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!
STUDENTS WILL ROTATE AMONGST THREE STATIONS:

<table>
<thead>
<tr>
<th>TIME</th>
<th>GROUPS</th>
<th>“TAJ MAHAL” GROUP</th>
<th>“GREAT WALL OF CHINA” GROUP</th>
<th>“PYRAMIDS OF EGYPT” GROUP</th>
<th>“EASTER ISLAND” GROUP</th>
<th>“ST. BASIL’S CATHEDRAL” GROUP</th>
<th>“EIFFEL TOWER” GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 - 1:10</td>
<td>Welcome, introductions, orientation—ALL students start in 115/116</td>
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<tr>
<td>1:13 - 1:53</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
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</tr>
<tr>
<td>1:56 - 2:36</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
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<tr>
<td>2:39 - 3:19</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
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<tr>
<td>3:22 - 3:30</td>
<td>Raffle, Evaluations, Popcorn, &amp; Dismissal—ALL students dismiss from 115/116</td>
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</tbody>
</table>

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. Lula 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

An asterisk (*) indicates that the staff member was/is a Reader for the national exam!
REVIEW PACKET: TABLE OF CONTENTS

☐ General Study Guides & Resources
  o Study Guides—partial anthology of commercially available resources (p.4)
  o Some suggested websites (p. 5 )
  o Exam-Taking Tips (pp. 6 & 7 )
  o Sample Questions from the AP® Human Geography Course Description (pp. 8+)

☐ FRQ SESSION (room 169/170)
  o Bookmark for FRQs (p. 12)
    ➥ Other FRQ materials will be distributed in the session

☐ VOCABULARY SESSION (room 110 "or" room 111)
  o Massive AP®HG Vocabulary List [Special thanks to Mrs. McGuire & Mrs. McCaskill] (pp. 13-6)
  o AP®HG “Gotta Knows” (p. 17)
  o Key People and Concepts in Human Geography (p. 18 )
  o 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)
  o “Need to Know” & “Nice to Know”—A List of Models & Theories (p. 20)
  o “Need to Know” & “Nice to Know”—Blank Matrix for a Taxonomy of Models & Theories (p. 21)
  o Coloring Pages for Urban Models [Special thanks to Ms. Leigh Anne Optiz]
    o Instructions (p. 22)
    o North American (p. 23)
    o International (p. 24)
  o Crossword for Selected Models & Theories (p. 25 )
  o 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.

<table>
<thead>
<tr>
<th>Section I</th>
<th>Total Time: 1 hour</th>
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</thead>
<tbody>
<tr>
<td>Number of Questions: 75+</td>
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<tr>
<td>Percent of Total Score: 50%</td>
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<tr>
<td>Writing Instrument: Pencil required</td>
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</table>

<table>
<thead>
<tr>
<th>Section II</th>
<th>Total Time: 1 hour 15 minutes</th>
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</thead>
<tbody>
<tr>
<td>Number of Questions: 3 essays</td>
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</tr>
<tr>
<td>Percent of Total Score: 50%</td>
<td></td>
</tr>
<tr>
<td>Writing Instrument: Pen with black or dark blue ink</td>
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</tbody>
</table>

"The number of questions may vary slightly depending on the form of the exam."
Human Geography Study Guides/Resources
- These are NOT officially endorsed by the College Board®, but many 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)


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

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


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


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] $EXPENSIVE$

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

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

MULTIPLE CHOICE QUESTIONS
- Take the MCQ part twice
  - 1st 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

<table>
<thead>
<tr>
<th>OPERATIONS/VERBS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe</td>
<td>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)</td>
</tr>
<tr>
<td>Discuss</td>
<td>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</td>
</tr>
<tr>
<td>Analyze</td>
<td>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</td>
</tr>
<tr>
<td>Define</td>
<td>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</td>
</tr>
<tr>
<td>Example</td>
<td>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</td>
</tr>
<tr>
<td>Explain</td>
<td>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</td>
</tr>
<tr>
<td>Compare</td>
<td>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</td>
</tr>
<tr>
<td>Contrast</td>
<td>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)</td>
</tr>
<tr>
<td>Assess</td>
<td>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 state that positives and negatives balance out, or if the good outweighs the bad</td>
</tr>
<tr>
<td>To what extent (or degree)</td>
<td>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</td>
</tr>
<tr>
<td>The limitations of:</td>
<td>In addition to intervening factors, conflicts and controversies can emerge that deepen the expected result of a concept or process</td>
</tr>
</tbody>
</table>
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 Multiple-Choice Questions

Items

Sample AP Human Geography Exam

As Human Geographers

Course Descriptions Effective Fall 2015
27. Where the powering is by permanent connection of permanent connection:"
MASSIVE APHG VOCABULARY LIST

BE ABLE TO DEFINE EACH TERM AND PROVIDE EXAMPLES OF EACH

Geography: Its Nature and Perspectives Unit

Geography
Cartography
Eratosthenes
Map Scale—and types
Geographic scale
Map projections—and types
Meridian/longitude
Prime meridian
International Date Line
Time zones
Parallel/latitude
Equator
Remote sensing
Global positioning system
Geographic information system
Toponym
Site
Situation
Region—Definition and 3 types

Cultural landscape/Carl Sauer
Globalization
Space
Distribution
Density—definition and 3 types
Concentration
Pattern
Hearth
Diffusion—
  Expansion—
    Contagious
    Hierarchical
    Stimulus
  Relocation
Distance—
  Absolute
  Cognitive
Distance decay
Friction of distance

Space-Time Compression
Network
Resource
  Renewable
  Nonrenewable
Sustainability
Conservation
Preservation
Abiotic system of earth
  Atmosphere
  Hydrosphere
  Lithosphere
Biotic system of earth
  Biosphere
Climate
Ecology
Cultural ecology
Environmental determinism
Possibilism

Population and Migration Unit

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

page (13) UNO APHG2016
Cultural Patterns and Processes Unit

- Barrio
- Apartheid
- Ethnic cleansing
- Chain migration
- Ethnic enclave
- Ethnic neighborhood
- Ethnic homeland
- Ethnic island
- Cultural preadaptation
- Ethnic substrate
- Language
- Dialect
- Agricultural theory/Renfrew hypothesis
- Conquest theory/Kurgan theory
- Creole
- Pidgin
- Lingua franca
- Language family
- Language branch/subfamily
- Language group
- Standard language
- Official language
- Ideograms
- Isogloss
- Isolated language
- Language convergence
- Language divergence
- Language replacement
- Linguistic refuge area
- Monoglot
- Polyglot
- Monolingual states
- Multilingual states
- Reverse reconstruction
- Shatterbelt
- Religion
  - Branch
  - Denomination
  - Sect
- Ethnic religion
- Universalizing religion
- Animism
- Atheist
- Contact conversion
- Diaspora
- Ecotheology
- Fundamentalism
- Interfaith boundary
- Intrafaith boundary
- Monotheism
- Polytheism
- Orthodoxy
- Pilgrimage
- Proselytic religion
- Sacred spaces
- Secularism
- Syncretic religion
- Teleology
- Theocracy
- Missionary

Political Organization of Space Unit

- Geometric
- Relict
- Antecedent
- Subsequent
- Superimposed
- Boundary landscape
- Frontier
- Manifest destiny
- Phases of Boundary Creation
  - Definition
  - Delimitation
  - Demarcation
  - Administration
- Boundary Disputes
  - Positional/locational
  - Territorial
  - Resource/allocational
  - Operational/functional
- Unitary state
- Federal state
- Confederation
- Territorial morphology
  - Fragmented
  - Elongated
  - Compact
  - Prorupted
  - Perforated
- Landlocked state
- Microstate
- Core and periphery
- Capital
- Forward-thrust capital
- Nationalism
- National iconography
- Centripetal forces
- Centrifugal forces
- Balkanization
- Devolution
### Industrialization and Economic Development Unit

<table>
<thead>
<tr>
<th>Economic systems</th>
<th>Technopole or growth pole</th>
<th>Gender Inequality Index</th>
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<tr>
<td>Traditional</td>
<td>Backwash effect</td>
<td>Gross Domestic Product</td>
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<td>Market</td>
<td>Locational interdependence</td>
<td>Gross National Income</td>
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<td>Command</td>
<td>Deindustrialization</td>
<td>Purchasing Power Parity</td>
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<td>Mixed</td>
<td>Post-industrial economy</td>
<td>Human Development Index</td>
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<td>Industrial revolution</td>
<td>Multiplier effect</td>
<td>Physical Quality of Life Index</td>
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<td>Cottage industry</td>
<td>Right-to-work state</td>
<td>Gini Coefficient</td>
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<td>Guild industry</td>
<td>International division of labor</td>
<td>Sectors of the Economy</td>
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<td>Fordist production</td>
<td>Structural adjustment</td>
<td>Primary</td>
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<td>Post Fordist production</td>
<td>Privatization</td>
<td>Secondary</td>
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<tr>
<td>Basic and non-basic industries</td>
<td>Nato</td>
<td>Tertiary</td>
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<tr>
<td>Commodity chain</td>
<td>Just in time delivery</td>
<td>Quaternary</td>
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<tr>
<td>Weber's Least Cost Theory of</td>
<td>Vertical integration</td>
<td>Quinary</td>
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<td>Industrial Location</td>
<td>Productivity</td>
<td>Informal</td>
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<tr>
<td>Site factors</td>
<td>Value added</td>
<td>International trade</td>
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<tr>
<td>Spatial factors</td>
<td>Comparative advantage</td>
<td>NAFTA</td>
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<tr>
<td>Spatially fixed costs</td>
<td>Services (business, consumer, public)</td>
<td>Self-Sufficiency Approach</td>
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<td>Spatially variable costs</td>
<td>Topocide</td>
<td>Transnational corporation</td>
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<td>Bulk/Weight-reducing industry</td>
<td>Sustainable development</td>
<td>Conglomerate corporation</td>
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<td>Bulk/Weight-gaining industry</td>
<td>Ecotourism</td>
<td>Special economic zone</td>
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<td>Perishability</td>
<td>Greenhouse effect</td>
<td>Export processing zone</td>
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<td>Break of bulk point</td>
<td>Global warming theory</td>
<td>Development gap</td>
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<td>Containerization</td>
<td>Chlorofluorocarbon</td>
<td>Rostow's Modernization Model of Development</td>
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<tr>
<td>Material/resource orientation</td>
<td>Acid rain</td>
<td>New industrial counties</td>
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<td>Market orientation</td>
<td>Renewable resources</td>
<td>Asian Tigers</td>
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<td>Economies of scale</td>
<td>Nonrenewable resources</td>
<td>Pacific Rim Economic Region</td>
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<td>Footloose industries</td>
<td>Point-source pollution</td>
<td>BRICS countries</td>
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<td>Substitution principle</td>
<td>Nonpoint-source pollution</td>
<td>MINT countries</td>
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<td>Labor-intensive industry</td>
<td>Development</td>
<td>Maquiladoras</td>
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<td>Agglomeration</td>
<td>Fair trade</td>
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<td>Deglomeration</td>
<td>Foreign direct investment</td>
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<tr>
<td>High-tech corridor</td>
<td>Foreign aid</td>
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Additional terms:
- Global commons
- Theocracy
- Terrorism
- Sharia law
- Political ecology
- Electoral geography
- Suffrage
- Enfranchisement
- Annexation
- Reapportionment
- Redistricting
- Gerrymandering
- Annexation
Cities and Urban Land Use Unit

City
Urban area
Urbanization
Urban morphology
Urban hearth area
Borchert’s Model of Urban Evolution
Urban hierarchy
Colonial city
Urban banana
Shack city
Industrial city
Rank-size rule
Primate city
Christaller’s Central Place Theory
Central Place
Hinterland
Threshold
Range
World/global cities
Megacity
Metropolitan statistical area
Megalopolis/conurbation
Micropolitan statistical area
Functional zonation

CBD
Central city
Suburb
Concentric Zone Model
Succession migration
Zone in transition
Peak land value intersection
Bid-rent curve
Hoyt’s Sector Model
Harris-Ullman’s Multiple Nuclei Model
Galactic/Peripheral city model
Edge city
Urban sprawl
Exurb
Counterurbanization
Griffin-Ford Latin American city model
Disamenity sector
Periferico
McGhee SE Asian city model
Shantytown/squatter settlement/etc
Zoning ordinances
Restrictive covenants
Filtering
Ghettoization

Uneven development
Food desert
Cumulative causation
Blockbusting
Racial steering
Segregation
Redlining
Gentrification
Suburbanization
Greenbelt
Planned communities
Gated communities
Economic base
Annexation
Public housing
Gateway city
New urbanism
Urban renewal
Census tracts
Density gradient
Smart growth
Rush hour
Public transit

Agriculture, Food Production and Rural Land Use Unit

Agriculture
Crop
Vegetative planting
Seed agriculture
Subsistence agriculture
Commercial agriculture
Prime agricultural land
Agribusiness
Shifting cultivation
Slash and burn
Swidden
Pastoralism
Nomadism
Transhumance
Pasture
Intensive subsistence agriculture
Double cropping
Crop rotation
Cereal grain
Milkshef
Grain
Winter wheat
Spring wheat
Ranching
Range wars

Horticulture
Truck farming/market gardening
McCormick reaper
Combine machine
Debt for Nature swap
Aquaculture
Collective farm
Pesticide
Herbicide
Soil erosion
Growing season
Extractive industry
Feedlot
Staple grains
Tragedy of the Commons
Plantation
Ester Boserup
Cash crop/export crop
Von Thunen’s Model
1st Agricultural Revolution (Neolithic)
2nd Agricultural Revolution
3rd Agricultural Revolution (Green)
Plant and animal domestication
Luxury Crops
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 & deagglomeration
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. centripetal & centrifugal forces
17. commercial vs. subsistence agriculture*
18. commutation & 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, RNINRI; 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. glocalization
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/tribal) *
76. replacement rate *
77. Ravenstein's migration "laws"
78. Renfrew
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 Thünen 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
<table>
<thead>
<tr>
<th>Name</th>
<th>Contribution</th>
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</thead>
<tbody>
<tr>
<td>Adams, J.S.</td>
<td>Urban areas change over time based on changes in technology</td>
</tr>
<tr>
<td>Borchert, John</td>
<td>five distinct periods in the history of American urbanization</td>
</tr>
<tr>
<td>Boserup, Esther</td>
<td>cornucopian in contrast to Malthusian ideas</td>
</tr>
<tr>
<td>Burgess, Ernest</td>
<td>Concentric Zone Urban Model</td>
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<td>Christaller, Walter</td>
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<td>dıBlij, Harm</td>
<td>Sub-Saharan African City Model</td>
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<tr>
<td>Ford, Larry</td>
<td>Latin American City Model (with Griffin)</td>
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<tr>
<td>Griffin, Ernest</td>
<td>Latin American City Model (with Ford)</td>
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<tr>
<td>Harris, Chauncy</td>
<td>Multiple Nuclei Model (with Ullman)</td>
</tr>
<tr>
<td>Hartshorne, Richard</td>
<td>Boundary system classifications: antecedent, subsequent, superimposed, relic</td>
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<tr>
<td>Hoyt, Horner</td>
<td>Hoyt Sector Model</td>
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<tr>
<td>Köppen, Wadimire</td>
<td>Köppen climate classification system</td>
</tr>
<tr>
<td>Malthus, Thomas</td>
<td>Crisis point when geometric growth rate of population intersects with arithmetic growth rate of food production</td>
</tr>
<tr>
<td>Mackinder, Sir Halford</td>
<td>Heartland Theory — political power based in the heart of Eurasia could gain enough power to dominate world</td>
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<tr>
<td>McGee, Terry</td>
<td>Southeast Asian City Model</td>
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<tr>
<td>Meinig, D.W.</td>
<td>Core-Domain-Sphere Model</td>
</tr>
<tr>
<td>Raztel, Friedrich</td>
<td>Organic Theory — states behave like an organism in terms of acquiring resources and territory</td>
</tr>
<tr>
<td>Ravenstine, Ernest</td>
<td>Laws of migration</td>
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<tr>
<td>Rostow, Walt</td>
<td>5 stages of economic growth for a given country/society</td>
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<tr>
<td>Sauer, Carl</td>
<td>cultural landscapes are made up of &quot;the forms superimposed on the physical landscape&quot;</td>
</tr>
<tr>
<td>Spykman, Nicholas</td>
<td>Rimland Theory — Eurasian rim is not the heartland, holds the key to global power</td>
</tr>
<tr>
<td>Ullman, Edward</td>
<td>Multiple nuclei Model (with Harris)</td>
</tr>
<tr>
<td>Vance, James</td>
<td>Urban Realms Model</td>
</tr>
<tr>
<td>Von Thünen, Johann</td>
<td>Model: location of agricultural activities based on economic concepts (rent) and type of agricultural activity</td>
</tr>
<tr>
<td>Wallerstein, Immanuel</td>
<td>World Systems Theory posits that there is global system of economic interdependence; core, semi-periphery &amp; periphery countries; some countries benefit while others are exploited</td>
</tr>
<tr>
<td>Weber, Alfred</td>
<td>Least Cost Theory of Industrial Location: raw materials and production point and market positioning to maximize profit</td>
</tr>
<tr>
<td>Whittlesey, Derwent</td>
<td>Sequent occupancy: cultural landscape is shaped by the succession of residents, each of whom leaves a lasting imprint</td>
</tr>
<tr>
<td>Zelinsky, Wilber</td>
<td>Developed a migration transition model which complements the DTM</td>
</tr>
<tr>
<td>Prince William, The Duke of Cambridge</td>
<td>studied geography at the University of St. Andrews in Scotland; having switched from studying the history of art</td>
</tr>
</tbody>
</table>
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
  - Azimuthal
    - When directional relationships from a given central point (called an azimuth) are important, Azimuthal projections are typically used. They provide a different result from projecting a spherical surface onto a plane. Examples include the Azimuthal Equidistant and the 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. Dava, Department of Geography, University of Texas at Austin, 1995
http://www.colorado.edu/geography/gdepts/geo3210/funmaps/3d.html & Aaron McLaughlin, Benson Magnet School, Omaha Public Schools
“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
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<th>Unit</th>
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<td>Population &amp; Migration</td>
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<tr>
<td>Cultural Patterns &amp; Processes</td>
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<td>Political Organization of Space</td>
<td></td>
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<tr>
<td>Industrialization &amp; Economic Development</td>
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<tr>
<td>Agriculture, Food Production, &amp; Rural Land Use</td>
<td></td>
</tr>
<tr>
<td>Cities and Urban Land Use</td>
<td></td>
</tr>
</tbody>
</table>
**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!*

<table>
<thead>
<tr>
<th>Zone</th>
<th>Description</th>
<th>Color</th>
</tr>
</thead>
</table>
| 1    | Central Business District (CBD)  
      Walking/Horsecar Era  
      Colonial CBD, Traditional CBD, Market Zone  
      Commercial Zones (not a formal CBD):  
      Port Zone, Government Zone  
      Alien Commercial, Western Commercial | 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 |
1. Explains the size of cities in a country
2. When an idea, principle or innovation underlies a phenomenon spreads to a small portion of a population, even though the phenomenon itself may not be
3. The spread that occurs when the spreading phenomenon 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 a particular characteristic is rapidly transmitted throughout the population
8. The area of industrial location in which an industry is located where the distribution costs of raw materials and final products is a minimum
9. The place where concentration of culture traits that characterizes a region is greatest
10. Economic system
11. The process of spreading something from one place to another, in an ever-expanding "snowballing" process
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
14. Transitions from high birth and death rates to low birth and death rates as a country develops from a pre-industrial to an industrialized
15. A graphical illustration that shows the distribution of various age groups in a population
16. A theory based on the perishability of products and the cost of transportation

Across
1. Explains the size of cities in a country
2. When an idea, principle or innovation underlies a phenomenon spreads to a small portion of a population, even though the phenomenon itself may not be
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16. A theory based on the perishability of products and the cost of transportation
### Demographic Transition Model: Version A

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Birth rate</th>
<th>Death rate</th>
<th>Natural increase</th>
<th>Reasons for changes in birth rate</th>
<th>Reasons for changes in death rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>High stationary</td>
<td>High</td>
<td>High</td>
<td>Stable or slow increase</td>
<td>Many children needed for farming. Many children die at an early age. Religious/social encouragement. No family planning.</td>
<td>Disease, famine. Poor medical knowledge so many children die.</td>
</tr>
<tr>
<td>2</td>
<td>Early expanding</td>
<td>High</td>
<td>Falls rapidly</td>
<td>Very rapid increase</td>
<td>Improved medical care and diet. Fewer children needed.</td>
<td>Improvements in medical care, water supply and sanitation. Fewer children die.</td>
</tr>
<tr>
<td>3</td>
<td>Late expanding</td>
<td>Falling</td>
<td>Falls more slowly</td>
<td>Increase slows down</td>
<td>Family planning. Good health. Improving status of women. Later marriages.</td>
<td>Good health care. Reliable food supply.</td>
</tr>
<tr>
<td>4</td>
<td>Low stationary</td>
<td>Low</td>
<td>Low</td>
<td>Stable or slow increase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Declining?</td>
<td>Low</td>
<td>Low</td>
<td>Slow decrease</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Demographic Transition Model: Version B

![Graph showing birth and death rates over time with stages of population growth]

- **Stage 1**: High fluctuating population
  - UK pre 1760
  - Amazon Basin tribes

- **Stage 2**: Early expanding population
  - UK 1760 to 1870
  - Ethiopia

- **Stage 3**: Late expanding population
  - UK 1870 to 1950
  - India

- **Stage 4**: Low fluctuating population
  - Post 1950
  - UK

- **Stage 5**: Decline?
  - Soon?
  - Russia

**Population Pyramid shape**

- Stage 1: Wide bottom, narrow top
- Stage 2: Increasing width
- Stage 3: Plateau
- Stage 4: Narrow top, wide base
- Stage 5: Possible decrease in base width
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 lays 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.
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 spreading from one place to another in an ever-expanding process. Expansion diffusion is used to explain a variety of phenomena in to the process of diffusion is spreading "snowballing" phenomena in to the process of diffusion is spreading "snowballing" phenomena in

b. Contagious Diffusion

b. As its name suggests, contagious diffusion occurs when a particular this form of example of spread from the spread of the the widespread

contagious characteristic is rapidly transmitted throughout the population. In contagious diffusion, most adjacent individuals will be affected; an contagious diffusion is the early spread of Christianity, which contagious diffusion is the early spread of Christianity, which

Middle East to Europe. Another example can be seen in the Middle East to Europe. Another example can be seen in the

bubonic plague that ravaged London during the 16th century, or bubonic plague that ravaged London during the 16th century, or

influenza pandemic of 1918. influenza pandemic of 1918.
Hierarchical Diffusion

c. Hierarchical diffusion occurs when an idea is spread or organization that holds authority over others. Diffusion is typically seen in cases when an idea is by political leader or person of influence and typically begins in an urban setting before eventually populated areas. An example of hierarchical 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.

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 migration, movement of persons from rural to urban areas. This is NOT a diffusion.

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.

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, 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 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

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

- **Walking/Horsed 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.

1  Central business district
2  Zone of transition
3  Zone of independent workers' homes
4  Zone of better residences
5  Commuter's zone

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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

![Griffin-Ford Model Diagram]

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

**Legend:**
- **Commercial/Industrial Areas**
  - CBD = Central business district, the original colonial city
  - SPINE = High-quality expansion of the CBD, catering to the wealthy
- **Elite Residential Sector**
- **Zone of Maturity**
  - Gradually improved, upgraded, self-built housing
- **Zone of Accretion**
  - Transitional between zones 3 and 5, modest housing, improvements in progress
- **Zone of Peripheral Squatter settlements Slum housing**
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. (DeBlie)
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 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.

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

**BP** is distance from city a to breaking point

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.
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

<table>
<thead>
<tr>
<th>Germany</th>
<th>Actual Population</th>
<th>Rank-Size Rule Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Berlin</td>
<td>3,390,000</td>
<td>1.Berlin</td>
</tr>
<tr>
<td>2.Hamburg</td>
<td>1,700,000</td>
<td>2.Hamburg</td>
</tr>
<tr>
<td>3.Munchen</td>
<td>1,300,000</td>
<td>3.Munchen</td>
</tr>
<tr>
<td>4.Kolin</td>
<td>965,000</td>
<td>4.Kolin</td>
</tr>
<tr>
<td>5.Frankfurt</td>
<td>640,000</td>
<td>5.Frankfurt</td>
</tr>
<tr>
<td>6.Essen</td>
<td>590,000</td>
<td>6.Essen</td>
</tr>
<tr>
<td>7.Dortmund</td>
<td>589,000</td>
<td>7.Dortmund</td>
</tr>
<tr>
<td>8.Stuttgart</td>
<td>587,000</td>
<td>8.Stuttgart</td>
</tr>
</tbody>
</table>

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.*

<table>
<thead>
<tr>
<th>Peru</th>
<th>Actual Population</th>
<th>Rank-Size Rule Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lima</td>
<td>7,000,000</td>
<td>Lima</td>
</tr>
<tr>
<td>Arequipa</td>
<td>700,100</td>
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<td>Trujillo</td>
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<td>Chiclayo</td>
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</tr>
<tr>
<td>Chimbote</td>
<td>300,000</td>
<td>Chimbote</td>
</tr>
</tbody>
</table>

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

*However, not every country has a primate city
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 whole 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

![Diagram of central place theory with hexagonal pattern of settlements, including city, town, and village nodes.]
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

- How many total points is this FRQ worth?
- How are those points distributed?

The Real Rubric from 2015

- How many total points is this FRQ worth?
- How are those points distributed?
Use the Official Scoring Rubric to score your own response:

<table>
<thead>
<tr>
<th>Student Response Identifier</th>
<th>Part A Definition 0 or 1 point</th>
<th>Part B Identification 0 or 1 point</th>
<th>Part B Description 0 or 1 point</th>
<th>Part C Identification #1 0 or 1 point</th>
<th>Part C Explanation #1 0 or 1 point</th>
<th>Part C Identification #2 0 or 1 point</th>
<th>Part C Explanation #2 0 or 1 point</th>
<th>I scored this response as...</th>
<th>The official score was...</th>
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<td>My Practice Outline</td>
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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.

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.

Part A: 1 point total

1. **Common definition:** A language that facilitates communication or trade between people who speak different native languages. (Clear inference of communication barriers being overcome) OR
2. **Original definition:** A common language that consisted of several languages (Latin, French, Spanish, Greek, Arabic), which was formerly spoken in the ports of the Mediterranean OR
3. **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 sources)

1. **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.
2. **Role of U.S. Military:** oversees 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).
3. **Rise of American diplomatic and/or economic power:** founding of supranational organizations such as UN, OAS, WTO or emergence of U.S. as core region (multinational corporations).
4. **Migration of English-speakers:** movement of native English speakers to non-English parts of the world as colonists (Australia, Brazil). Returning migrants bring English back to their native countries.
5. **Early global popularity of English-language arts:** film, theatre, literature (Shakespeare, Mark Twain, Jane Austen).
6. **Religion:** missioner and mission schools, scriptural translations into English and liturgy from the Reformation onward (King James Bible, Book of Common Prayer), spatial diffusion of British Protestantism.
7. **English seen as a social status symbol among global elite (post 1800):** English boarding schools, university education (Oxford, Cambridge), private English tutors.

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)

2. **Film, television, sports:** wide distribution and popularity of American and British visual media: Hollywood films, Disney animations, American shows, BBC/TV television, American TV commercials, CNN.
3. **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.
4. **Aviation and English:** use of English in all international aviation operations, for safety, navigation, mandates.
5. **Emigration from English-speaking countries:** contemporary return migrants to non-English speaking countries.
6. **Industrial design and technology writing:** product directions and manuals for equipment written in English.
7. **Print Publishing:** popularity of English language newspapers, magazines, journals, books, and e-book sales.
8. **Educational opportunities:** schools in non-English speaking countries offer courses in English, exchange programs.
9. **Cool factor or status symbol:** showcasing of products with English language logos, symbols, or text seen as a marketing advantage, or consumer preference.
10. **Business/trade/packaging:** language of business, finance, resource development, food, MNCs, or contracts.
11. **Supranational organizations & NGOs:** expansion of international institutions such as UN, WTO, Peace Corps, NGOs, military treaty organizations, reinforces English as a global language.
12. **Language of academia, science, or medicine:** conferences and journals use English as the operational language.
13. **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).
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 straightforward definition of an important concept in human geography that is taught in Part II 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 V), on Part B 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 (B11). 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 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 (B11). The essay earned 1 point in part C for identifying that English is the language of business (C2, C5). 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 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 (B11).
A) "Lingua Franca" refers to a universally understood and spoken language or a medium of communication between different cultures and/or languages.

b) A large portion of the world was at one point controlled by the British, whose language happened to be English. It was seen as the "sun never sets on the British empire," because of the vast amount of land it covered on multiple continents. Overall, the world's use of English language increased greatly. At the same time, English has had a significant influence on language evolution. The English language has thus spread wide.

c) In the menu, first and foremost, Spanish is an essential way of becoming the world’s "lingua franca." The prefix "lucia" is used and is the origin of several "rep" countries such as Mexico and Honduras, and many of the world’s largest international companies being founded in America.

People from all over the world enjoy movies produced in Hollywood, and many films including cars and the Disney theme movie have spread throughout the world while they are sometimes translated into other languages. People still want to see them in their original form and thus preserving the spirit of

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<table>
<thead>
<tr>
<th>Student Response Identifier</th>
<th>Part A: Definition 0 or 1 point</th>
<th>Part B: Identification 0 or 1 point</th>
<th>Part B: Description 0 or 1 point</th>
<th>Part C: Identification #1 0 or 1 point</th>
<th>Part C: Explanation #1 0 or 1 point</th>
<th>Part C: Identification #2 0 or 1 point</th>
<th>Part C: Explanation #1 0 or 1 point</th>
<th>I scored this response as...</th>
<th>The official score was...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response 2 A</td>
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</tbody>
</table>
A) A language franca is a language that is accepted as the one that will be used in conducting business or other affairs. It is chosen because it is common among the people who have previously had many different languages. In India, for example, the language franca is Hindi, which helps because of the presence of so many different languages and dialects.

B) One historical factor that contributed to the worldwide use of English is the imperial power of the British Empire. The British Empire colonized many countries and exerted its power over them. The British Empire was also around for a long time because it maintained a hold on its colonial possessions. English became the more frequently used language through a variety of means, including: the use of English as a language of education and travel, and the use of English in scientific and technical fields. This led to the widespread use of English in the United States.

C) One example of globalization that shows how English is becoming the world's lingua franca is the expansion of English-speaking industries around the world. The business of a globalized company could be conducted in the language of the country in which a franchise is located, but the overall management would be done in the language of the home company. A good example of this is in the fast-food industry. McDonald's McDonaldization has led to more and more franchises popping up around the world. The franchise could hire native speakers to perform the branches in the native language; however, the overall business would be conducted in English, the lingua franca.

Another example of globalization is evident in the increasing connectivity of the world with many world cities speak English naturally. For example, New York City and London; furthermore, they had vast economic power over other nations because of their imports, exports, and currency. As a result, English has become more connected to other world cities. Thus, cities must adapt and use English to conduct the necessary business in the lingua franca.
A. A lingua franca is a language used by non-native speakers for communication, business, and trade. The non-native speakers speak different languages, but are able to understand each other and communicate effectively by using a common language.

B. One historical factor that contributed to the worldwide use of English is the spread of the British Empire. As the British Empire grew, people from Britain traveled around the world, creating colonies almost everywhere. The widespread colonization brought many British traits to the newly formed colonies. The British used their own language, English, and tried to force it to be used and to spread it throughout all colonies. The indigenous people of the colonies realized that using English would help them communicate with the British. Being able to communicate would allow for various things, such as trade and cooperation. The indigenous continued to use the language to talk to British people and began using their native languages less. Also, the British could have completely forced the natives out of the area, leaving only English speakers. As time went on and Britain colonized most of the world, the English language became a 'language of power.' It was very widespread, so someone from one country or colony would likely be able to communicate with someone from another. This was very advantageous, as it allowed for trade, business, and negotiation with most people.

C. As technology, technology, and innovation spread around the world, communication became easier than ever. Now, since convergence is ongoing, making communication and interaction between people around the world quick and accessible. Most of the world already know the English language due to the spread of the British colonies. This gives people a common language that they can use, eliminating the need to learn each other's language. That, coupled with the technology we have today, makes English a language often used around the world.
AP® Human Geography Review Jam Session Student Evaluation
Please help us continue this event with your candid and thoughtful feedback!

A. What is 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.
   Comments:  
   STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)

D. The timing of this event compared to the date of the national exam AP was beneficial.
   Comments:  
   STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)

E. The MODELS session was helpful to me in preparing for the national AP exam.
   Comments:  
   STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)

F. The FRQ session was helpful to me in preparing for the national exam.
   Comments:  
   STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)

G. The VOCAB session was helpful to me in preparing for the national exam.
   Comments:  
   STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)

H. The time allotted for each of the three parts of the review session was sufficient.
   Comments:  
   STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)

I. Overall, I am better prepared for the national AP exam as result of this review session.
   Comments:  
   STRONGLY AGREE(5) AGREE (4) NEUTRAL(3) DISAGREE(2) STRONGLY DISAGREE (1)

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!
<table>
<thead>
<tr>
<th>Unit</th>
<th>Models/Theories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population &amp; Migration</td>
<td>Diffusion models:&lt;br&gt; Expansion—contagious&lt;br&gt; Expansion—hierarchical&lt;br&gt; Expansion—stimulus&lt;br&gt; Relocation&lt;br&gt; Demographic Transition Model&lt;br&gt; Epidemiological Transition Model&lt;br&gt; Esther Boserup’s Theory/Cornucopian Theory&lt;br&gt; Lee’s Migration Theory&lt;br&gt; Malthusian Theory&lt;br&gt; Population Pyramids/Age-Sex Diagram&lt;br&gt; Ravenstein’s Laws of Migration&lt;br&gt; Zelinsky’s Migration Transition</td>
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<tr>
<td>Cultural Patterns &amp; Processes</td>
<td>Meinig’s Core-Domain-Sphere Model</td>
</tr>
<tr>
<td>Political Organization of Space</td>
<td>Domino Theory&lt;br&gt; Huntington’s Clash of Civilizations&lt;br&gt; Mackinder’s Heartland Theory&lt;br&gt; Ratzel’s Organic Theory&lt;br&gt; Spykman’s Rimland Theory</td>
</tr>
<tr>
<td>Industrialization &amp; Economic Development</td>
<td>Clark’s Sector Model&lt;br&gt; Hotelling’s Model of Locational Interdependence/Spatial Competition&lt;br&gt; Rostow’s Stages of Economic Development&lt;br&gt; Taylorism/Fordism&lt;br&gt; Wallerstein’s World-Systems Theory – Core/Semi-Periphery/Periphery&lt;br&gt; Weber’s Model - Least Cost Theory of Industrial Location</td>
</tr>
<tr>
<td>Agriculture, Food Production, &amp; Rural Land Use</td>
<td>Hardin’s First Law of Ecology&lt;br&gt; Von Thünen Agricultural Model</td>
</tr>
<tr>
<td>Cities and Urban Land Use</td>
<td>Adams/Borchert Urban Model&lt;br&gt; Bid-Rent Curve/Theory&lt;br&gt; Burgess Concentric Zone Model&lt;br&gt; Christaller’s Central Place Theory&lt;br&gt; DeBlij’s Sub-Saharan African Urban&lt;br&gt; Griffin-Ford Latin American City Model&lt;br&gt; Harris &amp; Ullman Multiple Nuclei Urban Mode&lt;br&gt; Harris Galactic/Peripheral Urban Model&lt;br&gt; Hoyt Sector Urban Model&lt;br&gt; Islamic/Middle Eastern City Model&lt;br&gt; McGee Southeast Asian City Model&lt;br&gt; Rank-Size-Rule &amp; Primate Cities&lt;br&gt; Vance’s Urban Realms Model</td>
</tr>
</tbody>
</table>
# ROOM 115/116

**STUDENTS WILL ROTATE AMONGST THREE STATIONS:**

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>TIMES</th>
<th>1:00 to 1:10</th>
<th>1:13 to 1:53</th>
<th>1:56 to 2:36</th>
<th>2:39 - 3:19</th>
<th>3:22 - 3:30</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;TAJ MAHAL&quot; GROUP</td>
<td>1:00 to 1:10</td>
<td>Welcome, introductions, orientation—ALL students start in 115/116</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
</tr>
<tr>
<td>&quot;GREAT WALL OF CHINA&quot; GROUP</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
</tr>
<tr>
<td>&quot;PYRAMIDS OF EGYPT&quot; GROUP</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
</tr>
<tr>
<td>&quot;EASTER ISLAND&quot; GROUP</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
</tr>
<tr>
<td>&quot;ST. BASIL'S CATHEDRAL&quot; GROUP</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 165 MODELS &amp; THEORIES</td>
</tr>
<tr>
<td>&quot;EIFFEL TOWER&quot; GROUP</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 165 MODELS &amp; THEORIES</td>
</tr>
</tbody>
</table>

3 minute rotation

3 minute rotation

3 minute rotation

3 minute rotation

3 minute rotation

Raffle, Evaluations, Popcorn, & Dismissal—ALL students dismiss from 115/116
# ROOM 110

STUDENTS WILL ROTATE AMONGST THREE STATIONS:

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>“TAJ MAHAL” GROUP</th>
<th>“GREAT WALL OF CHINA” GROUP</th>
<th>“PYRAMIDS OF EGYPT” GROUP</th>
<th>“EASTER ISLAND” GROUP</th>
<th>“ST. BASIL’S CATHEDRAL” GROUP</th>
<th>“EIFFEL TOWER” GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIMES</td>
<td>1:00 to 1:10</td>
<td>1:13 to 1:53</td>
<td>1:56 to 2:36</td>
<td>2:39 – 3:19</td>
<td>3:22 – 3:30</td>
<td></td>
</tr>
</tbody>
</table>

**Welcome, introductions, orientation—ALL students start in 115/116**

<table>
<thead>
<tr>
<th></th>
<th>Room 110 VOCAB</th>
<th>Room 111 VOCAB</th>
<th>Room 164 MODELS &amp; THEORIES</th>
<th>Room 165 MODELS &amp; THEORIES</th>
<th>Room 169/170 FRQ</th>
<th>Room 169/170 FRQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 minute rotation</td>
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<tr>
<td>1:13 to 1:53</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
</tr>
</tbody>
</table>

**3 minute rotation**

<table>
<thead>
<tr>
<th></th>
<th>Room 169/170 FRQ</th>
<th>Room 169/170 FRQ</th>
<th>Room 110 VOCAB</th>
<th>Room 111 VOCAB</th>
<th>Room 164 MODELS &amp; THEORIES</th>
<th>Room 165 MODELS &amp; THEORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:56 to 2:36</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
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<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
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</table>

**3 minute rotation**

<table>
<thead>
<tr>
<th></th>
<th>Room 164 MODELS &amp; THEORIES</th>
<th>Room 165 MODELS &amp; THEORIES</th>
<th>Room 169/170 FRQ</th>
<th>Room 169/170 FRQ</th>
<th>Room 110 VOCAB</th>
<th>Room 111 VOCAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:39 – 3:19</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
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</table>

**3 minute rotation**

| | | | | | | |
|---|---|---|---|---|---|
| 3:22 – 3:30 | Raffle, Evaluations, Popcorn, & Dismissal—ALL students dismiss from 115/116 | | | | | |
## ROOM 111

STUDENTS WILL ROTATE AMONGST THREE STATIONS:

<table>
<thead>
<tr>
<th>GROUPS</th>
<th>&quot;TAJ MAHAL&quot; GROUP</th>
<th>&quot;GREAT WALL OF CHINA&quot; GROUP</th>
<th>&quot;PYRAMIDS OF EGYPT&quot; GROUP</th>
<th>&quot;EASTER ISLAND&quot; GROUP</th>
<th>&quot;ST. BASIL’S CATHEDRAL&quot; GROUP</th>
<th>&quot;EIFFEL TOWER&quot; GROUP</th>
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<tbody>
<tr>
<td>TIMES</td>
<td><img src="tajmahal.png" alt="Image" /></td>
<td><img src="greatwall.png" alt="Image" /></td>
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### Schedule

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<thead>
<tr>
<th>Time</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Group 5</th>
<th>Group 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 to 1:10</td>
<td></td>
<td></td>
<td></td>
<td>Welcome, introductions, orientation—ALL students start in 115/116</td>
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<td></td>
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<tr>
<td>3 minute rotation</td>
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<tr>
<td>1:13 to 1:53</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
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<td>Room 169/170 FRQ</td>
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<td>Room 111 VOCAB</td>
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<td>3 minute rotation</td>
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<tr>
<td>3:22 – 3:30</td>
<td>Raffle, Evaluations, Popcorn, &amp; Dismissal—ALL students dismiss from 115/116</td>
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</table>
## ROOM 164

**STUDENTS WILL ROTATE AMONGST THREE STATIONS:**

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<tr>
<th>GROUPS</th>
<th>TIMES</th>
<th>&quot;TAJ MAHAL&quot; GROUP</th>
<th>&quot;GREAT WALL OF CHINA&quot; GROUP</th>
<th>&quot;PYRAMIDS OF EGYPT&quot; GROUP</th>
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<th>&quot;ST. BASIL’S CATHEDRAL&quot; GROUP</th>
<th>&quot;EIFFEL TOWER&quot; GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 to 1:10</td>
<td>Welcome, introductions, orientation—ALL students start in 115/116</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1:13 to 1:53</td>
<td>3 minute rotation</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
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</tr>
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<td>1:56 to 2:36</td>
<td>3 minute rotation</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
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<tr>
<td>2:39 – 3:19</td>
<td>3 minute rotation</td>
<td>Room 164 MODELS &amp; THEORIES</td>
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<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
</tr>
<tr>
<td>3:22 – 3:30</td>
<td>3 minute rotation</td>
<td>Raffle, Evaluations, Popcorn, &amp; Dismissal—ALL students dismiss from 115/116</td>
<td></td>
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</tr>
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</table>
# Room 165

Students will rotate amongst three stations:

<table>
<thead>
<tr>
<th>Times</th>
<th>Group</th>
<th>Group</th>
<th>Group</th>
<th>Group</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 to 1:10</td>
<td>Welcome, introductions, orientation—All students start in 115/116</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1:13 to 1:53</td>
<td>Room 110 VOCAB</td>
<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
</tr>
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<td>1:56 to 2:36</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
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<td>Room 111 VOCAB</td>
<td>Room 164 MODELS &amp; THEORIES</td>
</tr>
<tr>
<td>2:39 – 3:19</td>
<td>Room 164 MODELS &amp; THEORIES</td>
<td>Room 165 MODELS &amp; THEORIES</td>
<td>Room 169/170 FRQ</td>
<td>Room 169/170 FRQ</td>
<td>Room 110 VOCAB</td>
</tr>
<tr>
<td>3:22 – 3:30</td>
<td>Raffle, Evaluations, Popcorn, &amp; Dismissal—All students dismiss from 115/116</td>
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</tr>
</tbody>
</table>
### ROOM 169/170

**STUDENTS WILL ROTATE AMONGST THREE STATIONS:**

<table>
<thead>
<tr>
<th>TIMES</th>
<th>GROUPS</th>
<th>“TAJ MAHAL” GROUP</th>
<th>“GREAT WALL OF CHINA” GROUP</th>
<th>“PYRAMIDS OF EGYPT” GROUP</th>
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<th>“ST. BASIL’S CATHEDRAL” GROUP</th>
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<tbody>
<tr>
<td>1:00 to 1:10</td>
<td>Welcome, introductions, orientation—ALL students start in 115/116</td>
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<tr>
<td>1:13 to 1:53</td>
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<td>Room 111 Vocab</td>
<td>Room 164 Models &amp; Theories</td>
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<td>Room 169/170 Frq</td>
<td>Room 169/170 Frq</td>
<td></td>
</tr>
<tr>
<td>1:56 to 2:36</td>
<td>Room 169/170 Frq</td>
<td>Room 169/170 Frq</td>
<td>Room 110 Vocab</td>
<td>Room 111 Vocab</td>
<td>Room 164 Models &amp; Theories</td>
<td>Room 165 Models &amp; Theories</td>
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</tr>
<tr>
<td>2:39 – 3:19</td>
<td>Room 164 Models &amp; Theories</td>
<td>Room 165 Models &amp; Theories</td>
<td>Room 169/170 Frq</td>
<td>Room 169/170 Frq</td>
<td>Room 110 Vocab</td>
<td>Room 111 Vocab</td>
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<tr>
<td>3:22 – 3:30</td>
<td>Raffle, Evaluations, Popcorn, &amp; Dismissal—ALL students dismiss from 115/116</td>
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