

AP Human Geography Curriculum Articulation 2015 and the National Atlas of Korea

<i>Topic I: Geography: It's nature and perspective</i>			
Enduring Understandings:	Learning Objectives:	Essential Knowledge:	Resources from the National Atlas of Korea Page numbers in parentheses ()
A. Geography, as a field of inquiry, looks at the world from a spatial perspective.	Explain the importance of geography as a field of study.	Geographic information provides context for understanding spatial relationships and human-environment interaction.	
B. Geography offers a set of concepts, skills, and tools that facilitate critical thinking and problem-solving.	Explain major geographical concepts underlying the geographic perspective.	Geographical concepts include location, place, scale, space, pattern, nature and society, networks, flows, regionalization, and globalization.	
	Use landscape analysis to examine the human organization of space.	Landscape analysis: (e.g., field observations, photographic interpretations) providing context for understanding the location of people, places, regions, and events; human-environment relationships; and interconnections between and among places and regions.	
C. Geographical skills provide a foundation for analyzing world patterns and processes.	Use spatial thinking to analyze the human organization of space.	People apply spatial concepts to interpret and understand population and migration; cultural patterns and processes; political organization of space; agriculture, food production, and land use; industrialization and economic development; and cities and urban land use.	National Election by Overseas Residents (55)
	Use and interpret maps.	Maps are used to represent and identify spatial patterns and processes at different scales.	Election Expenses of Candidates by Metropolitan Area Autonomous Bodies (65-3); Happiness Index [Life Satisfaction Level] (105-1); Voter Turnout in the 18th Presidential Election (106-1); Voter Turnout in the 19th General Election (106-2); Voter Turnout in the 6th Local Election(106-3); University Entrance Quota by Si·Do (107-

			1); Number of Students of Primary, Middle and High Schools by Si-Do (107-2); Rate of Practice of Physical Activity (108-2); The Number of Fire Protection Facilities (108-4); The Number of Public Security Facilities (108-5); Work and Leisure Time Use [by Region] (109-1); Travel Commitment (109-2); Percentage of Employees Working Very Long Hours (109-3); Regional Distribution of Radon (110-4,5,6); Geographic Centers of Population in Years (112); Single-person Household Ratio (115-3); Change in Single-person Household Ratio (115-4); Korean Outward Foreign Direct Investment (140~141); Inward Foreign Direct Investment in Korea (142~143)
		Types of maps include reference maps (e.g., physical and political maps) and thematic maps (e.g., choropleth, dot, graduated symbol, isoline, cartogram).	Physical/political map of Korean Peninsula (4~5); Gross Domestic Product by Countries Cartogram (9-2); Population Distribution (110); Map of Korea (161~165)
		All map projections (e.g., Mercator, polar) inevitably distort spatial relationships (e.g., shape, area, distance, direction).	Distance to the Capital Cities (8-1)
	Apply mathematical formulas and graphs to interpret geographic concepts.	Mathematical formulas and graphs are used to analyze rates of natural increase in population, population doubling time, rank-size rule for cities, and distance-decay functions.	Migration [1970-2000] (116-1,2,3,4)
	Use and interpret geographic models.	Geographers use models as generalizations to think systematically about topics such as land use (e.g., von Thünen model, Latin America city model), industrial location theory (e.g., Weber model), and distribution of settlements (e.g., Christaller's central place theory).	
	Use concepts such as space, place, and region to examine geographic issues.	Geographical issues including problems related to human-environment interactions (e.g., sustainable agriculture) conflict and cooperation among countries (e.g., European Union); and planning and public policy decision making (e.g., pronatalist policies).	Spatial Planning (76)

	Interpret patterns and processes at different scales.	Patterns and processes at different scales reveal variations in and different interpretations of data (e.g., age-sex pyramids, population density).	Change in Population Structure (114-7)
	Define <i>region</i> as a concept, identify world regions, and understand regionalization process.	Regions are defined on the basis of one or more underlying characteristics (e.g., corn belt) or on patterns of activity (e.g., hinterlands of ports).	Contemporary Classification of Regions (37-1; 37-2)
		Types of regions include formal, functional, and perceptual.	
		World's regions are defined for this course by the maps in the course curriculum section of the <i>AP Human Geography Course Description</i> .	
		World regions may overlap (e.g., Southeast Asia and Asia) and off and have transitional boundaries (e.g., North Africa and Sub-Saharan Africa).	
	Explain and evaluate the regionalization process.	Regional thinking is applied at local, national, and global scales.	Per Capita GRDP (86-1)
		<i>Regionalism</i> refers to a group's perceived identification with a particular region at any scale (e.g., Quebec).	
	Analyze changing interconnections among places.	Interconnection among places include exchanges of natural resources, agricultural commodities, finished products, services, people, information, money, and pollutants.	Asian Highway (12-1); Trans-Eurasian Railway (12-2); Airlines Network (13-1); International Air Transportation by Country (13-2); Marine Network (13-3); Liner Shipping Connectivity Index (13-4); Korean Departure and Foreigner Entry (123-1); Foreigners Entry (123-2); Personnel and Cultural Exchange (130-131); Korean Overseas Resource Development (144~145); Trends in Korean Extraction of Crude Petroleum and Natural Gas ORD (145-1); Trends in Korean Mining of Metal Ores ORD (145-2); Trends in Korean Mining of Coal and Lignite ORD (145-3); Trends in Korean Overseas Resource Development (145-4); Trends in Korean Self-sufficiency Rate of Major Mineral Resources (145-5); Research and Expedition (Arctic and Antarctic) (146~147)
D. Geospatial technologies increase the capacity for	Use and interpret geospatial data.	Geospatial technologies include geographic information systems (GIS), satellite navigation systems (e.g., global positioning system), remote sensing, and online mapping and visualization.	Satellite Image (2~3)

gathering and analyzing geographic information with applications to everyday life.		Geospatial data (e.g., census data, satellite imagery) is used at all scales for personal (e.g., navigation), business (e.g., marketing), and governmental (e.g., environmental planning) purposes.	Water and Sewage Supply Percentage (110-2); Environmental Noise[dB] (110-3);
E. Field experiences continue to be important means of gathering geographic information and data.	Use quantitative and qualitative geographic data.	Data may be gathered in the field by organizations (e.g., census data) or by individuals (e.g., interviews, surveys, photography, informal observations).	Self-reported Health (108-6)
		Quantitative and qualitative geographic data are used in economic, environmental, political, and social decision making.	Consultation on Rule-making (106-6); Quality of Support Network (106-7); Voter Turnout (106-7); Students' Skills (107-5); Assault Rate (108-8); Work and Leisure Time Use (by Year, Sex and Day) (109-4); Employees Working Very Long Hours (109-5); Life Satisfaction (109-6); Time Devoted to Leisure and Personal Care (109-7)

Topic II: Population and Migration

Enduring Understandings:	Learning Objectives:	Essential Knowledge:	Resources from the National Atlas of Korea Page numbers in parentheses ()
A. Knowledge of the geographic patterns and characteristics of human populations facilitates understanding of cultural, political, economic, and urban systems.	Analyze the distribution of human populations at different scales.	Factors that explain patterns of population distribution vary according to the scale of analysis (i.e., local to global).	Population Distribution [1980-2010] (113-1,2,3,4); Single-person Household Ratio (115-3); Change in Single-person Household Ratio (115-4)
		Physical factors (e.g., climate, land forms, water bodies) and human factors (e.g., cultural, economic, historical, political) influence the distribution of population.	Population Density of North Korea (48)
	Use population density to explain the relationship between people and environment.	The three methods for calculating population are density arithmetic, physiological, and agricultural.	
	Explain the implications of population distributions and densities.	Population distribution and density influence political, economic, and social processes (e.g., redistricting, provision of services such as medical care).	
		Population distribution and density impact the environment and natural resources (e.g., carrying capacity).	
	Population distribution and density affect the need for	Housing Type and the Change of	

		infrastructure (e.g., housing) and urban services (e.g., sanitation).	Apartment Share (75-1); The Development of Residential Infrastructure (75-2); Regional Development Pattern in Korea: Population Aspect (87-1)
	Analyze population composition.	Age, sex, and ethnicity are elements of population composition that may be mapped and graphed at various scales.	Sex Ratio (114-1); Youth Dependency Ratio (114-2); Elderly Dependency Ratio (114-3); Aged-child Ratio (114-4, 115); Elderly Population Rate (114-6, 115); Total Dependency Ratio (115-1); Dependency Rate of Population (115-2); Distribution of Foreign Residences (153-1); Foreign Residences by Si-Do (153-2); Foreign Residences by Major Nationalities (153-3)
		Population pyramids are used to project population growth and decline and to predict markets for goods and services.	Change in Population Structure (114-7, 115)
B. Populations grow and decline over time and space.	Explain contemporary and historical trends in population growth and decline.	Demographic factors that determine population growth and decline are fertility, mortality, and migration.	Annual Average Population Change and Backward Region (82-3); Aging Index and Backward Region (82-4); Total Fertility Rate (114-5); Mortality (115-5)
		Rates of natural increase and population – doubling times are used to explain population growth and decline.	
		Social, cultural, political, and economic factors influence fertility, mortality, and migration rates.	North Korea Migration (49-2)
	Interpret and apply theories of population growth and decline.	The demographic transition model may be used to explain population change over time and space.	
		Malthusian theory is used to analyze population change and its consequences.	
		The epidemiologic transition explains causes of changing death rates.	
	Evaluate various national and international population policies.	Types of population policies include those that promote or restrict population growth (e.g., pronatalist, antinatalist).	
	Analyze reasons for changes in fertility rates in different parts of the world.	Changing social values and access to education, employment, health care, and contraception have reduced fertility rate in most parts of the world.	
		Changing social, economic, and political roles for women have influenced the patterns of fertility, mortality, and migration.	
	Explain the	Population aging is influenced by birth and death rates and	Life Expectancy (108-1); Life Expectancy

	causes and implications of an aging population.	life expectancy. An aging population has social (e.g., retirement), economic (e.g., dependency ratio), and political (e.g., voting patterns) implications.	[by country] (108-7) Turnout of the 19th Election by Age (54-1); The Change of Employment Rate by Age (103-7); The Change of Unemployment Rate by Age (103-8); Welfare Budget Spending of GDP by Sector (105-4); Number of People Returning to Farming (116-7)
C. Causes and consequences of migration are influenced by cultural, demographic, economic, environmental, and political factors.	Explain how push and pull factors contribute to migration.	Push and pull factors can be cultural (e.g., religious freedom), demographic (e.g., unbalanced sex ratios, overpopulation), economic (e.g., jobs), environmental (e.g., natural disasters), or political (e.g., persecution).	Korean Emigrants by Goals (120-2)
		Push factors are often negative (e.g., poor economic conditions, welfare), while pull factors are often perceived as positive (e.g., a better quality of life, economic opportunities).	
	Apply the concepts of forced and voluntary migration to historical and contemporary examples.	Forced migrations include those involving refugees, internally displaced persons, and asylum-seekers.	
		Voluntary migrations may be transnational, internal, chain, step, and rural to urban.	Inflows/Outflows in Pyeongyang (9-3; 9-4); Migration [1970-2000] (116-1,2,3,4); Net Migration (116-5); Overseas Koreans and Diplomatic Missions Overseas (120~121); Korean Emigrants by Destinations (120-1)
		Patterns of voluntary and forced migration may be affected by distance and physical features.	Move in and Move out [by city] (117-1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17)
	Analyze major historical migrations.	Major historical migrations include forced migrations of Africans to the Americas, immigration waves to the U.S., and emigration from Europe and Asia to colonies abroad.	
Analyze the cultural, economic, environmental, and political consequences of migration.	Governments institute policies to encourage or restrict migration.		
	Migration has consequences (e.g., remittances; spread of languages, religions, innovations, diseases) for areas that generate or receive migrants.	Multi-cultural Family Support Centers (155-1); Distribution of Marriage with Foreign Male Spouses and Nationalities (156-1); Distribution of Marriage with Foreign Female Spouses and Nationalities (156-2); Trends in Marriage and Divorce with Foreigner (156-3);	

Topic III: Cultural Patterns and Processes

Enduring Understandings:	Learning Objectives:	Essential Knowledge:	Resources from the National Atlas of Korea Page numbers in parentheses ()
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A. Concepts of culture frame the shared behaviors of a society	Explain the concept of culture and identify cultural traits.	Culture is comprised of the shared practices, technologies, attitudes, and behaviors transmitted by a society. Cultural traits are individual elements of culture and include such things as food preferences, architecture, and land-use.	
	Explain how geographers assess spatial and place dimensions of cultural groups in the past and present.	Geographers use maps and the spatial perspective to analyze and assess language, religion, ethnicity, and gender.	Region Classification by Dialects (37-3); Turnout of the 19th Election Member of the National Assembly by Gender and Region (54-1); Distribution Children of Multi-cultural Family (157-1); Trends in Children of Multi-cultural Family by Nationality (157-2); Regional Distribution Children of Multi-cultural Family (157-3); Trends in Children of Multi-cultural Family by Age (157-4)
	Explain how globalization is influencing cultural interactions and change.	Communication technologies (e.g., the Internet) are reshaping and accelerating interactions among people and places and changing cultural practices (e.g., use of English, loss of indigenous languages).	
B. Culture varies by place and region.	Explain cultural patterns and landscapes as they vary by place and region.	Regional patterns of language, religion, and ethnicity contribute to a sense of place, enhance place making, and shape the global cultural landscape.	Ratio of Each Dialect by Region (37-4); Nationalities on Marriage Immigrants (154~155); Distribution of Marriage Immigrants, Naturalized Korean Citizens and Others [2006] (154) Multi-cultural Family Support Centers (155-1); Distribution of Marriage Immigrants, Naturalized Korean Citizens and Others [2013] (155-2); Trends in Marriage Immigrants, Naturalized Korean Citizens and Others (155-3); Regional Distribution of Marriage Immigrants, Naturalized Korean Citizens and Others (155-4)
		Language patterns and distributions can be represented on maps, charts, and language trees.	
		Religious patterns and distributions can be represented on maps and charts.	
		Ethnicity and gender reflect cultural attitudes that shape the use of space (e.g., women in the workforce, ethnic neighborhoods).	

		Language, religion, ethnicity, and gender are essential to understanding landscapes symbolic of cultural identity (e.g., signs, architecture, sacred sites).	
Explain the diffusion of culture and cultural traits through time and space.		Types of diffusion include expansion (contagious, hierarchical, stimulus) and relocation.	
		Language families, languages, dialects, world religions, ethnic cultures, and gender roles diffuse from cultural hearths, resulting in interactions between local and global forces that lead to new forms of cultural expression (e.g., lingua franca).	
		Colonialism, imperialism, and trade helped to shape patterns and practices of culture (e.g., language, religion).	
		Acculturation, assimilation, and multiculturalism are shaped by the diffusion of culture.	Personnel and Cultural Exchange [Korea Foundation] (131~132); International Exchange Programs Budget by Korea Foundation (131-1); Intellectual Exchange (131-2); Cultural and Art Exchange (131-3)
Compare and contrast ethnic and universalizing religions and their geographic patterns.		Ethnic religions (e.g., Hinduism, Judaism) are generally found near the hearth or spread through relocation diffusion.	
		Universalizing religions (e.g., Christianity, Islam, Buddhism) are spread through expansion and relocation diffusion.	
Explain how culture is expressed in landscapes and how land and resource use represents cultural identity.		Cultural landscapes are amalgamations of physical features, agricultural and industrial practices, religious and linguistic characteristics, and other expressions of culture (e.g., architecture).	The World Heritage in Gyeonggi-do (148-1); Korean Heritage Items and Registration (148-2); The Sites of the World Heritage (149); The Sites of Intangible Cultural Heritage of Humanity and Memory of the World Heritage in Korea (150~151)
Compare and contrast popular and folk culture and the geographic patterns associated with each.		Folk cultures origins are usually anonymous and rooted in tradition are often found in rural or isolated indigenous communities.	
		Popular culture origins are often urban, changeable, and influenced by media.	Korean Wave in the World (158~159); Characteristics of the Korean Wave by Period (158-1); Export of Korean Wave (158-2)

Topic IV: Political Organization of Space

Enduring Understandings:	Learning Objectives:	Essential Knowledge:	Resources from the National Atlas of Korea Page numbers in parentheses ()
A. The contemporary political map has been shaped by events of the past.	Explain the structure of the contemporary political map.	Independent states are the primary building blocks of the world political map.	
		Types of political entities include nations, states, nation-states, stateless nations, multinational states, multistate nations, and autonomous regions.	
	Explain the evolution of the contemporary political map.	The concept of the modern nation-state began in Europe.	
		Colonialism and imperialism lead to the spread of nationalism and influenced contemporary political boundaries.	
	Evaluate the geopolitical forces that influence the contemporary political map	Independence movements and democratization have shaped the political map since the end of World War II.	
		The fall of Communism ended the Cold War, lead to the creation of newly independent states, and changed the world balance of power.	Diplomacy (118~119); North Korean Diplomatic Relations and Missions Overseas (121)
B. Spatial political patterns reflect ideas of territoriality and power at a variety of scales.	Explain the concepts of political power and territoriality.	Political power is expressed geographically as control over people, land, and resources (e.g., heartland, rimland, and organic theories).	Trends in Korean Extraction of Crude Petroleum and Natural Gas ORD (145-1); Trends in Korean Mining of Metal Ores ORD (145-2); Trends in Korean Mining of Coal and Lignite ORD (145-3); Trends in Korean Overseas Resource Development (145-4); Trends in Korean Self-sufficiency Rate of Major Mineral Resources (145-5)
		Territoriality is the connection of people, their culture, and their economic systems to land.	Four Edges of Korea (6); Dokdo (14~19)
	Evaluate the nature and function of international and internal boundaries.	Boundaries are defined, delimited, demarcated, and administered.	Korean War (23)
		International boundaries establish the limits of sovereignty and can be the source of disputes.	Korean War (23-1)
		Boundaries can influence identity and promote or prevent international or internal interactions and exchanges.	Demilitarized Zone and Civilian Control Zone (23-2); History of Inter-Korean Trade and Economic Cooperation (51); Exchanges of Separated Families by Year (51-3); Long Term Staying Foreigners and No-visa Agreement Nations (122~123); Korean Departure and Foreigner Entry (123-1)
		The Law of the Sea has enabled states to extend their	Four Edges of Korea (6); Dokdo (14~19)

		boundaries offshore, which sometimes result in conflicts.	
		Voting districts, redistricting, and gerrymandering influence the results of elections at various scales.	Turnout of the 19th Election by Age (54-1); Turnout of the 19th Election Member of the National Assembly by Gender and Region (54-2)
	Analyze the spatial relationships between political systems and patterns of culture and economy.	Political boundaries do not always coincide with patterns of language, religion, ethnicity, nationality, and economy.	
	Compare and contrast forms of governance.	Forms of governance include unitary states (centralized government) and federal states.	National Assembly (52)
		Powers of the subdivisions of states vary according to the form of governance (e.g., the United States and Switzerland as federal states, France as a unitary state).	Metropolitan Administrative Area of Korea (7); Administrative Region (38)
		State morphology (e.g., compact, elongated, perforated, fragmented, prorupted states) has economic, political, and social implications.	
	Describe patterns of local and metropolitan governance.	Local and metropolitan forms of governance (e.g., municipalities, school districts, regional planning commissions) are subnational political units that have varying degrees of local control.	Special Administrative Region: Sejong (44); Special Administrative Region: Jeju (45); Election Results of Metropolitan Area Autonomous Bodies (65-1); Election Results of Primary Autonomous Bodies (65-2)
C. The forces of globalization challenge contemporary political-territorial arrangements.	Explain how the political, economic, cultural, and technological elements of globalization challenge state sovereignty.	Some forces that may lead to supranationalism include economies of scale, trade agreements, military alliances, and transnational environmental challenges.	Treaties, Major Treaties (118~119); Number of the Signed Treaties (119); Free Trade Agreement (124~125); Stage of Economic Integration [FTA] (125-1)
		Supranationalism is expressed in the creation of multinational organizations (e.g., UN, NATO, EU, ASEAN, NAFTA).	Korea's Participation in Regional Collaboration System (124~125); UN and UN-affiliated Organization Participation (126-1); Inter-governmental Organization Participation (126-3); Headquarters and Branch Offices of International Organization in Korea (127); United Nations Assessments and Korean Personnels in Major International Organization (128~129); Korea's UN Assessments (128-1);

			Korean Forces for UN PKO (128-2); Major International Organizations with Korea Personnel (129-1); UN PKO Forces by Origin of Country (129-2); Korean UN PKO Forces (129-3)
		Some forces that may lead to the devolution of states include physical geography, ethnic separatism, terrorism, economic and social problems, and irredentism.	
		Devolution is expressed in the fragmentation of states into autonomous regions (e.g., Nunavut, Native American reservations), subnational political-territorial units (e.g., Spain, Belgium, Canada), or Balkanization (e.g., former Yugoslavia, the Caucasus).	Local Autonomy and Decentralization (64); Financial Independence (66-1); Local Tax Payment (66-2); Changes of Financial Self-reliance and Financial Independence in Local Governments (66-3); Changes of Financial Self-reliance (66-4)
		Advances in communication technology have facilitated devolution, supranationalism, and democratization.	
	Apply the concepts of centrifugal and centripetal forces at the national scale.	Centrifugal forces can originate in political dimensions (e.g., majority/minority relationships, armed conflicts), economic dimensions (e.g., uneven development), or cultural dimensions (e.g., stateless nations, ethnic movements).	Changing Regional Development Policies (89)
		Centripetal forces can originate in political dimensions (e.g., national identity, economic dimensions (e.g., equitable infrastructure development), or cultural dimensions (e.g., linguistic, religious, and ethnic similarities).	Spatial Planning (76); Wide-area Urban Planning Rights and Capital City Plan (83-1); Outline of Regional Development Policy during the Park Geun-hye Government (90)

Topic V: Agriculture, Food Production, and Rural Land Use

Enduring Understandings:	Learning Objectives:	Essential Knowledge:	Resources from the National Atlas of Korea Page numbers in parentheses ()
A. The development of Agriculture led to widespread alteration of the natural environment.	Identify major centers of domestication of plants and animals and patterns of diffusion in the first (Neolithic) agricultural revolution.	Early hearths of domestication of plants and animals include Southwest Asia (e.g., the Fertile Crescent), Southeast Asia, and the Americas.	
		Patterns of diffusion (e.g., Columbian Exchange) resulted in the globalization of various plants and animals.	
	Explain the connection between	Agricultural regions are influenced by the natural environment (e.g., climate, soils, landforms). Populations alter landscape (e.g., terraces, irrigation,	Territory Expansion and Land Reclamation

	physical geography and agricultural practices.	deforestation, draining wetlands) to increase food production.	(11-1)
	Explain the advances and impacts of the second agricultural revolution.	New technology and increased food production led to better diet, longer life, and more people available to work in factories.	
	Analyze the consequences of the Green Revolution on food supply and the environment.	The Green Revolution began with development of high-yield seeds (e.g., rice, wheat, maize), resulting in the increased use of chemical and mechanized farming.	
		Positive consequences of the Green Revolution include increased food production and a relative reduction in hunger at the global scale.	
		Negative consequences of the Green Revolution include environmental damage resulting from irrigation and chemical use (e.g., pesticides, herbicides, fertilizers) and the cost of technology and seeds.	
B. Major agricultural regions reflect physical geography and economic forces.	Identify agricultural production regions associated with major bioclimatic zones.	Plant and animal production is dependent on climate conditions, including spatial variations in temperature and rainfall.	
		Some agricultural regions are associated with particular bioclimatic zones (e.g., Mediterranean, shifting agriculture, pastoral nomadism).	
	Analyze the economic forces that influence agricultural practices.	Agricultural production regions are defined by the extent to which they reflect subsistence or commercial practices, or intensive or extensive use of land.	Agricultural Production (101-1);
		Intensive farming practices including market gardening, plantation agriculture, mixed crop/livestock systems, etc.	
		Extensive farming practices include shifting cultivation, nomadic herding, ranching, etc.	
	Explain the spatial organization of large-scale commercial agriculture and agribusiness.	Large-scale commercial agriculture operations are replacing small family farms.	
		The transformation of agriculture into large-scale agribusiness has resulted in complex commodity chains linking production and consumption of agricultural products.	
Technological improvements have changed the economies of scale in the agriculture sector.		Change of Agricultural Industrial Complex Distribution (93-2)	

	Explain the interdependence among regions of food production and consumption.	Food is part of a global supply chain; products from less developed low-latitude regions (e.g., coffee, bananas) are often consumed globally. Patterns of global food distribution are affected by political systems, infrastructure, and patterns of world trade.	
C. Settlement patterns and rural land-use are reflected in the cultural landscape.	Identify rural settlement patterns.	Rural settlement patterns are classified as clustered, dispersed, or linear.	
	Compare and contrast the land use zones of von Thünen's model.	Von Thünen's model helps explain rural land use by emphasizing the importance of transportation costs associated with distance from the market.	
	Analyze the application of von Thünen's land use model to agricultural production in the real world.	Von Thünen's model helps to explain contemporary distribution of agricultural regions (e.g., dairy, horticulture, wheat).	
		Regions of specialty farming (e.g., South Florida, California's Central Valley) do not always conform to von Thünen's concentric rings.	
Evaluate the environmental consequences of agricultural practices.	Environmental systems are affected by land use/land cover change (e.g., irrigation, desertification, deforestation, wetland destruction, conservation efforts).		
D. Changes in food production and consumption present challenges and opportunities.	Explain issues related to the changing nature of contemporary agriculture.	Agricultural innovations (e.g., biotechnology, genetically modified organisms, organic farming, aquaculture) have resulted in ongoing debates over environmental, cultural, and health impacts.	
		Environmental issues related to agriculture include sustainability, soil degradation, reduction in biodiversity, overgrazing, river and aquifer depletion, animal wastes, and extensive fertilizer and pesticide use.	
		Patterns of food production and consumption are influenced by food-choice issues (e.g., organic farming, value-added specialty crops, fair trade, local-food movements).	
	Explain issues related to the location of food production	Factors affecting the location of food-processing facilities include markets, economies of scale, transportation, government policies, etc.	

	facilities.		
	Explain the changing role of women in production and consumption.	The role of women in food production has changed (e.g., food gathering, farming, managing agribusiness).	
		The role of women has changed the types of food a family consumes and the way the food is prepared.	

Topic VI: Industrialization and Economic Development

Enduring Understandings:	Learning Objectives:	Essential Knowledge:	Resources from the National Atlas of Korea Page numbers in parentheses ()
A. The Industrial Revolution, as it diffused from its hearth, facilitated improvements in standards of living.	Explain the role of the Industrial Revolution in the growth and diffusion of industrialization.	Industrialization began in response to new technologies and was facilitated by the availability of natural resources (e.g., water power, coal, iron ore).	Mineral Resources (101-2)
		The diffusion of industrialization led to growing populations and increased food supplies, which freed workers to seek industrial jobs in the cities.	
		Increased industrialization led to demands for raw materials and the search for new markets and was a factor in the rise of colonialism and imperialism.	Trends in Korean Extraction of Crude Petroleum and Natural Gas ORD (145-1); Trends in Korean Mining of Metal Ores ORD (145-2); Trends in Korean Mining of Coal and Lignite ORD (145-3); Trends in Korean Overseas Resource Development (145-4); Trends in Korean Self-sufficiency Rate of Major Mineral Resources (145-5)
	Identify the different economic sectors.	The economy consists of primary, secondary, tertiary, quaternary, and quinary sectors.	North Korea Trend in the Growth Rate of Various Industries (50-2,3,4,5,6,7,8,9); Working Population by Major Industry Group/ Occupation (50-10; 50-11); Civil Servants of the Central and Local Governments (57-1); Number of Civil Servants (57-2); Civil Servants for Executive Government (57-3); Public Educational Officials (58-1); Firefighters (58-2); Police Officers (58-3); Prosecutors (58-4); Industrial Production Composition (92-1); Changing Industrial Structure 92-4)
Use Weber's model to explain industrial location.	Alfred Weber's model of industrial location emphasized the owner's desire to minimize transportation and labor costs and maximize agglomeration economies.		
B. Measures of	Explain social	Measures of social and economic development include Gross	Gross Domestic Product by Countries

development are used to understand patterns of social and economic differences at a variety of scales.	and economic measures of development.	National Income (GNI) per capita, sectoral structure of an economy, income distribution, fertility rates, infant mortality rates, access to health care, and literacy rates.	Cartogram (9-2); Working Population by Major Industry Group/ Occupation (50-10; 50-11); Number of Registered Vehicle per 1,000 Persons (70-2); Economic Growth Dynamics (88-1); Changing Industrial Structure (92-4); Structure of Economically Active Population (94-1); Wage Level by Industry (94-2); Occupational Structure (94-3); Occupational Distribution (94-4); Regional Wage Disparity by Industry: Coefficient of Variation (94-5); Average Monthly Wage by Industry (94-6); The Share of Value Added by Industry (96-2); GDP and the Real Growth Rate of Manufacturing (96-1); Gross Regional Domestic Product (97-1); The Growth of GDP and per Capita GNI (97-3); The Growth of Gross Regional Value Added by Industry (98-1); The Change of Industrial Structure (98-2); The Change of Manufacturing Industry Structure (98-3); The Share of Employees by Industry and the Employment Rate (102-1); Social Support Network (106-4); Social Welfare and Culture Facilities (106-5); Expected Level of Education by Si·Do (107-3); Percentage of People Who Completed High School or More by Si·Do (107-4); Percentage of Adults Who Completed High School or More (107-6); Years in Education (107-7); Number of General Hospitals and the Numbers of Beds and Doctors per 1,000 Persons (108-3); Total Fertility Rate (114-5)
		Measures of gender inequality include reproductive health, indices of empowerment, and labor-market participation.	Changing Gini Index in Korea (88-3)
		The Human Development Index (HDI) is a composite measure used to show spatial variation in levels of development.	Human Development Index (105-3)
	Analyze spatial	Models like Rostow's Stages of Economic Growth and	Designation Status of Growth Promotion

	patterns of economic and social development.	Wallerstein's World System Theory help explain spatial variations in development.	District (82-1); Designation Status of 10 Wide-area Development Zone (82-2); Economy and Industry (96)
		The U.N. Millennium Development Goals help measure progress in development.	
		In contrast to the periphery and semiperiphery, the core countries achieved dominance through industrial production of goods.	
	Evaluate the role of women in economic development and gender equity in the workforce.	Although there are more women in the workforce, they do not have equity in wages or employment opportunities.	The Change of Employment Rate by Gender (103-5); The Change of Unemployment Rate by Gender (103-6)
Microloans have provided opportunities for women to create small local businesses, which have improved standards of living.			
C. Development is a process that varies across space and time.	Analyze the causes and consequences of international trade and growing interdependence in the world economy.	Complementarity and comparative advantage established the basis for trade.	The World Major Container-Shipping Seaports (9-3); The Growth of Import and Export (97-2); Exports and Imports of Korea (138~139); Trends in Proportion of Main Export Commodities (138-1); Trends in Proportion of Main Import Commodities (138-2); Leading Countries in World Trade (139-1); Trends in Exports-imports and Trade Balance and Degree of Dependence on Foreign Trade of Korea (139-2) Trends in Exports-imports and Trade Balance of China (139-3); Trends in Exports-imports and Trade Balance of United State of America (139-4); Trends in Exports-imports and Trade Balance of Japan (139-5)
		International trade and trading blocs (e.g., EU and NAFTA) have become more important as a result of globalization.	Free Trade Agreement (124~125)
		Geographies of interdependence in the world economy include global financial crises, the shift in manufacturing to newly industrialized countries, imbalances in consumption patterns, and their roles of women in the labor force.	The Transition of Regional Industrial Promotion Policies (91-1); Manufacturing Value-added and Sectoral Composition (91-2)
	Explain how economic restructuring and deindustrialization are	Outsourcing and economic restructuring have led to a decline in jobs in manufacturing regions and to the relocation of a significant segment of the work forced to other areas.	
		In countries outside the core, the diffusion of industry has resulted in the emergence of the international division of labor	North Korea Special Economic Zones/Development Zones (50-1); Current

transforming the contemporary economic landscape.	and manufacturing zones (e.g., maquiladoras, special economic zones, free trade zones).	Status of Innovative City (81-1); Current Status of Enterprise City (81-2); New Industrial Production Bases (93-3); Designation of Industrial Complexes (93-4)
	The contemporary economic landscape has been transformed by the emergence of service sectors, high technology Industries, and growth poles (e.g., Silicon Valley and the Research Triangle in the U.S.).	The Transformation of the Land (68); Industrial Production Composition (92-1); Change of Industrial Complex Distribution (93-1); Changing R&D Investment Rate and Intensity Rate (95-1); R&D Manpower (95-2); R&D Organization Growth and Patent (95-3); R&D Organizations by Si-Do (95-4); R&D Manpower by Si-Do (95-5); Location Quotient [Light Industries, Heavy and Chemical Industries, High-tech Industries, Knowledge Intensive Services] (99-1,2,3,4); The R&D Investment Rate in the World (100-4)
	Government initiatives at all scales may help promote Economic Development.	History of Inter-Korean Trade and Economic Cooperation (51); Distribution of Public Institutions (59-1); Executives and Staff Members of Public Institutions (59-2) Per Capita GRDP (86-1) Headquarters of Major Corporations (86-2); Annual Average Change of Infrastructure Investment [1995~2011] (92-5); Contribution of Industrial Complexes to Regional Economy (93-5); Official Development Assistance of Korea (132~133); ODA by Type (132~133); Korea's ODA Projects in Mongolia (134-1); Korea's Grants in Asia, Middle East, CIS and Eastern Europe (134~135); Korea's Grants by Regions (134-2); Korea's ODA Projects in Vietnam (135-1); Korea's Grants in Middle East (135-2); Korea's Grants in South Asia, Eastern Europe and CIS (135-3); Korea's Grants in East Asia and Southeast Asia (135-4); Korea's Grants in Latin America (136-1); Korea's Grants in Latin America [2005~2012] (136-2); Korea's Grants in Africa (137-1); Korea's Grants in Africa (2005~2012) (137-2)

D. Sustainable development is a strategy to address resource depletion and environmental degradation.	Analyze sustainability issues related to industrialization and development.	Sustainable development addresses issues of natural resource depletion, mass consumption, the costs and effects of pollution, and the impact of climate change, as well as issues of human health, well-being, and social and economic equity.	Concept of the HOPE Area (90-1); Design of the HOPE Area (90-2); Yellow Dust Observation Site and the Number of Observation Days (111-1); Ozone in Major Cities (111-2); Fine Dust in Major Cities (111-3); NO2 in Major Cities (111-4); SO2 in Major Cities (111-5); Annual Concentration of PM 2.5 in World Major Cities (111-6); Coastal Water Quality (111-7); Yellow Dust Observation Site and the Number of Observation Days (111-1); Ozone in Major Cities (111-2); Fine Dust in Major Cities (111-3); NO2 in Major Cities (111-4); SO2 in Major Cities (111-5); Annual Concentration of PM 2.5 in World Major Cities (111-6); Trends in Korean Extraction of Crude Petroleum and Natural Gas ORD (145-1); Trends in Korean Mining of Metal Ores ORD (145-2); Trends in Korean Mining of Coal and Lignite ORD (145-3); Trends in Korean Overseas Resource Development (145-4); Trends in Korean Self-sufficiency Rate of Major Mineral Resources (145-5)
		Ecotourism is a strategy used by some countries to help protect the environment and generate jobs.	

Topic VII: Cities and Urban Land Use

Enduring Understandings:	Learning Objectives:	Essential Knowledge:	Resources from the National Atlas of Korea Page numbers in parentheses ()
A. The form, function, and size of urban settlements are constantly changing.	Explain the factors that initiate and drive urbanization and suburbanization.	Site and situation influence the origin, function, and growth of cities.	Expansion of Seoul (42); Expansion of Busan; Daegu; Incheon; Gwangju; Daejeon; Ulsan (43-1,2,3,4,5,6); Urbanization in Korea (72-1); The Spatial Pattern of Cities by Population Size (72-2); Urban Population and Urbanization Rate (72-3); Population Growth of Major Cities (72-4)
		Transportation and communication have facilitated urbanization (e.g. Borchert's epochs of urban growth) and suburbanization.	The Development of Transportation and Communication (70); Share of Freight by Transportation System (70-3);

		Improvements in agriculture and transportation, population growth, migration, economic development, and government policies influence urbanization.	The Urbanization Rates in the World (68-2); Major Land Development Projects (69); The Development of Transportation and Communication (70); Major Transport System Development (70-5); Major Railway (70-6); Airport Traffic (71-1); Seoul Metropolitan Railroad Map (71-2); Share of Transportation by Transit System (71-3); The Utilization Rate of the Internet (71-4); The Growth of Smartphone Users (71-5); The Possession Rate of Computers and the Number of Wi-Fi (71-6)
		World cities function at the top of the world's urban hierarchy and drive globalization.	
		Megacities are rapidly increasing in countries of the periphery and semiperiphery.	The Growth of Seoul (68-1)
		Megacities and world cities experienced economic, social, political, and environmental challenges.	
B. Models help to understand the distribution and size of cities.	Apply models to explain the hierarchy and interaction patterns of urban settlements.	Models that are useful for explaining the distribution and size of cities include the rank size rule, the law of the primate city, and Christaller's central place theory.	Headquarters of Major Corporations (86-2); The Distribution of Firms by Business and Scale (100-1); R&D Investment (100-2)
		The gravity model is useful in explaining interactions among networks of cities.	1 st , 2 nd and 3 rd Seoul Metropolitan Area Readjustment Plan (80-1,2,3)
C. Models of internal city structure and urban development provide a framework for urban analysis.	Explain the models of internal city structure and urban development.	Classic models that are useful for explaining the internal structures of cities and urban development are the Burgess concentric-zone model, the Hoyt sector model, and the Harris-Ullman multiple-nuclei model.	
		The galactic city model is useful for explaining internal structures and urban development within metropolitan areas.	
		World-regional models (e.g., Latin America, Africa) are useful (with limitations) for explaining land use and urban development.	
D. Built landscapes and social space reflect the attitudes and values of a population.	Analyze residential land use in terms of low -, medium -, and high-density housing.	Residential buildings and patterns of and use reflect a city's culture, technological capabilities, and cycles of development.	Housing Type and the Change of Apartment Share (75-1); The Development of Residential Infrastructure (75-2)
	Evaluate the infrastructure of	Economic development and interconnection within a metropolitan area are dependent upon the location and	The Development of Transportation Infrastructures (68-3); The Development of

	cities.	quality of infrastructure (e.g., public transportation, airports, roads, communication systems, water and sewer systems).	Transportation and Communication (70); 4th Comprehensive National Territorial Planning (77); 1st Comprehensive National Territorial Planning (78-1); 2nd Comprehensive National Territorial Planning (78-2); 3rd Comprehensive National Territorial Planning (78-3); National Railroad Network Plan (79-1); National Principal Road Network Plan (79-2); Double-tracking and Electrification of Railroad (79-3); National Road Status (79-4); Regions Accessible to Expressway IC Less than 30 Minutes (79-5); Water and Sewage Supply Percentage (110-2)
	Explain the planning and design issues and political organization of urban areas.	Sustainable design initiatives include walkable mixed-use commercial and residential areas and smart-growth policies (e.g., new urbanism, greenbelts, slow growth cities).	Spatial Planning (76); Seoul Metropolitan Spatial Structure (80-4,5,6); Current and Planned Principal Road Network in the Capital Region (80-7); Sejong Urban Development Plan by Living Zone (81-3); New Town Distribution (84-1); Comparison of 1st-period and 2nd-period New Town (84-2); Green Space and Urban Public Park Ratio (110-1)
		Functional and geographic fragmentation of governments presents challenges in addressing urban issues.	Special Administrative Region: Sejong (44); Si-Gun-Gu Consolidation Target Areas and Their Characteristics (67-1); Decentralization of Power Public Survey (67-2); Local Handover of Central Government Authorities (67-3); Land Regulation in Gyeonggi-do (85)
	Analyze the demographic composition and population characteristics of cities using quantitative and qualitative data.	Quantitative information about a city's population is provided by census and survey data.	
		Qualitative data from field studies and narratives provide information about individual attitudes toward urban change.	Regional Problems Recognition by OECD Central Governments (86-3)
E. Urban areas face economic, social, political,	Evaluate problems and solutions	Economic and social problems associated with the growth and decline of urban communities include housing and insurance discrimination, housing affordability, access to food	Urban Revitalization Leading Regions (83-2)

cultural, and environmental challenges.	associated with growth and decline within urban areas.	stores and public services, disamenity zones, zones of abandonment, and gentrification.	
	Evaluate problems associated with urban sustainability.	Land use and environmental problems associated with the growth and decline of urban communities include suburban sprawl, sanitation, air and water quality, remediation and redevelopment of brown fields, farmland protection, and energy use.	The Growth of Commuters in the Capital Region (73); Daytime Population Index (74); Energy Supply (92-3); Major New Renewable Energy Sources in 2035 (92-6); Final Energy Consumption by Source (101-3); Electricity Generation by Source (101-4); Energy Consumption in Transportation (101-5)