characteristics of the Sector Model

- Transportation and communication infrastructure improving so need to include this artier as it extends out. Industry and manufacturing would develop along transportation routes.
- Said in some circumstances land value could remain consistent from the CBD to the edge of a city
- Lower-class residential zone will reside adjacent to the major transportation arteries and along the industrial zone.
- A high-class residential zone could extend out along a streetcar or suburban commuter route or possibly due to an attractive environmental feature, ie, a river or lake.



1. Central business district
2. Transportation and industry
3. Low-class residential
4. Middle-class residential
5. High-class residential



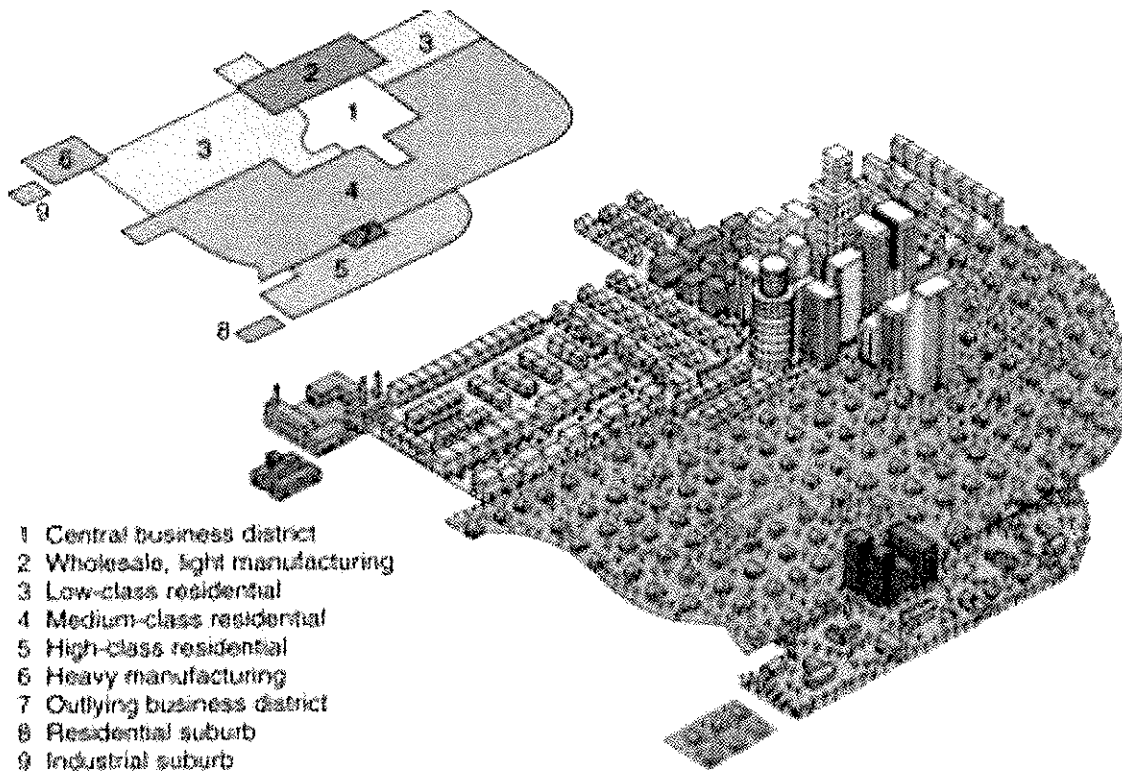
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Harris/Ullman Multiple Nuclei Model, late 1940s

Harris and Ullman came up with this model in the late 1940s, stating that the Concentric and Sector Models were becoming outdated. The key feature stating that the CBD is becoming less dominant as a node of economic and cultural activity. There are now competing nuclei or nodes outside the CBD.

Key characteristics of the Multiple Nuclei Model:

- City development is spreading from several nodes, not just the CBD. Each node or nuclei might have a different function – port, education, retail, medical. Land use activities that are not compatible tend to not cluster in the same locations.
- Note that some industrial and low-class residential is near the CBD; high-class residential is in the outlying suburbs.
- New manufacturing is on outside of city – more space for one-story manufacturing plants.

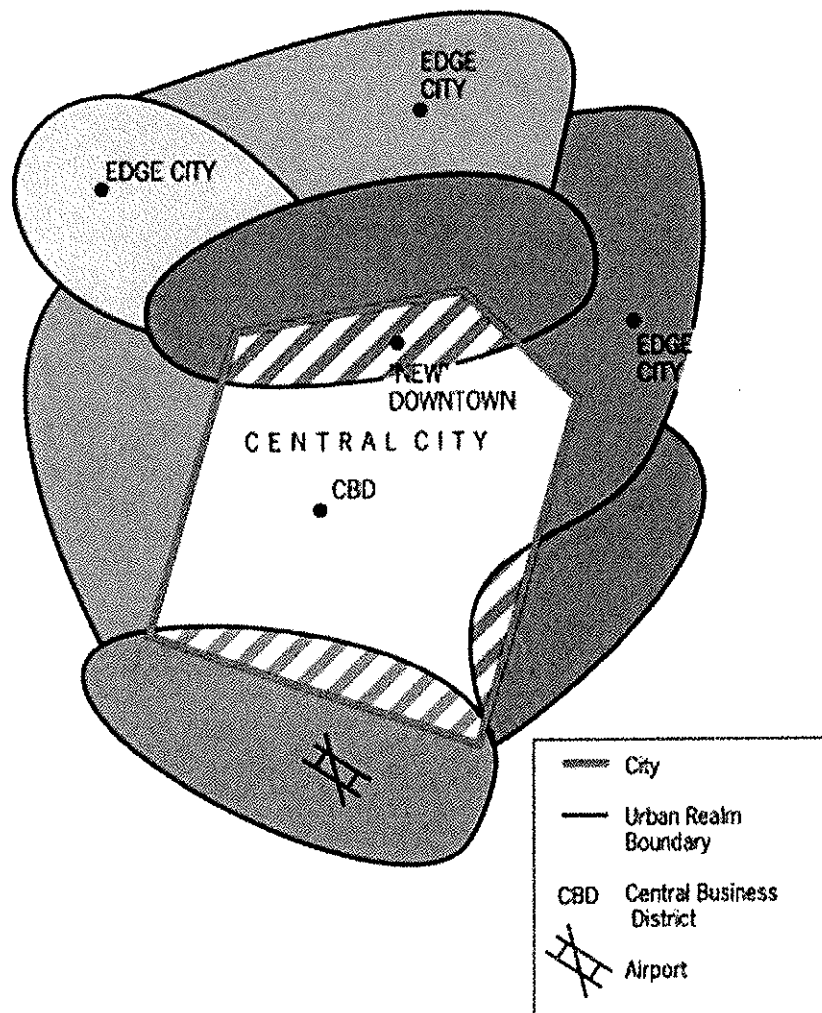


Vance Urban Realms Model, 1970s

As a means of improving upon the multiple nuclei model, the geographer James E. Vance, Jr. proposed the urban-realms model. Vance stated that cities are conurbations – connected urban areas that can function separately in many ways but are linked together in one large metropolitan area.

Key characteristics of the Urban Realms Model:

- Many nuclei with business and commercial areas (malls) surrounded by outlying residential suburbs.
- More beltways and other road infrastructure, as well as more personal cars, contributes to this urban structure.
- Less interaction and connectivity to the CBD. More independent suburbs, exurbs and edge cities.
- Suburban 'downtowns' have big shopping centers, industrial or office parks, entertainment facilities, sports stadiums, restaurants, hotels. Often near key interstate highways or intersections.



Griffin-Ford Model of a Typical Latin American City

Urban structure differs from one culture to another, and in many ways the cities of Latin America are distinctive, sharing much in common with one another. Geographers Ernst Griffin and Larry Ford developed the model diagrammed here to help describe and explain the processes at work shaping the cities of Latin America. In what ways would this model not be applicable to cities in the US and Canada?

- Cities outside the US are often very different than those found in the US
- Downtowns are often very animated
- Poor people are more likely to live in suburbs
- Cities in lower-income countries have grown rapidly, because of a combination of a high natural increase rate and immigration from rural areas
- Here, the poor are more likely to live in the suburbs, whereas the wealthy leave near the center of cities, as well as in a sector extending from the center
- Many of these poor suburban areas are squatter settlements
- Squatter settlements have few services because neither the city nor the residents can afford them

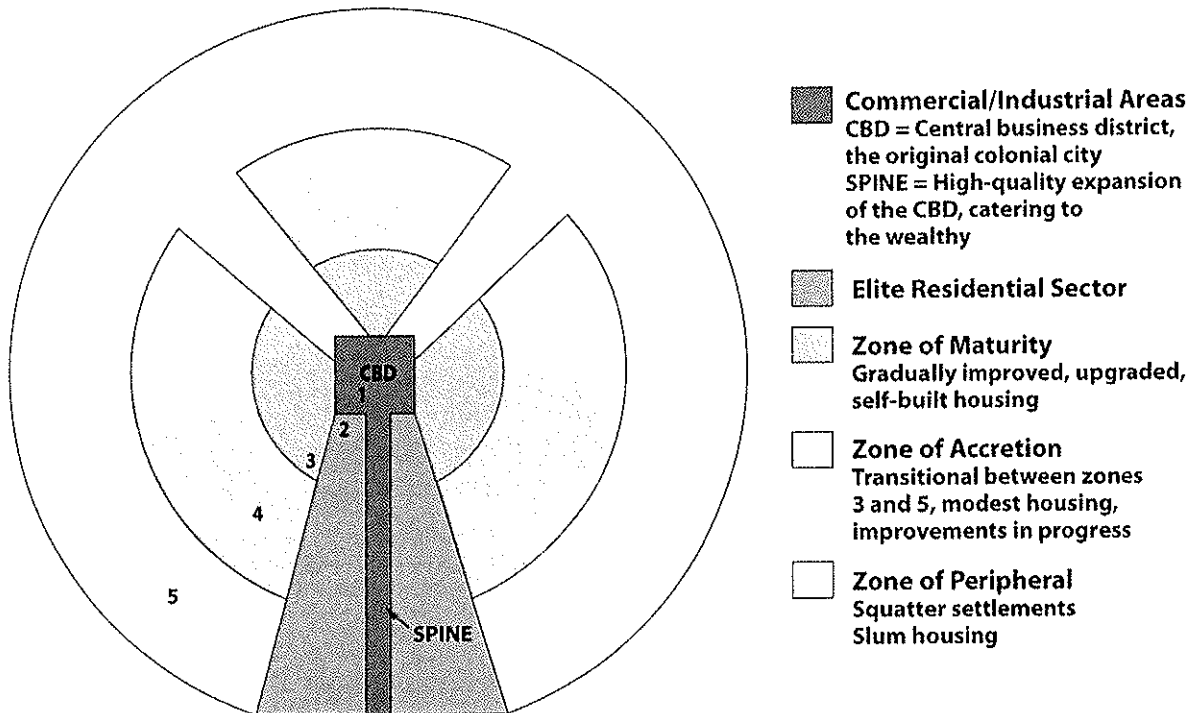


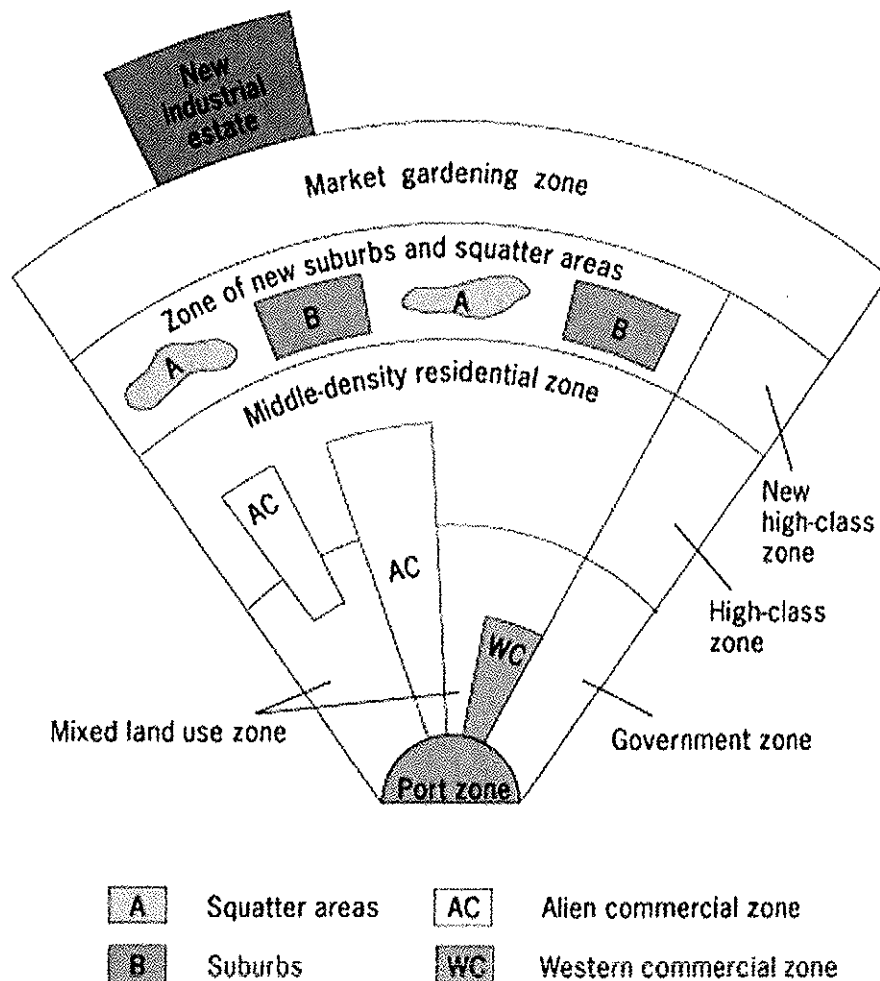
Figure 1.3
The Human Mosaic, Eleventh Edition
 © 2010 W. H. Freeman and Company

McGee Model of Southeast Asian City

Sometimes referred to as the McGee Model after urban geographer T.G McGee.

Key characteristics of the Southeast Asian City Model:

- Focal point is the old colonial port zone and the large commercial district that surrounds it.
- No formal CBD but elements of it clustered around the old colonial zone: government zone, Western commercial zone, alien commercial zone (often dominated by Chinese merchants), mixed land-use including light industry.
- There is a market-gardening zone on the city's outskirts.
- Even further out, a recently built industrial park or estate. (DeBlij)

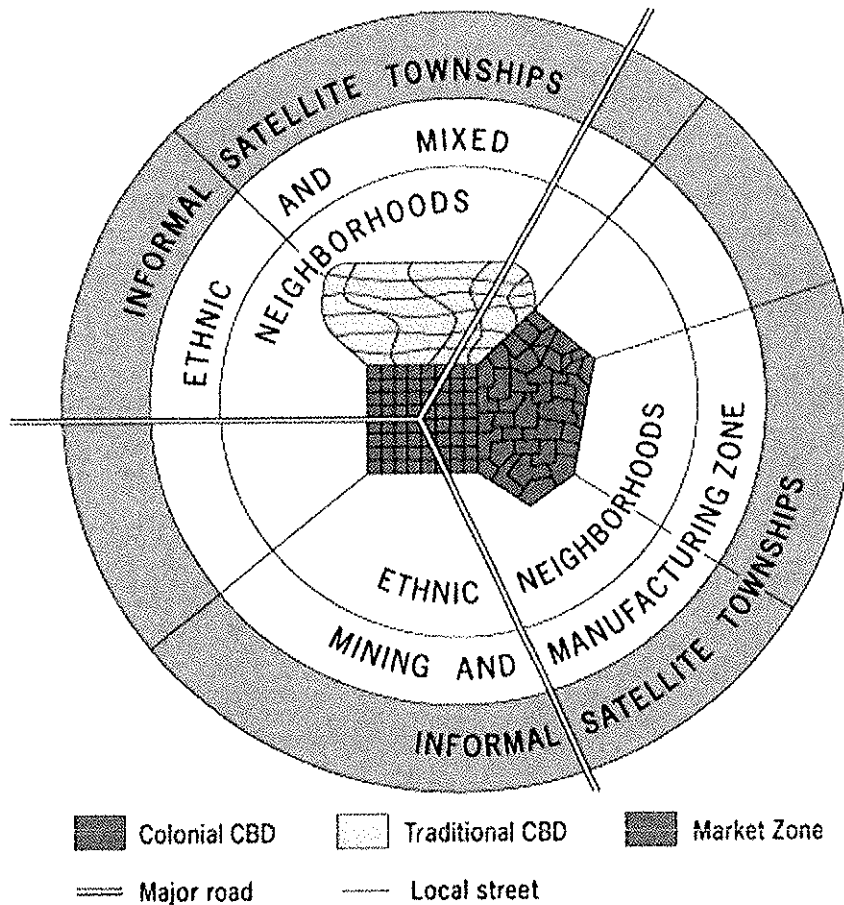


deBlij Model of Sub-Saharan African City

Difficult to formulate a model African city. Sub-Saharan Africa currently has some of the world's fastest growing cities. The imprint of European colonization can be seen in many of these cities. Some were laid out by Europeans such as Kinshasa, Nairobi, and Dakar. Others display more Western influence, such as Johannesburg, Cape Town, Durban, with elements of Europeans as well as American models.

Key characteristics of Sub-Saharan African City Model:

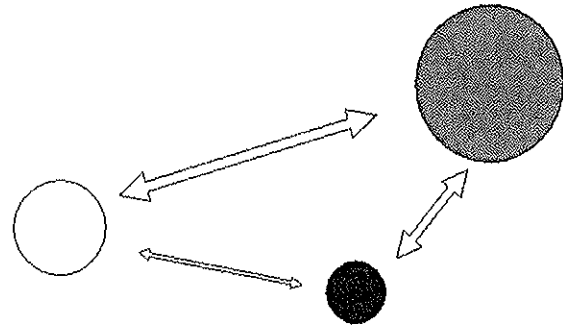
- Studies indicate that the African central city has three CBDs: a remnant of three colonial CBD, informal market zone, and a traditional business center.
 - Highest buildings are usually in the colonial CBD. Traditional CBD is usually in single-story buildings. Market zone tends to be open air informal.
- Around these CBDs, are sectors of ethnic and mixed neighborhoods, marked by strong ethnic identities. Some mining and manufacturing can be found near the neighborhoods.
- Encircling the cities are rapidly growing shantytowns.



Gravity Models

The gravity model, as social scientists refer to the modified law of gravitation, takes into account the population size of two places and their distance. Since larger places attract people, ideas, and commodities more than smaller places and places closer together have a greater attraction, the gravity model incorporates these two features.

$$\frac{\text{population}_1 \times \text{population}_2}{\text{distance}^2}$$



The shorter the distance between two objects, and the greater the mass of either (or both) objects, the greater the gravitational pull between the objects.

The relative strength of a bond between two places is determined by multiplying the population of city A by the population of city B and then dividing the product by the distance between the two cities squared.

Reilly's Law of Retail Gravitation (Reilly 1931)

In 1931, William J. Reilly was inspired by the law of gravity to create an application of the gravity model to measure retail trade between two cities. His work and theory allows us to draw trade area boundaries around cities using the distance between the cities and the population of each city.

Reilly realized that the larger a city the larger a trade area it would have and thus it would draw from a larger hinterland around the city. Two cities of equal size have a trade area boundary midway between the two cities. When cities are of unequal size, the boundary lies closer to the smaller city, giving the larger city a larger trade area. Reilly called the boundary between two trade areas the breaking point (BP). On that line, exactly half the population shops at either of the two cities.

The formula is used between two cities to find the BP between the two. The distance between the two cities is divided by one plus the result of dividing the population of city b by the population of city a. The resulting BP is the distance from city a to the 50% boundary of the trade area. One can determine the complete trade area of a city by determining the BP between multiple cities or centers.

Of course, Reilly's law presumes that the cities are on a flat plain without any rivers, freeways, political boundaries, consumer preferences, or mountains to modify an individual's progress toward a city.

$$\text{BP} = \frac{\text{distance between city a and b}}{1 + \sqrt{\frac{\text{pop. b}}{\text{pop. a}}}}$$

BP is distance from city a to breaking point

Rank-Size Rule & Primate Cities

The theory of **rank-size rule** explains the size of cities in a country. *

- The second and subsequently smaller cities should represent a proportion of the largest city.
- For example:
 - If the largest city in a country contained one million citizens
 - the second city would contain one-half as many as the first, or 500,000
 - the third would contain one-third or 333,333
 - the fourth would be home to one-quarter or 250,000
 - and so on...

The population of a town ranked n will be $1/n$ th of the size of the largest city

- For example:
 - the 2nd ranked town, will have a population $1/2$ of the 1st ranked town.
 - the 3rd ranked town, will have a population $1/3$ of the 1st ranked town
 - the 4th ranked town, will have a population $1/4$ of the 1st ranked town
 - the 5th ranked town, will have a population $1/5$ of the 1st ranked town
 - And so on...
- In other words, the rank of the city represents the denominator in the fraction

Germany

Actual Population		Rank-Size Rule Expectations	
1. Berlin	3,390,000	1. Berlin	3,390,000
2. Hamburg	1,700,000	2. Hamburg	1,195,000
3. Munchen	1,300,000	3. Munchen	1,130,000
4. Koln	965,000	4. Koln	847,500
5. Frankfurt	640,000	5. Frankfurt	678,000
6. Essen	590,000	6. Essen	565,000
7. Dortmund	589,000	7. Dortmund	484,000
8. Stuttgart	587,000	8. Stuttgart	424,000

The cities of Germany follow the Rank-Size Rule fairly closely

*This is not always the case in many countries!

A country's leading city is always disproportionately large and exceptionally expressive of national capacity and feeling. The **primate city** is commonly at least twice as large as the next largest city and more than twice as significant. - Mark Jefferson, 1939

The law of the primate city explains the phenomenon of huge cities that capture such a large proportion of a country's population as well as its economic activity.

- These primate cities are often, but not always, the capital cities of a country.
 - Example: Paris, which truly represents and serves as the focus of France.

Primate cities dominate the country in influence and are the national focal-point.

- Their sheer size and activity becomes a strong pull factor, bringing additional residents to the city and causing the primate city to become even larger and more disproportional to smaller cities in the country.*

Peru

Actual Population		Rank-Size Rule Expectations	
Lima	7,000,000	Lima	7,000,000
Arequiipa	700,100	Arequiipa	3,500,000
Trujillo	600,000	Trujillo	2,333,000
Chiclayo	470,000	Chiclayo	1,750,000
Iquitos	335,000	Iquitos	1,400,000
Piura	310,000	Piura	1,166,000
Huancayo	305,000	Huancayo	1,000,000
Chimbote	300,000	Chimbote	875,000

Peru does not follow the Rank-Size Rule, however Lima would be considered a Primate City

*However, not every country has a primate city

Sources:

<http://www.docstoc.com/docs/17298175/Rank-Size-Rule>

<http://geography.about.com/od/urbaneconomicgeography/a/primatecities.htm>

Central Place Theory (Walter Christaller)

Central place theory explains the spatial arrangement, size, and number of settlements. The theory was originally published in 1933 by a German geographer Walter Christaller who studied settlement patterns in southern Germany. In the flat landscape of southern Germany, Christaller noticed that towns of a certain size were roughly equidistant. By examining and defining the functions of the settlement structure and the size of the hinterland he found it possible to model the pattern of settlement locations using geometric shapes.

Central places compete against each other to serve as markets for goods and services

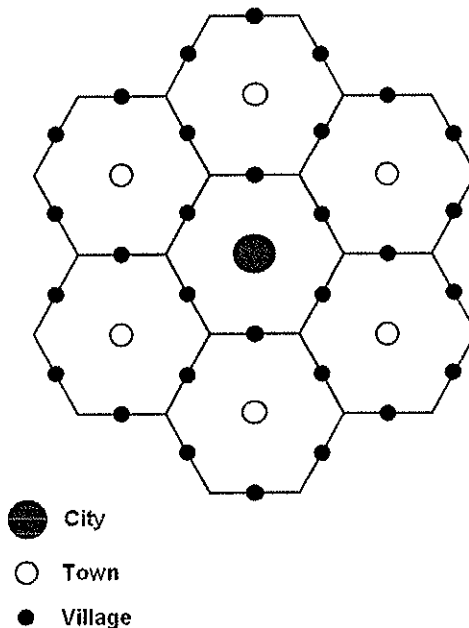
- This competition creates a regular pattern of settlements, according to central place theory

The area surrounding a service from which customers are attracted is the **market area** or **hinterland**

- Because most people prefer to get services from the nearest location, consumers near the center of the circle obtain services from local establishments
- The closer to the periphery of the circle, the greater is the percentage of consumers who will choose to obtain services from other nodes
- People on the circumference of the market-area circle are equally likely to use the service, or go elsewhere

To determine the extent of a market area, geographers need 2 pieces of information about a service:

- The **range** is the maximum distance people are willing to travel to use a service
 - How far are you willing to drive for a pizza? Probably not too far – short range.
 - To watch a ballgame? Probably far – long range
- **Threshold**, which is the minimum number of people needed to support the service
 - Every enterprise has a minimum number of customers required to generate enough sales to make a profit



THE QUESTION:

- Operators & Key Terms
- Practice Response Outline

AP[®] Human Geography Free-Response Question # 2 from 2015 National Exam

English is the most widely used language in the world, thus becoming the world’s lingua franca.

A. Define the term “lingua franca.”
 B. Identify and describe ONE historical factor that contributed to the worldwide use of English.
 C. Identify and explain TWO examples that show how globalization is contributing to English becoming the world’s lingua franca.

RUBRIC & PRACTICE SCORING:

My Guesses	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding: 5px;">A:</td> <td style="padding: 5px;">How many total points is this FRQ worth?</td> </tr> <tr> <td style="border-right: 1px dashed black; padding: 5px;">B:</td> <td style="padding: 5px;">How are those points distributed?</td> </tr> <tr> <td style="border-right: 1px dashed black; padding: 5px;">C:</td> <td style="padding: 5px;"></td> </tr> </table>	A:	How many total points is this FRQ worth?	B:	How are those points distributed?	C:	
A:	How many total points is this FRQ worth?						
B:	How are those points distributed?						
C:							
The Real Rubric from 2015	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-right: 1px dashed black; padding: 5px;">A:</td> <td style="padding: 5px;">How many total points is this FRQ worth?</td> </tr> <tr> <td style="border-right: 1px dashed black; padding: 5px;">B:</td> <td style="padding: 5px;">How are those points distributed?</td> </tr> <tr> <td style="border-right: 1px dashed black; padding: 5px;">C:</td> <td style="padding: 5px;"></td> </tr> </table>	A:	How many total points is this FRQ worth?	B:	How are those points distributed?	C:	
A:	How many total points is this FRQ worth?						
B:	How are those points distributed?						
C:							

FRQ Handout 2
My Practice Outline

Use the Official Scoring Rubric to score your own response:

Student Response Identifier	Part A Definition 0 or 1 point	Part B Identification 0 or 1 point	Part B Description 0 or 1 point	Part C Identification # 1 0 or 1 point	Part C Explanation # 1 0 or 1 point	Part C Identification # 2 0 or 1 point	Part C Explanation # 1 0 or 1 point	I scored this response as...	The official score was...
My Practice Outline									

Notes/Comments:

AP® HUMAN GEOGRAPHY
2015 SCORING GUIDELINES

Question 2

English is the most widely used language in the world, thus becoming the world's lingua franca.

- Define the term "lingua franca."
- Identify and describe ONE historical factor that contributed to the worldwide use of English.
- Identify and explain TWO examples that show how globalization is contributing to English becoming the world's lingua franca.

Part A: 1 point total

- Common definition.** A language that facilitates communication or trade between people who speak different native languages. (Clear inference of communication barriers being overcome.) OR
- Original definition.** A common language that consisted of several languages (Italian, French, Spanish, Greek, Arabic), which was formerly spoken in the ports of the Mediterranean. OR
- Systematic definition.** A system of communication using signage or social symbols that functions like a common language in making individuals comprehensible to one another.

Note: Do not accept definitions that are limited to "A language that facilitates trade." "A language spoken around the world or across a region," or "A common language." "Sign language" is not acceptable.

Part B: 2 points total

Historical factors

2 points (1 point for identification and description) + (1 point for processes or agents)

- British colonialism or imperialism:** British Empire extended to all continents and many former colonies still use English as an official language. Naval, military, and economic dominance spread language.
- Role of U. S. Military:** overseas base locations or theaters of operation results in English usage in local communities or businesses (Philippines, Central America, Caribbean, Pacific Islands, Europe, Korean Peninsula, Japan).
- Rise of American diplomatic and/or economic power:** founding of supranational organizations such as UN, GATT, WTO or emergence of U.S. as core region (multinational corporations).
- Migration of English-speakers:** movement of native English speakers to non-English parts of the world as colonists (Argentina, Israel). Returning migrants bring English back to their native countries.
- Early global popularity of English-language arts:** film, theatre, literature (Shakespeare, Mark Twain, Jane Austen).
- Religion:** missionaries and mission schools, scriptural translations into English and hurry from the Reformation onward (King James Bible, Book of Common Prayer), spatial diffusion of British Protestantism.
- English seen as a social status symbol among global elite (post 1800):** English boarding schools, university education (Oxford, Cambridge), private English tutors.

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FRQ Handout 3
Scoring Guidelines

AP® HUMAN GEOGRAPHY
2015 SCORING GUIDELINES

Question 2 (continued)

Part C: 4 points total

Globalization

4 points (1 point for identification and 1 point for explanation) + (1 point for identification and 1 point for explanation)

- Music, radio:** high consumption of English language music, wide transmission of radio media in English (BBC World Service, U.S. Armed Forces Radio, Voice of America), music videos, advertisements, and jingles.
- Film, television, sports:** wide distribution and popularity of American and British visual media: Hollywood films, Disney animations, American shows, BBC/ITV television, American TV commercials, CNN.
- Internet and English:** Internet development in the U.S. prompted widespread use of English in electronic communications (email, web, text, social media). Many users, regardless of spoken language, type online in English.
- Aviation and English:** use of English in all international aviation operations, for safety, navigation, mandated.
- Emigration from English-speaking countries:** contemporary return migration to non-English speaking countries.
- Industrial design and technology writing:** product directions and manuals for equipment written in English.
- Print Publishing:** popularity of English language newspapers, magazines, journals, books, and e-book sales.
- Educational opportunities:** schools in non-English speaking countries offer courses in English, exchange programs.
- Cool factor or status symbol:** marketing of products with English language logos, symbols, or text seen as a marketing advantage, or consumer preference.
- Business/trade/packaging:** language of business, finance, resource development, food, MNCs, or contracts.
- Supranational organizations & NGOs:** expansion of international institutions such as UN, WTO, Peace Corps, NGOs, military treaty organizations, reinforces English as a global lingua franca.
- Language of academia, science, or medicine:** conferences and journals use English as the operational language.
- Tourism and travel:** English is becoming the language of the international tourism industry (hotel employees, taxi drivers, tour guides, travel agents, menus, airline personnel, signage, medical tourism).

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AP[®] HUMAN GEOGRAPHY
2015 SCORING COMMENTARY

Question 2

Overview

Students were asked to (A) provide a definition of lingua franca, (B) identify and describe a historical factor that has contributed to the global use of English, and (C) identify and explain some examples of English as a global lingua franca. The purpose of this question was to ask for a straight-forward definition of an important concept in human geography that is taught in Part III of the course outline. Once defined, students were asked to think more holistically about the concept by drawing on other parts of the course outline. To answer this question, students should have drawn on Part I by referring to globalization (also in Part VI), on Part II by referring to historical migrations of English-speaking peoples), on other sections of Part III by referring to popular culture, and on Part IV by referring to supranational organizations, colonialism, and imperialism. One of the big ideas behind this question was the relationship between contemporary geographical patterns (in this case, linguistic patterns) and how they are related to events of the past.

Sample: 2A
Score: 7

This response earned full credit and demonstrates a comprehensive understanding of what a lingua franca is, described a historical factor that contributed to the worldwide use of English, and explained how globalization is contributing to English becoming the world's lingua franca. The response earned 1 definition point in part A for defining lingua franca as an understood and spoken language used as a means of communication between different countries and cultures (A1). The essay earned 1 point in part B for identifying British colonialism as a historic factor that contributed to the worldwide use of English (B1). The essay earned an additional point in part B for describing the spatial extent of the British Empire and that the British imposed their language on their colonies (B1). The essay earned 2 points in part C for identifying music and movies (C1, C2) along with American international companies (C10) as agents of globalization contributing to English becoming the world's lingua franca. The essay earned an additional 1 point by explaining the worldwide popularity of Hollywood movies and popular songs that are produced in English (C1, C2). The essay earned 1 point by explaining that many large American businesses have expanded into many other countries, and these international companies contributed to the growth of English as the world's lingua franca (C10).

Sample: 2B
Score: 5

The essay earned full credit in part A, full credit in part B, and partial credit in part C. The essay earned 1 point in part A for defining lingua franca as a common language used to help communication between parties with different languages (A1). The response earned 1 point in part B for identifying that the British Empire is a historical factor contributing to the spread of English (B1). The essay earned an additional point for describing that many countries were colonized by the British, and the language imposed on those countries is often retained today, long after they gained independence (B1). The essay earned 1 point in part C for identifying that English is the language of business (C10). The essay earned 1 additional point for the explanation of how English is used as the language of management in American companies throughout the world (C10).

Sample: 2C
Score: 3

The essay earned full credit in part A, full credit in part B, and no credit in part C. The essay earned 1 point in part A for defining lingua franca by stating that people speaking different languages are able to understand and communicate effectively using a lingua franca (A1). The essay earned 1 point in part B for

Question 2 (continued)

identifying the spread of the British Empire as a historical factor that contributed to the worldwide use of English (B1). The essay earned 1 additional point in part B for describing that the British spread the English language across their colonies (B1).

AP® Human Geography Review Jam Session Student Evaluation

Please help us continue this event with your candid and thoughtful feedback!

- A. What the name of your high school? _____ What is the name of your school district? _____
- B. Circle one: I am a FRESHMAN SOPHOMORE JUNIOR SENIOR
- C. The day/date (Sunday, April 17th), time (1:00 PM = 3:30 PM), and location (UNO) work well with my schedule.
STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)
Comments:
- D. The timing of this event compared to the date of the national exam AP was beneficial.
STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)
Comments:
- E. The MODELS session was helpful to me in preparing for the national AP exam.
STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)
Comments:
- F. The FRQ session was helpful to me in preparing for the national exam.
STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)
Comments:
- G. The VOCAB session was helpful to me in preparing for the national exam.
STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)
Comments:
- H. The time allotted for each of the three parts of the review session was sufficient.
STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)
Comments:
- I. Overall, I am better prepared for the national AP exam as result of this review session.
STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)
Comments:

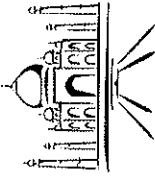




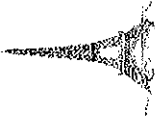
Thank you for attending the AP® Human Geography Study Session, sponsored by UNO's Dual Enrollment Program! Please return this to any staff member before you leave campus today!

TAXONOMY:
AP[®] Human Geography Models/Theories

Unit	Models/Theories
Geography: Its Nature & Perspectives	<input type="checkbox"/> Gravity Model <input type="checkbox"/> J-Curve <input type="checkbox"/> S-Curve <input type="checkbox"/> Tobler's First Law of Geography
Population & Migration	<input type="checkbox"/> Diffusion models: <ul style="list-style-type: none"> <input type="checkbox"/> Expansion—contagious <input type="checkbox"/> Expansion—hierarchical <input type="checkbox"/> Expansion—stimulus <input type="checkbox"/> Relocation <input type="checkbox"/> Demographic Transition Model <input type="checkbox"/> Epidemiological Transition Model <input type="checkbox"/> Esther Boserup's Theory/Cornucopian Theory <input type="checkbox"/> Lee's Migration Theory <input type="checkbox"/> Malthusian Theory <input type="checkbox"/> Population Pyramids/Age-Sex Diagram <input type="checkbox"/> Ravenstein's Laws of Migration <input type="checkbox"/> Zelinsky's Migration Transition
Cultural Patterns & Processes	<input type="checkbox"/> Meinig's Core-Domain-Sphere Model
Political Organization of Space	<input type="checkbox"/> Domino Theory <input type="checkbox"/> Huntington's Clash of Civilizations <input type="checkbox"/> Mackinder's Heartland Theory <input type="checkbox"/> Ratzel's Organic Theory <input type="checkbox"/> Spykman's Rimland Theory
Industrialization & Economic Development	<input type="checkbox"/> Clark's Sector Model <input type="checkbox"/> Hotelling's Model of Locational Interdependence/Spatial Competition <input type="checkbox"/> Rostow's Stages of Economic Development <input type="checkbox"/> Taylorism/Fordism <input type="checkbox"/> Wallerstein's World-Systems Theory – Core/Semi-Periphery/Periphery <input type="checkbox"/> Weber's Model - Least Cost Theory of Industrial Location
Agriculture, Food Production, & Rural Land Use	<input type="checkbox"/> Hardin's First Law of Ecology <input type="checkbox"/> Von Thünen Agricultural Model
Cities and Urban Land Use	<input type="checkbox"/> Adams/Borchert Urban Model <input type="checkbox"/> Bid-Rent Curve/Theory <input type="checkbox"/> Burgess Concentric Zone Model <input type="checkbox"/> Christaller's Central Place Theory <input type="checkbox"/> DeBlij's Sub-Saharan African Urban <input type="checkbox"/> Griffin-Ford Latin American City Model <input type="checkbox"/> Harris & Ullman Multiple Nuclei Urban Model <input type="checkbox"/> Harris Galactic/Peripheral Urban Model <input type="checkbox"/> Hoyt Sector Urban Model <input type="checkbox"/> Islamic/Middle Eastern City Model <input type="checkbox"/> McGee Southeast Asian City Model <input type="checkbox"/> Rank-Size-Rule & Primate Cities <input type="checkbox"/> Vance's Urban Realms Model

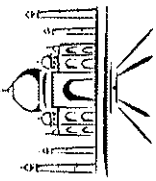




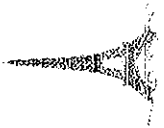
ROOM 115/116

STUDENTS WILL ROTATE AMONGST THREE STATIONS:

GROUPS →	"TAJ MAHAL" GROUP 	"GREAT WALL OF CHINA" GROUP 	"PYRAMIDS OF EGYPT" GROUP 	"EASTER ISLAND" GROUP 	"ST. BASIL'S CATHEDRAL" GROUP 	"EIFFEL TOWER" GROUP 
TIMES ↓	Welcome, introductions, orientation—ALL students start in 115/116					
1:00 to 1:10	3 minute rotation					
1:13 to 1:53	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ
1:56 to 2:36	3 minute rotation					
2:39 – 3:19	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES
3:22 – 3:30	3 minute rotation					
	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB
	Raffle, Evaluations, Popcorn, & Dismissal—ALL students dismiss from 115/116					

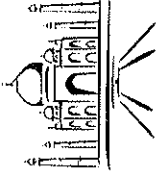




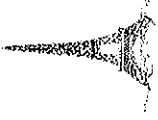
ROOM 110

STUDENTS WILL ROTATE AMONGST THREE STATIONS:

GROUPS →	<p>"TAJ MAHAL" GROUP</p> 	<p>"GREAT WALL OF CHINA" GROUP</p> 	<p>"PYRAMIDS OF EGYPT" GROUP</p> 	<p>"EASTER ISLAND" GROUP</p> 	<p>"ST. BASIL'S CATHEDRAL" GROUP</p> 	<p>"EIFFEL TOWER" GROUP</p> 
TIMES ↓	<p>Welcome, introductions, orientation—ALL students start in 115/116</p>					
1:00 to 1:10	3 minute rotation					
1:13 to 1:53	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ
1:56 to 2:36	3 minute rotation					
2:39 – 3:19	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES
3:22 – 3:30	3 minute rotation					
Raffle, Evaluations, Popcorn, & Dismissal—ALL students dismiss from 115/116						

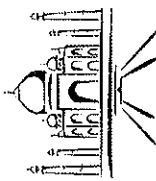
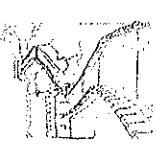



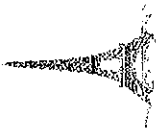
ROOM 111

STUDENTS WILL ROTATE AMONGST THREE STATIONS:

GROUPS →	"TAJ MAHAL" GROUP 	"GREAT WALL OF CHINA" GROUP 	"PYRAMIDS OF EGYPT" GROUP 	"EASTER ISLAND" GROUP 	"ST. BASIL'S CATHEDRAL" GROUP 	"EIFFEL TOWER" GROUP 
TIMES ↓	Welcome, introductions, orientation—ALL students start in 115/116					
1:00 to 1:10	3 minute rotation					
1:13 to 1:53	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ
1:56 to 2:36	3 minute rotation					
2:39 – 3:19	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES
3:22 – 3:30	3 minute rotation					
	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB
	Raffle, Evaluations, Popcorn, & Dismissal—ALL students dismiss from 115/116					

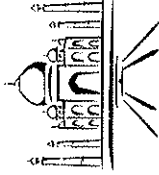

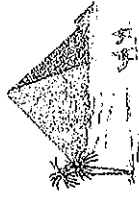


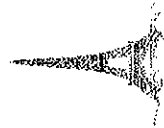
ROOM 164

STUDENTS WILL ROTATE AMONGST THREE STATIONS:

<p>GROUPS →</p>	<p>"TAJ MAHAL" GROUP</p> 	<p>"GREAT WALL OF CHINA" GROUP</p> 	<p>"PYRAMIDS OF EGYPT" GROUP</p> 	<p>"EASTER ISLAND" GROUP</p> 	<p>"ST. BASIL'S CATHEDRAL" GROUP</p> 	<p>"EIFFEL TOWER" GROUP</p> 
<p>TIMES ↓</p> <p>1:00 to 1:10</p>	<p>Welcome, introductions, orientation—ALL students start in 115/116</p>					
<p>3 minute rotation</p>						
<p>1:13 to 1:53</p>	<p>Room 110 VOCAB</p>	<p>Room 111 VOCAB</p>	<p>Room 164 MODELS & THEORIES</p>	<p>Room 165 MODELS & THEORIES</p>	<p>Room 169/170 FRQ</p>	<p>Room 169/170 FRQ</p>
<p>3 minute rotation</p>						
<p>1:56 to 2:36</p>	<p>Room 169/170 FRQ</p>	<p>Room 169/170 FRQ</p>	<p>Room 110 VOCAB</p>	<p>Room 111 VOCAB</p>	<p>Room 164 MODELS & THEORIES</p>	<p>Room 165 MODELS & THEORIES</p>
<p>3 minute rotation</p>						
<p>2:39 – 3:19</p>	<p>Room 164 MODELS & THEORIES</p>	<p>Room 165 MODELS & THEORIES</p>	<p>Room 169/170 FRQ</p>	<p>Room 169/170 FRQ</p>	<p>Room 110 VOCAB</p>	<p>Room 111 VOCAB</p>
<p>3 minute rotation</p>						
<p>3:22 – 3:30</p>	<p>Raffle, Evaluations, Popcorn, & Dismissal—ALL students dismiss from 115/116</p>					

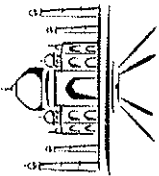




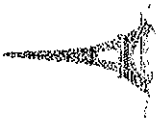
ROOM 165

STUDENTS WILL ROTATE AMONGST THREE STATIONS:

GROUPS →	"TAJ MAHAL" GROUP 	"GREAT WALL OF CHINA" GROUP 	"PYRAMIDS OF EGYPT" GROUP 	"EASTER ISLAND" GROUP 	"ST. BASIL'S CATHEDRAL" GROUP 	"EIFFEL TOWER" GROUP 
	TIMES ↓					
1:00 to 1:10	Welcome, introductions, orientation—ALL students start in 115/116					
3 minute rotation						
1:13 to 1:53	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ
3 minute rotation						
1:56 to 2:36	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES
3 minute rotation						
2:39 – 3:19	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB
3 minute rotation						
3:22 – 3:30	Raffle, Evaluations, Popcorn, & Dismissal—ALL students dismiss from 115/116					

ROOM 169/170

STUDENTS WILL ROTATE AMONGST THREE STATIONS:

GROUPS →	"TAJ MAHAL" GROUP 	"GREAT WALL OF CHINA" GROUP 	"PYRAMIDS OF EGYPT" GROUP 	"EASTER ISLAND" GROUP 	"ST. BASIL'S CATHEDRAL" GROUP 	"EIFFEL TOWER" GROUP 
TIMES ↓						
1:00 to 1:10	Welcome, introductions, orientation—ALL students start in 115/116					
3 minute rotation						
1:13 to 1:53	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ
3 minute rotation						
1:56 to 2:36	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES
3 minute rotation						
2:39 – 3:19	Room 164 MODELS & THEORIES	Room 165 MODELS & THEORIES	Room 169/170 FRQ	Room 169/170 FRQ	Room 110 VOCAB	Room 111 VOCAB
3 minute rotation						
3:22 – 3:30	Raffle, Evaluations, Popcorn, & Dismissal—ALL students dismiss from 115/116					