



11 Grade Eleven: United States History and Government						
UNIT 1: Forming a Union: Colonial and Constitutional Foundations (1607 – ca. 1800)	UNIT 2: Expansion, Nationalism, and Sectionalism (1800 – 1865)	UNIT 3: Post-Civil War America Industrialization, Urbanization and the Progressive Movement (1865 – ca. 1900)	UNIT 4: Prosperity and Depression: At Home and Abroad (ca. 1900 – 1941)	UNIT 5: World War II and the Cold War (1935 – 1990)	UNIT 6: Social and Economic Change: Domestic Issues (1945 – present)	UNIT 7: The United States and Globalization (1990 – present)
SEPTEMBER – OCTOBER	NOVEMBER	DECEMBER – JANUARY	FEBRUARY – MID-MARCH	MID-MARCH – APRIL	MAY	JUNE
Essential Question: What are American foundations for liberty and freedom?	Essential Question: Was the Civil War inevitable?	Essential Question: How was America's response to the challenges of growth & progress aligned to its ideals of democracy?	Essential Question: How does a nation balance its own needs and interests with that of other nations?	Essential Question: To what extent have America's responses to foreign policy challenges been successful?	Essential Question: Is there one America or many?	Essential Question: Is the United States moving toward or away from its foundational ideals?
Inquiries 1. How did Native Americans of the Atlantic coast resist European settlement? 2. How did the geographic location of colonial cities influence their development? 3. What demographic forces contributed to the emergence of slavery? 4. What factors led English men and women to move to the 13 colonies? What factors led the Dutch to move (or be deported) to the 13 colonies? What factors led the Declaration of Independence a revolutionary document? 5. What role did compromise play in creating the U.S. Constitution?	Inquiries 1. Would the Civil War have occurred without the invention of the Cotton Gin? Why or Why not? 2. Why did legislative compromises dealing with slavery and expansion fail to avoid a constitutional crisis? 3. Was the treatment of Native Americans by the U.S. government inconsistent with fundamental American values? 4. In what ways was the United States becoming a nation of two economic systems during 1800-1861?	Inquiries 1. How did Reconstruction affect the lives of all southerners? 2. Should Reconstruction be considered a success or failure? 3. Did Westward Expansion nurture or restrict democracy? For Native Americans? For slaves? For the environment? 4. How did the Industrial Revolution transform American society? 5. What were the greatest challenges that immigrants faced in the United States? 6. What political, social, and economic problems led to the demand for reforms?	Inquiries 1. What were the economic, political and social causes of American imperialism? 2. Did the United States become an empire in the years 1890-1940? Why or Why not? 3. How did WWI and WWII benefit the U.S. economy? 4. What important social changes took place in America during and after WWII? 5. Why was the KKK able to become a national organization during the 1920s? 6. Which groups suffered the most from the Stock Market Crash of 1929 and the Great Depression? Why? Did the New Deal alleviate their suffering?	Inquiries 1. Are some wars more just than others? How and Why? 2. What was the rationale for wartime internment of Americans? Could another wartime internment occur today? Why or Why not? 3. What factors led to the Cold War? Was it inevitable? 4. Was the threat of global communism genuine? Why or Why not? 5. Following WWII, was the U.S. an effective mediator in the conflicts in the Middle East? Why or Why not? 6. Did President Reagan "win the Cold War"? Why or Why not?	Inquiries 1. How did the H-bomb and threat of nuclear annihilation affect American society? 2. How did the Interstate Highway Act transform American society? 3. Why weren't Jim Crow laws affected after the Brown v. Board of Education decision? 4. Has America lived up to the vision of Dr. Martin Luther King, Jr? 5. What were the actions and values of the American counterculture and New Left in the 1960s? 6. How do Federal, state and local legislation affect de jure and de facto discrimination?	Inquiries 1. What is globalization and why does it matter? 2. How did the strengths and weakness of the U.S. economy shape foreign and domestic policy? 3. How did Clinton's foreign policy differ from the policies of Reagan/Bush? 4. What led to the invasion of Afghanistan and the 2nd Iraq War? What were the consequences? How does the War on Terror compare to earlier U.S. military operations in Panama, Vietnam, and/or Korea? 5. Are we a nation of haves and have-nots? Why is it so difficult to discuss class in the U.S.?

The New York City Department of Education Grades 9-12 Social Studies Scope and Sequence

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UNIT 1: Forming a Union: Colonial and Constitutional Foundations (1607 – ca. 1900)		UNIT 3: Post-Civil War America Industrialization, Urbanization and the Progressive Movement (1865 – ca. 1900)	UNIT 4: Prosperity and Depression: At Home and Abroad (ca. 1900 – 1941)	UNIT 5: World War II and the Cold War (1935 – 1990)	UNIT 6: Social and Economic Change: Domestic Issues (1945 – present)	
SEPTEMBER – OCTOBER		DECEMBER – JANUARY	FEBRUARY – MID-MARCH	MID-MARCH – APRIL	MAY	
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<ul style="list-style-type: none"> Executive Cabinet Washington's advice to avoid political parties Neutrality, Election of 1800 Thomas Jefferson's election – Tradition of peaceful transfer of power Presidential election of 2000 <p><i>The Marshall Court (1801 – 1835)</i></p> <ul style="list-style-type: none"> John Marshall, Federalist, strengthening of the Federal government and the Judicial Branch <i>Marbury v. Madison</i> (1803) <i>McCulloch v. Maryland</i> (1819) <i>Gibbons v. Ogden</i> (1824) 		<ul style="list-style-type: none"> Mergers and trusts – <i>United States v. E.C. Knight</i> (1895) Strengthening railroad regulation and consumer protection (Commerce Act, Sherman Antitrust Act) Trust-busting (Northern Securities Co. v. United States (1904), Standard Oil) <p>Rapid Industrialization and Urbanization Leads to New Reforms 11.5b</p> <ul style="list-style-type: none"> New sources of labor/immigrants (eastern/southern Europe and Asia) Demographic trends 1840 – 1920 (Irish, Italian, Russian, Jewish, Polish immigration) Push factors leading to immigration (political unrest, famine, unemployment, war, religious persecution) 	<p><i>Onset of the Great Depression</i></p> <ul style="list-style-type: none"> Weakness in the economy Overproduction/under consumption The Dust Bowl Overexpansion of credit The stock market crash, Black Tuesday, Black Thursday Worldwide effects Interdependent banking systems Political repercussions Culture (Langston Hughes and John Steinbeck, WPA, Hollywood, comic books and superheroes) <p><i>Herbert H. Hoover</i></p> <ul style="list-style-type: none"> Rugged individualism, trickle-down economics Reconstruction Finance Corporation Boulder Dam (Hoover Dam), public works jobs Unemployment, Bonus Army, General MacArthur, Hoovervilles 	<p>Foreign Policy 11.9c</p> <ul style="list-style-type: none"> The U.S. and the Middle East during the Cold War The U.S. after Vietnam Embargo against Cuba Fall of South Vietnam U.S. support for the State of Israel Camp David Accords Oil crisis Middle East mediation The Afghanistan invasion by Russia U.S. boycotts Olympics and grain SALT II Iranian hostage crisis Falling popularity of Carter The Cold War Ends 11.9d Reagan Doctrine The Evil empire speech Russian invasion of Afghanistan, U.S. support for Afghanistan Iran-Contra (1985 – 1986) 	<p><i>Environmental problems</i></p> <ul style="list-style-type: none"> Oil crisis, shifting energy priorities Environmental Protection Agency Environmental concerns, Three Mile Island, toxic waste, acid rain Silent Spring Clean Air Acts, Clean Water Act, Endangered Species Act, Environmental Protection Agency Modifications to Great Society programs <p><i>New approaches to old and new problems</i></p> <ul style="list-style-type: none"> Modifications to the DEA, food stamps, revenue sharing Ratification of the 16th Amendment Feast and famine The problems of poverty in an affluent society Immigration Debates, Immigration Act of 1965 	
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UNIT 2: A Changing Society and The Progressive Era		UNIT 4: WWI and The United States between Wars	UNIT 5: The United States Assumes Worldwide Responsibilities	UNIT 6: The Changing Nature of the American People	
OCT. – NOV.		JAN. – FEB.	MARCH – APRIL	MAY – JUNE	
Essential Question: How do people, policies and technological advances shape a nation?		Essential Question: How does a nation respond to economic, political and social challenges?	Essential Question: How do competing views of power and morality lead to global conflict?	Essential Question: Has the United States of America lived up to the promise and potential of its history and status?	
<ul style="list-style-type: none"> Key events (Haymarket Affair, Pullman and International Ladies Garment Workers' Union Strikes) Rise of civil service <p><i>The Progressive Era 8.2e</i></p> <ul style="list-style-type: none"> Populist Party Key figures (Teddy Roosevelt, Jacob Riis, W.E.B. Dubois, John Muir, Marcus Garvey, Ida Tarbell, Eugene V. Debs, Booker T. Washington, Upton Sinclair, and Lillian Wald) Muckrakers NAACP and civil rights movements Temperance and prohibition Settlement houses Growth of the women's suffrage movement The 19th Amendment (1920) Rise of the Socialist Movement 		<ul style="list-style-type: none"> New production methods (assembly lines) Bank failures Stock Market crash "Black Tuesday" <p><i>The Great Depression 8.5b</i></p> <ul style="list-style-type: none"> Government regulation of social problems Government response to economic crisis Loss of jobs, wealth, and homes Impact based on class, race, and gender Conditions in NYC <p><i>The Dust Bowl</i></p> <ul style="list-style-type: none"> Man-made and environmental conditions Federal assistance, Farm Security Act (1937) Changes in family structure, cultural consequences Migrant workers 	<ul style="list-style-type: none"> NATO/Warsaw Pact Hungarian uprising Superpower rivalry (arms race, threat of nuclear weapons, space race) Detente/arms control (SALT treaties) Peace talks (1980s) Fall of Berlin Wall End of Cold War <p><i>United States Post-War Foreign and Domestic Policy 8.7b</i></p> <ul style="list-style-type: none"> Communist expansion McCarthyism and the second Red Scare U.S. policy of containment Truman Doctrine Marshall Plan Korean War Cuban Missile Crisis Vietnam War Domino Theory 	<ul style="list-style-type: none"> Oil crisis/inflation <p><i>The Vietnam War and the War on Poverty 8.9c</i></p> <ul style="list-style-type: none"> Medicare and Medicaid The Great Society 1960s counterculture The draft Peace movement <p><i>Civil Liberties Debates 8.9e</i></p> <ul style="list-style-type: none"> <i>Miranda v. Arizona</i> (1966) <i>Tinker v. Des Moines School District</i> (1969) Gun violence and Second Amendment Cyber-bullying Electronic surveillance 	

2	UNIT 2: A Changing Society and The Progressive Era	4	UNIT 4: WWI and The United States between Wars	5	UNIT 5: The United States Assumes Worldwide Responsibilities	6	UNIT 6: From World War II to the Present: The Changing Nature of the American People
OCT. – NOV.	JAN. – FEB.	MARCH – APRIL	MAY – JUNE				
<p>Essential Question: How do people, policies and technological advances shape a nation?</p> <ul style="list-style-type: none"> Industrial technology Rise of banking and financial institutions Labor force Growth of industrial urban centers Economic concepts (capitalism, mixed economy, scarcity) <p>Government and Business 8.2c, 8.2d, 8.2e</p> <p>Relationships between government and business</p> <ul style="list-style-type: none"> Political parties Laissez faire government Era of Boss Tweed and Tammany Hall Early attempts to unionize; goals and tactics of labor unions Knights of Labor; American Federation of Labor, and International Workers of the World 	<p>Essential Question: How does a nation respond to economic, political and social challenges?</p> <p>8.5 GREAT DEPRESSION: Economic and environmental disasters in the 1930s created hardships for many Americans. Amidst much debate about the appropriate role of government, President Franklin D. Roosevelt helped create intensive government interventions in the United States economy and society. (Standards 1, 3, 5)</p> <p>Economic Practices of the 1920s 8.5a</p> <ul style="list-style-type: none"> Government protection of business Tariffs and international trade Consumer economy Increase in the use of credit Agrarian to industrial Disparity of wealth; rise of poor and unemployed 	<p>Essential Question: How do competing views of power and morality lead to global conflict?</p> <p>Reparations for human rights violations</p> <p>The United Nations</p> <p>The United States as a world power</p> <p>17 FOREIGN POLICY: The period after World War II has been characterized by an ideological and political struggle, first between the United States and communism during the Cold War, then between the United States and forces of instability in the Middle East. Increased economic interdependence and competition, as well as environmental concerns, are challenges faced by the United States. (Standards 1, 2, 4, 5)</p> <p>Competing superpowers 8.7a</p> <p>The Cold War</p> <p>Soviet Bloc</p> <p>Berlin Wall</p>	<p>Essential Question: Has the United States of America lived up to the promise and potential of its history and status?</p> <ul style="list-style-type: none"> Assassination of major leaders (1960s) Key events and legislation (Military desegregation, Brown v. Board of Education (1954), March on Washington for Jobs and Freedom (1963), 16th Street Baptist Church Bombing (1963), Civil Rights Act (1964), the Voting Rights Act (1965), March on Fear (1966) Incident at Wounded Knee (1973), EPA, Education for All Handicapped Children Act (1975), IDEA (1990), Americans with Disabilities Act (1990)) The feminist movement (1970s) American Indian Movement <p>Political Challenges (1960's – present)</p> <ul style="list-style-type: none"> Watergate Scandal Nixon's resignation Economic recession Presidential cuts to social programs and taxes 				

Grade 8

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Grade 8

Document of Education K-12 Social Studies Scope and Sequence

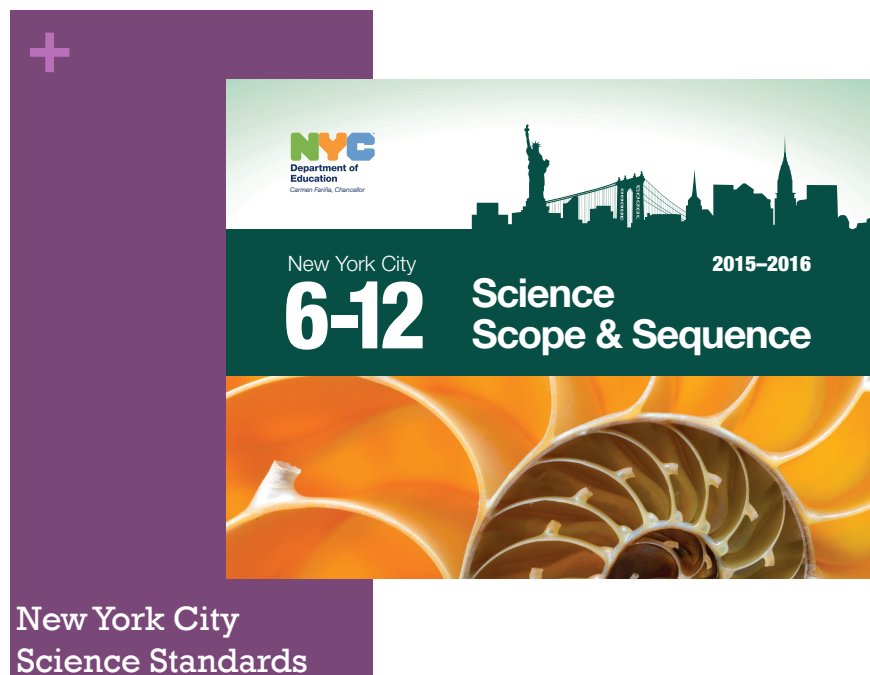
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New York State P-12 Science Learning Standards		
<p>MS. Structure, Function, and Information Processing</p> <p>Students who demonstrate understanding can:</p> <p>MS-LS1-1. Plan and conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells. [Clarification Statement: Emphasis is on developing evidence that living things are made of cells, distinguishing between living and non-living things, and understanding that living things may be made of one cell or many and varied cells.]</p> <p>MS-LS1-2. Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. [Clarification Statement: Emphasis is on the cell functioning as a whole system and the primary role of identified parts of the cell, specifically the nucleus, cytoplasm, mitochondria, cell membrane, and cell wall.] [Assessment Boundary: Assessment of organelle structure/function relationships is limited to the cell wall and cell membrane. Assessment of the function of the other organelles is limited to their relationship to the whole cell. Assessment does not include the biochemical details related to the functions of cells or cell parts.]</p> <p>MS-LS1-3. Construct an explanation supported by evidence for how the body is composed of interacting systems consisting of cells, tissues, and organs working together to maintain homeostasis. [Clarification Statement: Emphasis should be on the function and interactions of the major body systems (e.g., circulatory, respiratory, nervous, musculoskeletal).] [Assessment Boundary: Assessment is focused on the interactions between systems not on the functions of individual systems.]</p> <p>MS-LS1-8. Gather and synthesize information that sensory receptors respond to stimuli, resulting in immediate behavior and/or storage as memories. [Assessment Boundary: Assessment does not include mechanisms for the transmission of this information.]</p> <p>The performance expectations above were developed using the following elements from the NRC document, <i>A Framework for K-12 Science Education</i>.</p>		
<p>Science and Engineering Practices</p> <p>Developing and Using Models Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.</p> <ul style="list-style-type: none"> Develop and use a model to describe phenomena. (MS-LS1-2) <p>Planning and Carrying Out Investigations Planning and carrying out investigations in 6-8 builds on K-5 experiences and progresses to include investigations that use multiple variables and provide evidence to support explanations or solutions.</p> <ul style="list-style-type: none"> Conduct an investigation to produce data to serve as the basis for evidence that meet the goals of an investigation. (MS-LS1-1) <p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories.</p> <ul style="list-style-type: none"> Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. (MS-LS1-3) <p>Obtaining, Evaluating, and Communicating Information Obtaining, evaluating, and communicating information in 6-8 builds on K-5 experiences and progresses to evaluating the merit and validity of ideas and methods.</p> <ul style="list-style-type: none"> Gather, read, and synthesize information from multiple appropriate sources and assess the credibility, accuracy, and possible bias of each publication and methods used, and describe how they are supported or not supported by evidence. (MS-LS1-8) 	<p>Disciplinary Core Ideas</p> <p>LS1.A: Structure and Function</p> <ul style="list-style-type: none"> All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). (MS-LS1-1) Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2) In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions. (MS-LS1-3) <p>LS1.D: Information Processing</p> <ul style="list-style-type: none"> Each sense receptor responds to different inputs (electromagnetic, mechanical, chemical), transmitting them as signals that travel along nerve cells to the brain. (MS-LS1-8) (NYSEED) Plants respond to stimuli such as gravity (geotropism) and light (phototropism). (MS-LS1-8) 	<p>Crosscutting Concepts</p> <p>Cause and Effect</p> <ul style="list-style-type: none"> Cause and effect relationships may be used to predict phenomena in natural systems. (MS-LS1-8) <p>Scale, Proportion, and Quantity</p> <ul style="list-style-type: none"> Phenomena that can be observed at one scale may not be observable at another scale. (MS-LS1-1) <p>Systems and System Models</p> <ul style="list-style-type: none"> Systems may interact with other systems; they may have sub-systems and be a part of larger complex systems. (MS-LS1-3) <p>Structure and Function</p> <ul style="list-style-type: none"> Complex and microscopic structures and systems can be visualized, modeled, and used to describe how their function depends on the relationships among its parts, therefore complex natural structures/systems can be analyzed to determine how they function. (MS-LS1-2) <p>Connections to Engineering, Technology, and Applications of Science</p> <p>Interdependence of Science, Engineering, and Technology</p> <ul style="list-style-type: none"> Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems. (MS-LS1-1) <p>Connections to Nature of Science</p> <p>Science is a Human Endeavor</p> <ul style="list-style-type: none"> Scientists and engineers are guided by habits of mind such as intellectual honesty, tolerance of ambiguity, skepticism, and openness to new ideas. (MS-LS1-3)
<p>Connections to other DCIs in this grade-band: MS-LS3.A (MS-LS1-2)</p> <p>Articulation to DCIs across grade-bands: 4.LS1.A (MS-LS1-2), 4.LS1.D (MS-LS1-8), HS.LS1.A (MS-LS1-1)/(MS-LS1-2)/(MS-LS1-3)/(MS-LS1-8)</p> <p>Common Core State Standards Connections:</p> <p>ELA/Literacy –</p> <p>RI.6.8-1 Cite specific textual evidence to support analysis of science and technical texts. (MS-LS1-3)</p>		

New York State
P-12 Science
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HS. Structure and Function	
<p>Students who demonstrate understanding can:</p> <p>HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells. (Clarification Statement: Emphasis should be on how the DNA code is transcribed and translated in the synthesis of proteins. Types of proteins involved in performing life functions include enzymes, structural proteins, cell regulators, hormones, and antibodies.) [Assessment Boundary: Assessment does not include identification of specific cell or tissue types, whole body systems, specific protein structures and functions, or the detailed biochemistry of protein synthesis.]</p> <p>HS-LS1-2. Develop a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. (Clarification Statement: Emphasis is on functions at the organism's system level such as nutrient uptake, water delivery, immune response, and organism response to stimuli. An example of an interacting system could be an artery depending on the proper function of elastic tissue and smooth muscle to invade and deliver the proper amount of blood within the circulatory system.) [Assessment Boundary: Assessment does not include interactions and functions at the molecular or chemical reaction level.]</p> <p>HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. (Clarification Statement: Examples of investigations could include heart rate response to exercise, stomatal response to moisture and temperature, and root development in response to water levels.) [Assessment Boundary: Assessment does not include the cellular processes involved in the feedback mechanism.]</p> <p>The performance expectations above were developed using the following elements from the NRC Document: <i>A Framework for K-12 Science Education</i>.</p>	
Science and Engineering Practices	Disciplinary Core Ideas
<p>Developing and Using Models</p> <p>Modeling in 9-12 builds on K-8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed world.</p> <ul style="list-style-type: none"> Develop and use a model based on evidence to illustrate the relationships between systems or between components of a system. (HS-LS1-2) <p>Planning and Carrying Out Investigations</p> <p>Planning and carrying out in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models.</p> <ul style="list-style-type: none"> Plan and conduct an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design of the investigation, how much and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data (e.g., number of trials, cost, risk, etc.) and refine the design accordingly. (HS-LS1-3) <p>Constructing Explanations and Designing Solutions</p> <p>Constructing explanations and designing solutions in 9-12 builds on K-8 experiences and progresses to explanations and designs that are supported by multiple independent student-generated sources of evidence consistent with scientific ideas, principles, and theories.</p> <ul style="list-style-type: none"> Construct an explanation based on valid and reliable evidence obtained from a variety of sources (including student's own investigations, models, theories, simulations, peer review) and the assumption that theories and laws describe the natural world operate today as they did in the past and will continue to do so in the future. (HS-LS1-1) 	<p>LS1.A: Structure and Function</p> <ul style="list-style-type: none"> Systems of specialized cells within organisms help them perform the essential functions of life. (HS-LS1-1) All cells contain genetic information in the form of DNA molecules. Genes are regions in the DNA that contain the instructions that code for the formation of proteins, which carry out most of the work of cells. (HS-LS1-1) (Note: The Disciplinary Core Idea is also addressed by HS-LS1-4.) Multicellular organisms have a hierarchical structural organization, in which any one system is made up of numerous parts and is itself a component of the next level. (HS-LS1-2) Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change over a wide range. Feedback mechanisms can encourage (through positive feedback) or discourage (negative feedback) what is going on inside the living system. (HS-LS1-3) (HS-LS1-2) A failure of homeostasis. Organisms have a variety of mechanisms to prevent and combat disease. Technological advances including vaccinations and antibiotics have contributed to the prevention and treatment of disease. (HS-LS1-1, HS-LS1-3)
Crosscutting Concepts	Systems and System Models
	<ul style="list-style-type: none"> Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—within and between systems at different scales. (HS-LS1-2) <p>Structure and Function</p> <ul style="list-style-type: none"> Investigation or designing new systems or structures requires a detailed examination of the properties of different materials, the structures of different components, and connections of components to reveal how functions are changed. (HS-LS1-1) <p>Stability and Change</p> <ul style="list-style-type: none"> Feedback (negative or positive) can be used to stabilize a system. (HS-LS1-3)

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Grade 6 Unit 3 Diversity of Life

RECOMMENDED TIME: FEBRUARY – APRIL (8 WEEKS)

Unit Overview:

Diversity of life is seen through the study of cells. Prokaryotic and eukaryotic cells, and animal and plant cells, are observed to describe their structure and to explain how these cells make different organisms. Students will understand how cells are the primary source for biodiversity, and will learn to classify organisms according to similarities and differences at the cellular and organism level, as well as using internal and external structures in living things. Students will also study how different organisms have different energy needs to live. They will understand that energy flows through ecosystems in one direction, usually from the Sun, through producers to consumers and then decomposers, in which its balance is the result of interactions between living and nonliving things. Students will be able to construct models of biomes and/or ecosystems they investigate and that will visually represent their explanation about how energy is used and transformed by different organisms in an ecosystem. [Refer to Appendix A for the Humane Treatment of Animals and Conservation Day]

Essential Question:
How does the transfer of matter and energy through biological communities support the diversity of living things?

Key Ideas:

L.E. Key Idea 1: Living things are both similar to and different from each other and from nonliving things.

L.E. Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.

L.E. Key Idea 6: Plants and animals depend on each other and their physical environment.

NYS SCIENCE STANDARDS http://www.p12.nysed.gov/cia/mst/pub/intersci.pdf	MST STANDARDS http://www.p12.nysed.gov/cia/mst/pub/intersci.pdf	NGSS CROSS-CUTTING CONCEPTS http://www.nextgenscience.org/files/ngss/files/Appendix%20-%20Crosscutting%20Concepts%20FINAL%20edited%204.10.13.pdf
Major Understandings: <i>Quoted from New York State Performance Indicators (1.1a - h; 5.1c, d, e; 5.2a-e; 6.1a-c; 6.2a-c)</i> <ul style="list-style-type: none"> Living things are composed of cells. Cells provide structure and carry on major functions to sustain life. Cells are usually microscopic in size. (1.1a) <p style="text-align: right;"><i>continued</i></p>	Standard 2: Information Systems Key Idea 1: Information technology is used to retrieve, process, and communicate information as a tool to enhance learning. Key Idea 2: Knowledge of the impacts and limitations of information systems is essential to its effectiveness. <p style="text-align: right;"><i>continued</i></p>	Systems and System Models: A system is an organized group of related objects or components; models can be used for understanding and predicting the behavior of systems. <ul style="list-style-type: none"> Systems may interact with other systems; they may have sub-systems and be a part of larger complex systems. Models can be used to represent systems and their interactions—such as inputs, processes and outputs—and energy, matter, and information flows within systems. <p style="text-align: right;"><i>continued</i></p>

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NYS SCIENCE STANDARDS http://www.p12.nysed.gov/cia/mst/pub/intersci.pdf	MST STANDARDS http://www.p12.nysed.gov/cia/mst/pub/intersci.pdf	NGSS CROSS-CUTTING CONCEPTS http://www.nextgenscience.org/files/ngss/files/Appendix%20-%20Crosscutting%20Concepts%20FINAL%20edited%204.10.13.pdf
<ul style="list-style-type: none"> The way in which cells function is similar in all living things. Cells grow and divide, producing more cells. Cells take in nutrients, which they use to provide energy for the work that cells do and to make the materials that a cell or an organism needs. (1.1b) Most cells have cell membranes, genetic material, and cytoplasm. Some cells have a cell wall and/or chloroplasts. Many cells have a nucleus. (1.1c) Some organisms are single cells; others, including humans, are multicellular. (1.1d) Cells are organized for more effective functioning in multicellular organisms. Levels of organization for structure and function of a multicellular organism include cells, tissues, organs, and organ systems. (1.1e) Many plants have roots, stems, leaves, and reproductive structures. These organized groups of tissues are responsible for a plant's life activities. (1.1f) Multicellular animals often have similar organs and specialized systems for carrying major life activities. (1.1g) Living things are classified by shared characteristics on the cellular and organism level. In classifying organisms, biologists consider details of internal and external structures. Biological classification systems are arranged from general (kingdom) to specific (species). (1.1h) All organisms require energy to survive. The amount of energy needed and the method for obtaining this energy vary among cells. Some cells use oxygen to release the energy stored in food. (5.1c) The methods for obtaining nutrients vary among organisms. Producers, such as green plants, use light energy to make their food. Consumers, such as animals, take in energy-rich foods. (5.1d) <p style="text-align: right;"><i>continued</i></p>	Standard 6: Interconnectedness: Common Themes Key Idea 1: Through systems thinking, people can recognize the commonalities that exist among all systems and how parts of a system interrelate and combine to perform specific functions. Key Idea 2: Models are simplified representations of objects, structures, or systems used in the analysis, explanation, interpretation, or design. Key Idea 4: Equilibrium is a state of stability due either to a lack of change (static equilibrium) or a balance between opposing forces (dynamic equilibrium). Standard 7: Interdisciplinary Problem Solving Key Idea 2: Solving interdisciplinary problems involves a variety of skills and strategies, including effective work habits; gathering and processing information; generating and analyzing ideas; realizing ideas; making connections among common themes of mathematics, science and technology; and presenting results.	<ul style="list-style-type: none"> Models are limited in that they only represent certain aspects of the system under study. Energy and Matter: Flows, Cycles, and Conservation: Tracking energy and matter flows into, out of, and within systems helps one understand their system's behavior. <ul style="list-style-type: none"> Matter is conserved because atoms are conserved in physical and chemical processes. Within a natural or designed system, the transfer of energy drives the motion and/or cycling of matter. Energy may take different forms (e.g. energy in fields, thermal energy, energy of motion). The transfer of energy can be tracked as energy flows through a designed or natural system.

Grade 7.3
7.4
Also return to these
concepts

The New York City Department of Education 6-12 Science Scope & Sequence

Grade 6 | Unit 3: Diversity of Life | 18

LE 3 Unit

Organization and Patterns in Life

Living Environment

RECOMMENDED TIME: 20 DAYS

Unit Overview:

Living things are similar in that they rely on many of the same processes to stay alive, yet are different in the ways that these processes are carried out. Nonliving things lack certain features of living organisms, such as the ability to maintain a cellular organization, carry out metabolic processes while maintaining internal stability (homeostasis), and pass on hereditary information through reproduction. Different organisms have different regulatory mechanisms that function to maintain the level of organization necessary for life. Life is dependent upon availability of an energy source and raw materials that are used in the basic enzyme-controlled biochemical processes of living organisms. These biochemical processes occur within a narrow range of conditions. [Refer to Appendix A for the Humane Treatment of Animals and Conservation Day]

Essential Question:
How is a single-celled organism similar to and different from a human?

Key Ideas:

Key Idea 1: Living things are both similar to and different from each other and from nonliving things.

Key Idea 4: The continuity of life is sustained through reproduction and development.

Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.

NYS SCIENCE STANDARDS

<http://www.p12.nysed.gov/cia/mst/sci/documents/livingen.pdf>

Major Understandings:

Quoted from the New York State Performance Indicators (1.2a, c, e-j, 1.3a, 4.1a, b, 5.1a-g)

- Important levels of organization for structure and function include organelles, cells, tissues, organs, organ systems, and whole organisms. **(1.2a)**
- The organs and systems of the body help to provide all the cells with their basic needs. The cells of the body are of different kinds and are grouped in ways that enhance how they function together. **(1.2e)**

continued

MST STANDARDS

http://www.p12.nysed.gov/cia/mst/pub/mststa1_2.pdf
http://www.p12.nysed.gov/cia/mst/pub/mststa6_7.pdf

Standard 2: Information Systems

Key Idea 1: Information technology is used to retrieve, process, and communicate information and as a tool to enhance learning.

Standard 6: Interconnectedness: Common Themes

Key Idea 1: Through systems thinking, people can recognize the commonalities that exist among all systems and how parts of a system interrelate and combine to perform specific functions.

continued

NGSS CROSS-CUTTING CONCEPTS

<http://www.nextgenscience.org/sites/ngss/files/Appendix%20G%20-%20Crosscutting%20Concepts%20FINAL%20edited%204.10.13.pdf>

Cause and Effect: Mechanism and Prediction:

Events have causes, sometimes simple, sometimes multifaceted. Deciphering causal relationships, and the mechanisms by which they are mediated, is a major activity of science and engineering.

- Cause and effect relationships can be suggested and predicted for complex natural and human-designed systems by examining what is known about smaller scale mechanisms within the system.
- Changes in systems may have various causes that may not have equal effects.

continued

The New York City Department of Education 6–12 Science Scope & Sequence

LE | Unit 3: Organization and Patterns in Life | 71

NYS SCIENCE STANDARDS

<http://www.p12.nysed.gov/cia/mst/sci/documents/livingen.pdf>

- Each cell is covered by a membrane that performs a number of important functions for the cell. These include: separation from its outside environment, controlling which molecules enter and leave the cell, and recognition of chemical signals. The processes of diffusion and active transport are important in the movement of materials in and out of cells. **(1.2g)**
- Inside the cell a variety of specialized structures, formed from many different molecules, carry out the transport of materials (cytoplasm), extraction of energy from nutrients (mitochondria), protein building (ribosomes), waste disposal (cell membrane), storage (vacuole), and information storage (nucleus). **(1.2i)**
- The components of the human body, from organ systems to cell organelles, interact to maintain a balanced internal environment. To successfully accomplish this, organisms possess a diversity of control mechanisms that detect deviations and make corrective actions. **(1.2c)**
- Cells have particular structures that perform specific jobs. These structures perform the actual work of the cell. Just as systems are coordinated and work together, cell parts must also be coordinated and work together. **(1.2f)**
- The structures present in some single-celled organisms act in a manner similar to the tissues and systems found in multicellular organisms, thus enabling them to perform all of the life processes needed to maintain homeostasis. **(1.3a)**

continued

MST STANDARDS

http://www.p12.nysed.gov/cia/mst/pub/mststa1_2.pdf
http://www.p12.nysed.gov/cia/mst/pub/mststa6_7.pdf

Key Idea 2: Models are simplified representations of objects, structures, or systems used in analysis, explanation, interpretation, or design.

Key Idea 3: The grouping of magnitudes of size, time, frequency, and pressures or other units of measurement into a series of relative order provides a useful way to deal with the immense range and the changes in scale that affect the behavior and design of systems.

Key Idea 5: Identifying patterns of change is necessary for making predictions about future behavior and conditions.

Standard 7: Interdisciplinary Problem Solving

Key Idea 2: Solving interdisciplinary problems involves a variety of skills and strategies, including effective work habits; gathering and processing information; generating and analyzing ideas; realizing ideas; making connections among the common themes of mathematics, science, and technology; and presenting results.

NGSS CROSS-CUTTING CONCEPTS

<http://www.nextgenscience.org/sites/ngss/files/Appendix%20G%20-%20Crosscutting%20Concepts%20FINAL%20edited%204.10.13.pdf>

Scale, Proportion, and Quantity:

In considering phenomena, it is critical to recognize what is relevant at different size, time, and energy scales, and to recognize proportional relationships between different quantities as scales change.

- The significance of a phenomenon is dependent on the scale, proportion, and quantity at which it occurs.
- Some systems can only be studied indirectly as they are too small, too large, too fast, or too slow to observe directly.
- Patterns observable at one scale may not be observable or exist at other scales.

Systems and System Models:

A system is an organized group of related objects or components; models can be used for understanding and predicting the behavior of systems.

- Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions—including energy, matter, and information flows—within and between systems at different scales.
- Models can be used to predict the behavior of a system, but these predictions have limited precision and reliability due to the assumptions and approximations inherent in models.

Structure and Function:

The way an object is shaped or structured determines many of its properties and functions.

- The functions and properties of natural and designed objects and systems can be inferred from their overall structure, the way their components are shaped and used, and the molecular substructures of its various materials.

continued

The New York City Department of Education 6–12 Science Scope & Sequence

LE | Unit 3: Organization and Patterns in Life | 72

Plan Supplemental Materials for + Students Who Represent a Range of Proficiency and Literacy Levels

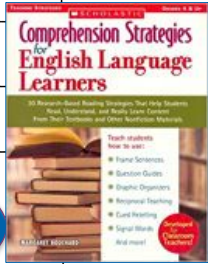
Comprehension Strategies for English Language Learners Scholastic Teaching Resources

Collaborative Reading

Topic: _____

Group Questions:	Group Member: Resource:	Group Member: Resource:	Group Member: Resource:	Group Member: Resource:

Choose Books that are
“Just Right” for Each
Literacy/Proficiency
Level




117 ■

Typical Reader Measures, by Grade

Grade	Reader Measures, Mid-Year 25th percentile to 75th percentile (IQR)
1	Up to 280L
2	230L to 580L
3	360L to 720L
4	480L to 830L
5	620L to 950L
6	690L to 1020L
7	780L to 1090L
8	820L to 1140L
9	880L to 1170L
10	920L to 1200L
11	940L to 1210L
12	950L to 1220L

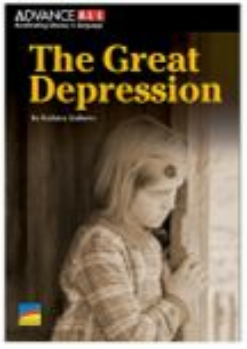
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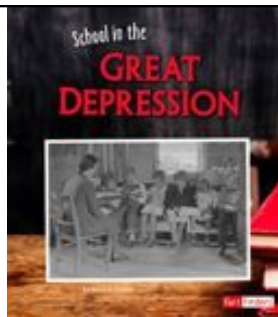
The Lexile Framework for Reading
Matching readers with texts

**410-850;
1000**

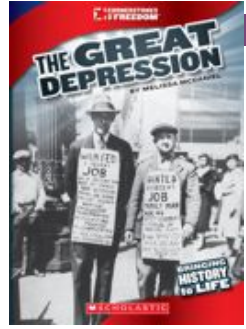


Benchmark Education Books,
Lexile 410, reading Level B
Barbara Andrews, author
Advance ALL Series
(2nd/3rd Grade Level)

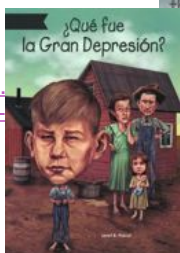
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benchmarkeducation.
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Capstone Press, Lexile 850,
GRL V (5th/6th)
Kerry A Graves, author
Fact Finder Series



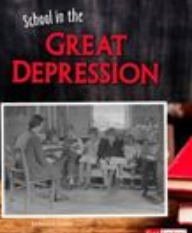
Children's Press, Scholastic
Library Publishing
Reading Level 6.3; GRL U
Lexile 880
Melissa McDaniel, Author
Cornerstones of Freedom
Series





Grosset & Dunlap, Lexile 790,
Grade Level 5.5
Janet Pascal, author
Available in English and
SpanishAdv

6 pages



**School in the
GREAT
DEPRESSION**

Capstone Press, Lexile 850,
GRL V (5th-6th)
Kerry A Graves, author
Fact Finder Series


Chapter 1

FROM THE ROARING '20s TO THE GREAT DEPRESSION

During the 1920s the U.S. economy flourished. Many American businesses made large profits manufacturing automobiles and electrical appliances such as washing machines, refrigerators, and vacuum cleaners. Companies hired many workers to make these new products. With most Americans working, families could afford to buy homes, take trips, and go to the movies. People called these years the Roaring '20s.

The good times of the 1920s were the result of **investments** in the stock market. In the early 1900s business owners began investing money in stock market. About 1.5 million people spent their savings to buy stocks.

investment—money lent or given to a company in the hope of getting more money back.



Students describe the 1914 midwinter session at the Eastern Kentucky Company in Richwood, New York.

START

Buying Stocks

When a person buys stock in a company, they own a part of the company. Stocks are divided into portions, which are bought for a certain price. These portions are called shares. People who buy shares are called stockholders. When a company does well, the value of the stock goes up, and the shares are worth more. If a company does poorly, the value of the shares goes down.

Stockholders can make a profit by selling stocks when the value goes up. People often hire brokers to buy and sell stocks for them. The professionals work at stock exchanges, such as the New York Stock Exchange. Stockbrokers also give advice to people on which stocks to buy. Buying stocks is often risky. Investors sometimes lose money on stocks.

Active Voice; Not Passive

Short Sentences

But by the late 1920s **economists** were warning people that the stock market was not stable. In mid-October 1929 stock prices began to drop. Investors began selling their stocks. By Tuesday, October 29, shareholders had sold 28 million shares of stock. The rapid sales activity caused the stock market to crash. That day became known as Black Tuesday.


Stockholders went from rich to poor overnight. Many people had to sell their stocks for much less than they had paid. And they could not afford to pay back the money they had initially borrowed. Investors could not pay back their loans to the banks. The banks went broke. Millions of people lost their entire savings.

FACT The stock market crash also affected people all over the world. U.S. banks could not afford to invest in foreign businesses. People were not buying imported products, and companies could not sell goods to foreign countries.

economist—someone who studies the way money, goods, and services are used in a society.

When people realized they had lost their savings, they tried to hang on to any assets they had left. They stopped buying new products. This caused many factories and stores to shorten employees' working hours. Unemployed people could not pay their bills. Many families sold their homes, cars, and other possessions just to buy enough food.

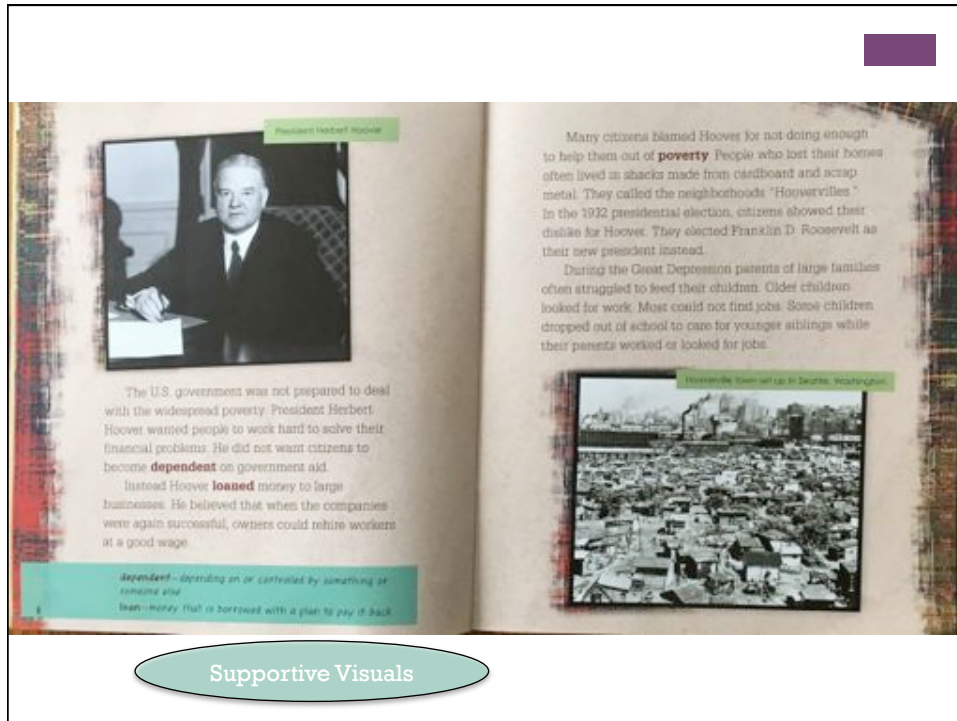
By 1932 almost 55,000 businesses had closed. By 1933 more than 9,000 banks had failed. In the United States one in four people was unemployed. This time of economic **crisis** was called the Great Depression.



Unemployed and hungry people wait in line in the streets of New York for food to be handed out.

crisis—a time of danger or difficulty

On-page glossing



President Herbert Hoover

The U.S. government was not prepared to deal with the widespread poverty. President Herbert Hoover wanted people to work hard to solve their financial problems. He did not want citizens to become **dependent** on government aid.

Instead Hoover **loaned** money to large businesses. He believed that when the companies were again successful, owners could rehire workers at a good wage.

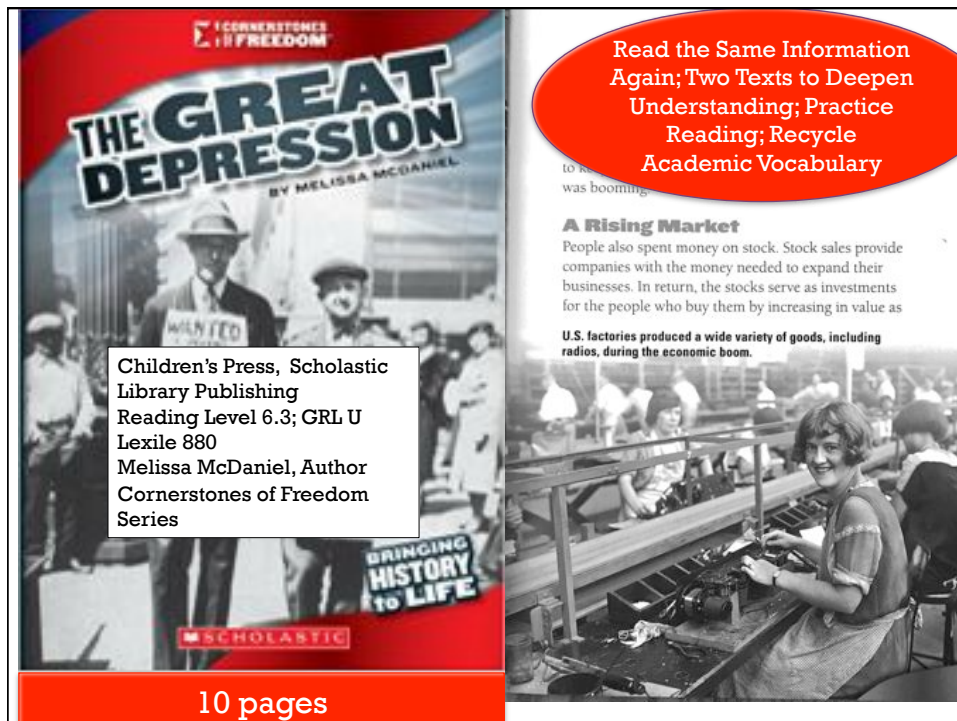
dependent—depending on or controlled by something or someone else
loan—money that is borrowed with a plan to pay it back

Many citizens blamed Hoover for not doing enough to help them out of **poverty**. People who lost their homes often lived in shacks made from cardboard and scrap metal. They called the neighborhoods "Hoovervilles." In the 1932 presidential election, citizens showed their dislike for Hoover. They elected Franklin D. Roosevelt as their new president instead.

During the Great Depression parents of large families often struggled to feed their children. Older children looked for work. Most could not find jobs. Some children dropped out of school to care for younger siblings while their parents worked or looked for jobs.

Hooverville, built on top of ruins, Washington

Supportive Visuals



CORNERSTONES OF FREEDOM

THE GREAT DEPRESSION

BY MELISSA MCDANIEL

Children's Press, Scholastic Library Publishing
 Reading Level 6.3; GRL U
 Lexile 880
 Melissa McDaniel, Author
 Cornerstones of Freedom Series

BRINGING HISTORY TO LIFE

SCHOLASTIC

10 pages

Read the Same Information Again; Two Texts to Deepen Understanding; Practice Reading; Recycle Academic Vocabulary

to the
was booming

A Rising Market

People also spent money on stock. Stock sales provide companies with the money needed to expand their businesses. In return, the stocks serve as investments for the people who buy them by increasing in value as

U.S. factories produced a wide variety of goods, including radios, during the economic boom.

a company becomes more successful. The Dow Jones Industrial Average is a measure of the value of the stock of 30 large companies. It is an important sign of the U.S. economy's strength. In 1929, it was four times as high as it had been just five years earlier.

Many Americans, including some economists, believed the stock market had become a sure bet. Almost everyone saw it as an easy way to get wealthy. Some thought it was such a great investment that they borrowed money from their **stockbrokers** to buy the stock. This is called buying on margin. Some people paid as little as 10 percent of the stock's actual price. They borrowed the rest of the money.

Stockbrokers are experts in the stock market.



Investors struggled to unload all of their stocks as prices began to fall.

As the value of stocks shot up, more people invested in the market. This pushed prices up even more. Such **speculation** caused stocks to become worth far more than the companies they represented.

Going Down

In September 1929, stock prices began to fall. As they fell, many investors got nervous. They wanted to sell their stocks before prices dropped even more. This caused stock values to enter a downward cycle. With more people trying to sell stocks and fewer people wanting to buy, prices continued to plummet. Those who had borrowed



Plummeting stock prices caused a frenzy on the trading floor.

money to purchase their stocks were in trouble. They had no way to pay back what they owed, and the stocks themselves had little value. Many people went **bankrupt**.

Then, on Thursday, October 24, the market's decline went from a gradual slide to a sudden plunge. People were shocked, and panic took hold. Investors wanted to sell their stocks before they became totally worthless. Thirteen million shares of stock were sold that day—more than on any other day in history.

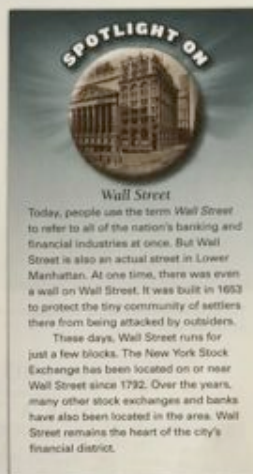
Over the weekend, President Herbert Hoover spoke about the troubled stock market. His words were

broadcast over the radio into living rooms across the country. "The fundamental business of the country . . .," he said, "is on a sound and prosperous basis."


But he was wrong. Stock prices fell even farther on Monday. By the end of the day, the Dow Jones Industrial Average had dropped 22.6 percent.

Black Tuesday

When the bell rang to signal the opening of trading at the New York Stock Exchange the following day, the cries of "Sell! Sell!" were incredibly loud. Everyone wanted out of the market. A guard at the stock exchange described the shock felt by the stockbrokers. He recalled, "They roared like a lot of lions and tigers. They hollered and screamed, they clawed at one another's collars. It was



YESTERDAY'S HEADLINES



On October 30, 1929, headlines around the world trumpeted the news of the stock market crash. "Wall Street Lays an Egg," blared *Variety*, a paper covering the entertainment industry. The *New York Times* was more serious. "Stocks Collapse in 16,410,000-Share Day," said the top headline. The paper still held out hope. The headline continued, "But Rally at Close Cheers Brokers; Bankers Optimistic." The nation's crisis was only starting. Newspaper reporters had no way of knowing the trouble ahead.


Declining Business

The stock market crash caused major problems for the nation's banks. They had loaned huge amounts of money to investors and stockbrokers buying on margin. In 1929, two out of every five dollars loaned by banks went to buy stocks. Once the market crashed, no one could pay back these loans. Banks had very little cash on hand. Customers feared that the banks would run out of money and that the money in their savings accounts would disappear.

People flooded into the banks to withdraw their savings. Because of this, many banks did run out of cash and were forced to shut down.

Many people lost all of their money in the crash. Those who did have money were afraid to spend.

it. People only bought things that were absolutely necessary. Factories could no longer sell all the goods they were making. They were forced to cut back on production. This meant that they needed fewer workers, so they laid employees off. Such job loss left even fewer people with money to buy anything. As a result, businesses suffered and laid off even more workers. All across the country, people were left penniless. It was the beginning of a dark, difficult decade.



Panicked investors withdrew their money from banks around the country.

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NEWSELA

The Many Causes of the Great Depression

By David M. Kennedy, The Gilder Lehrman Institute of American History, adapted by Newsela staff on 12.19.16
Word Count **560**



Unemployed men line up outside a Depression soup kitchen in Chicago, Illinois, in 1931. National Archives and Records Administration

Herbert Hoover was the 31st president of the United States. He was in office for only a short time. It was during the country's worst economic disaster. The stock market crashed in 1929. Soon after, the Great Depression began.


The Great Depression lasted from 1929 to 1939. It started in the United States and was a problem for the whole world. People lost their jobs. Some could not keep their homes. Many did not have enough food to eat. Most could not afford to buy things that they wanted. Companies could not make goods and farmers had a hard time growing crops.

People disagree about what caused the Great Depression. It occurred after World War I. The war lasted from July 28, 1914, to November 11, 1918. The fighting was hard on key countries like Britain, France and Germany. Bad feelings left countries feeling at odds with one another even after the war ended. They did not join together to deal with the weak global economy.

This article is available at 5 reading levels at <https://newsela.com>.

NEWSELA

Lexile 730



America turns its back on the world

The United States' role in World War I was minimal. During the 1920s, Americans did not want to take part in Europe's problems. The United States disarmed its military forces. The government did not like the Treaty of Versailles. This was a peace deal between Germany and the Allied Powers to end World War I. The main Allied Powers were Great Britain, France, Russia and Italy.

The government also did not want to be a part of the League of Nations. This was a group made up of many countries. It was formed to solve problems between them. The U.S. government also placed the highest taxes ever on goods from other countries. This hurt trading.

In 1924, for the first time, a limit was put on the number of people from other countries who could come live in America. Millions of people were turned away. Americans seemed to be turning their backs on the outside world.

At the same time, banks were unstable and the government was weak. The Great Depression began to unfold.

From Great Crash to New Deal

In October of 1929, stock prices plunged. Thousands of banks failed. Tens of thousands of businesses collapsed. Millions of people became unemployed. This terrible event is known as the Great Crash.

By 1932, about 13 million Americans were out of work. This was equal to 1 out of every 4 workers in the country. Many people believed they were witnessing the end of the American way of life.

Franklin D. Roosevelt, commonly known as FDR, was elected president in 1932. He promised "a new deal for the American people." FDR believed that Americans' lives could be made more stable. He transformed the country. The New Deal invented many programs for people to have jobs, trustworthy banks and secure lives.

The story of the Great Depression is not simply the story of the American people during one of the most difficult times in history. It is also part of a larger story of people in every part of the world who were swept up in the hardships of the Great Depression.

David M. Kennedy is the Donald J. McLachlan Professor of History at Stanford University. He wrote "Birth Control in America: The Career of Margaret Sanger" (1970) and "Over Here: The First World War and American Society" (1980).


Visual Support?

This article is available at 5 reading levels at <https://newsela.com>.

NEWSELA

The Many Causes of the Great Depression

By David M. Kennedy, The Gilder Lehrman Institute of American History, adapted by Newsela staff on 12.19.16
Word Count **805**



Unemployed men line up outside a Depression soup kitchen in Chicago, Illinois, in 1931. National Archives and Records Administration

Herbert Hoover was the 31st president of the United States. He served just one term in office and it will always be remembered. His presidency was defined by the stock market crash of 1929 and the beginnings of the Great Depression.


The Great Depression lasted from 1929 to 1939. It started in the United States and was a problem for the whole world. People lost their jobs. Some could not keep their homes. Many did not have enough food to eat. Most could not afford to buy things that they wanted. Companies could not make goods and farmers had a hard time growing crops.

Economists and historians continue today to debate the causes of the Great Depression. There is little doubt that there is a link to World War I. The fighting had taken a toll on key countries. They included Britain, France and Germany. These countries were the core of the modern world. Bad memories of the conflict left countries feeling at odds with one another. They did not join together to deal with the frail global economy.

This article is available at 5 reading levels at <https://newsela.com>.

NEWSELA

Lexile 970



America turns its back on the world

The United States' role in World War I was minimal. During the 1920s, Americans did not want to take part in Europe's problems. The United States disarmed its military forces. The government did not like the Treaty of Versailles. This was a peace deal between Germany and the Allied Powers to end World War I. The main Allied Powers were Great Britain, France, Russia and Italy.

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NEWSELA

The Many Causes of the Great Depression

By David M. Kennedy, The Gilder Lehrman Institute of American History, adapted by Newsela staff on 12.19.16
Word Count **906**



Unemployed men line up outside a Depression soup kitchen in Chicago, Illinois, in 1931. National Archives and Records Administration

Herbert Hoover, the 31st president of the United States, served just one term in office, but it was a memorable one. It was defined by the stock market crash of 1929 and the beginnings of the Great Depression.

Economists and historians continue today to debate the causes of the Great Depression. There is little doubt that there is a link to World War I. The fighting had taken a cruel toll on key economies, like Britain, France and Germany. These countries were the core societies of the advanced industrialized world. Disruptions in trade and the flow of money continued after the war ended. Furthermore, bitter memories of the war left countries feeling at odds with one another, preventing them from forming a unified approach to deal with the frail global economy.

The United States' actions in World War I were minor and only occurred toward the end of the conflict that lasted from July 28, 1914, to November 11, 1918. The country's role went against its tradition of not involving itself in Europe's affairs. This resulted in Americans turning their country even more inward during the 1920s. The United States disarmed its

NEWSELA

Lexile 1170

America turns inward

The United States' role in World War I was minor and only toward the end of the conflict that lasted from July 28, 1914, to November 11, 1918. The country's participation went against its desire to not involve itself in Europe's affairs. This resulted in Americans turning their country even more inward during the 1920s. The United States disarmed its military forces and war machinery. The U.S. Senate refused to approve the Treaty of Versailles, which was a peace agreement between Germany and the Allied Powers (predominately Great Britain, France, Russia and Italy) to end World War I.

The Senate also rejected membership in the League of Nations, even though it had been promoted by former President Woodrow Wilson. The League was an international group formed to resolve disputes between countries. It was the precursor to the United Nations.

In 1922, Congress passed one of the highest taxes in history on those who sold foreign goods in the U.S., which hurt trading between countries.

Meanwhile, the federal government insisted throughout the 10 years after the war that the Europeans must repay all the loans given to them by the U.S. Treasury. This was a hardship for the countries recovering from war.

In 1924, America, for the first time in its history, imposed a strict limit on the number of immigrants who could annually enter the country. Millions of people were turned away. Militarily, diplomatically, commercially, financially and morally, Americans seemed to be turning their backs on the outside world.

Stocks fall, businesses fail

The banking system was unstable and the federal government was weak as the Great Depression began to unfold.

In October of 1929, stock prices plunged. Thousands of banks failed. Tens of thousands of businesses collapsed. Millions of people became unemployed. This terrible event is known as the Great Crash.

By 1932, about 13 million Americans were out of work. This equaled 1 out of every 4 workers in the country. Many people believed they were witnessing the end of the American way of life.

Franklin D. Roosevelt, commonly known as FDR, was elected president in 1932. He promised "a new deal for the American people." FDR believed that Americans' lives could be made more secure. His results transformed the country. FDR held office for more than a dozen years. He was elected president three times. This record was unmatched by previous presidents and forbidden for all future presidents when the 22nd Amendment to the Constitution was passed in 1951.

This article is available at 5 reading levels at <https://newsela.com>.

1


This article is available at 5 reading levels at <https://newsela.com>.

2

NEWSELA

Las muchas causas de la Gran Depresión

By David M. Kennedy, Gilder Lehrman Institute on 12.18.16
Word Count **544**



Hombres desempleados haciendo fila en la puerta de un comedor de la época de la Depresión en Chicago, Illinois, en 1931. National Archives and Records Administration

Herbert Hoover fue el 31er presidente de los Estados Unidos. Tuvo el cargo por poco tiempo. Fue durante el peor desastre económico del país. La bolsa de valores se desplomó en 1929. Poco después, se inició la Gran Depresión.

La Gran Depresión duró de 1929 a 1939. Se inició en los Estados Unidos y fue un problema para todo el mundo. La gente perdía sus empleos. Algunos no podían conservar sus casas. Muchos no tenían suficiente comida. La mayoría no podía comprar las cosas que quería. Las compañías no podían producir bienes y los granjeros tenían dificultad para cosechar.

La gente no se pone de acuerdo acerca de la causa de la Gran Depresión. Ocurrió tras la Primera Guerra Mundial. La guerra duró del 28 de julio de 1914 al 11 de noviembre de 1918. El combate era arduo entre países importantes como Gran Bretaña, Francia y Alemania. Los malos sentimientos dejaron a los países resentidos entre ellos aun después de terminada la guerra. No comerciaban entre ellos debido a la debilitada economía global.

NEWSELA

Lexile 660

Los Estados Unidos dan la espalda al mundo

La participación de los Estados Unidos en la Primera Guerra Mundial fue mínima. Durante la década de 1920, los estadounidenses no querían involucrarse en los problemas de Europa. Los Estados Unidos desarmaron sus fuerzas militares. El Tratado de Versalles no fue del agrado del gobierno. Se trataba de un acuerdo entre Alemania y las Potencias Aliadas para poner fin a la Primera Guerra Mundial. Las principales Potencias Aliadas eran Gran Bretaña, Francia, Rusia e Italia.

El gobierno tampoco quería ser parte de la Liga de las Naciones. Este grupo estaba formado por muchos países. Fue formado para resolver los problemas entre ellos. El gobierno de los Estados Unidos impuso los impuestos más elevados en la historia a los bienes de otros países. Esto afectó al comercio.

En 1924, por vez primera, se impuso un límite en el número de personas de otros países que podían vivir en los Estados Unidos. Millones de personas eran rechazadas. Los estadounidenses parecían estar dando la espalda al resto del mundo.

Al mismo tiempo, los bancos no tenían estabilidad y el gobierno era débil. La Gran Depresión comenzó a desatarse.

De la Gran Depresión al Nuevo Trato

En octubre de 1929, los precios de las acciones se desplomaron. Miles de bancos quebraron. Decenas de miles de negocios se colapsaron. Millones de personas quedaron desempleadas. Este terrible evento es conocido como el Crac Bursátil.

Para 1932, cerca de 13 millones de estadounidenses estaban desempleados. Esto equivalía a uno de cada cuatro trabajadores en el país. Muchos creían que estaban siendo testigos del fin del estilo de vida estadounidense.

Franklin D. Roosevelt, conocido como FDR, fue electo presidente en 1932. Prometió "un nuevo trato para los estadounidenses". FDR creía que la vida de los estadounidenses podía ser más estable. Transformó el país. El Nuevo Trato creó muchos programas para que la gente tuviera empleo, bancos confiables y una vida segura.

La historia de la Gran Depresión no es solo la historia de los estadounidenses durante uno de los períodos más difíciles en la historia. Es también parte de una historia más grande de gente en cada rincón del mundo que fue arrastrado a las dificultades de la Gran Depresión.

This article is available at 5 reading levels at <https://newsela.com>.

1

This article is available at 5 reading levels at <https://newsela.com>.

2

60

NEWSELA

Las múltiples causas de la Gran Depresión

By David M. Kennedy, Glider Lehrman Institute on 12.19.16
Word Count 974



Hombres desempleados haciendo fila en la puerta de un comedor de la época de la Depresión en Chicago, Illinois, en 1931. National Archives and Records Administration

Herbert Hoover, trigésimo primer presidente de los Estados Unidos, permaneció en el cargo solo durante un periodo, pero resultó ser memorable. Su presidencia se definió por el derrumbe de la bolsa de valores en 1929 y el inicio de la Gran Depresión.

Los economistas e historiadores continúan debatiendo hoy las causas de la Gran Depresión. Casi no hay duda de que hay una relación con la Primera Guerra Mundial. El combate había pasado una factura cruel a países importantes, incluyendo Gran Bretaña, Francia y Alemania. Estos países fueron el núcleo del mundo más avanzado e industrializado. Las interrupciones en el comercio y en el flujo de dinero continuaron después de que la guerra terminara. Más aún, los malos recuerdos del conflicto dejaron a los países resentidos entre ellos, impidiendo que se unieran para enfrentar juntos la debilitada economía global.

La intervención de los Estados Unidos en la Primera Guerra Mundial fue mínima y solo al final del conflicto que duró del 28 de julio de 1914 al 11 de noviembre de 1918. Esta intervención del país fue en contra de su tradición de no involucrarse en los asuntos de Europa. Esto resultó en que que los estadounidenses miraran solo hacia el interior de su

This article is available at 5 reading levels at <https://newsela.com>.

1

NEWSELA

Lexile 1020

país durante la década de 1920. Los Estados Unidos desarmaron sus fuerzas militares y su maquinaria bélica. El Senado se rehusó a aprobar el Tratado de Versalles, que era un acuerdo de paz entre Alemania y las Potencias Aliadas (principalmente Gran Bretaña, Francia, Rusia e Italia) al final de la Primera Guerra Mundial.

Se dio la espalda al resto del mundo

El Senado también rechazó la membresía en la Liga de las Naciones, pese a que había sido promovida por el Presidente Woodrow Wilson.

En 1922, el Congreso aprobó los impuestos más elevados en la historia para quienes vendieran productos extranjeros, lo que afectó el comercio entre países.

Mientras, el gobierno federal insistió durante los diez años posteriores a la guerra en que los europeos debían saldar los préstamos que habían recibido de la Tesorería de los Estados Unidos, lo que significó una carga financiera para los países que se recuperaban de la guerra.

En 1924, los Estados Unidos impusieron por primera vez en su historia límites estrictos al número de inmigrantes que podían ingresar al país cada año. Millones de personas fueron rechazadas.

De forma militar, diplomática, comercial, financiera y moral, los estadounidenses parecían estar dando la espalda al resto del mundo.

Al comenzar a desarrollarse la Gran Depresión, un sistema bancario privado y disfuncional incursionó en la era moderna provocando una fundación inestable para el crédito nacional. Entre tanto, el gasto público del gobierno era reducido y el gobierno federal se encontraba en una débil posición para combatir la depresión.

El crac bursátil revienta la burbuja

La burbuja reventó en octubre de 1929. En un evento conocido como el Crac Bursátil, los precios de las acciones se desplomaron. Miles de bancos quebraron y decenas de miles de negocios colapsaron. Millones de personas quedaron desempleadas. Herbert Hoover había sido electo pocos meses atrás y sería reconocido por siempre por su incapacidad para salvar al país de la Gran Depresión, a pesar de sus esfuerzos.

Para 1932, cerca de 13 millones de estadounidenses estaban desempleados, lo que equivalía a uno de cada cuatro trabajadores en el país. Muchos estadounidenses pensaban que estaban siendo testigos no solo de una caída masiva de los mercados, sino de un colapso de orden económico, político y social que tal vez marcaba el fin del estilo de vida estadounidense.

Franklin D. Roosevelt, conocido como FDR, fue electo presidente en 1932. Prometió "un nuevo trato para los estadounidenses". FDR trajo consigo a la presidencia y al pueblo estadounidense una creencia simple y muy importante: que la vida en Estados Unidos

This article is available at 5 reading levels at <https://newsela.com>.

2

Cells Module

Reading Comprehension Focus: Ask Questions

© Student Book 6-Packs

Lesson 100-100000

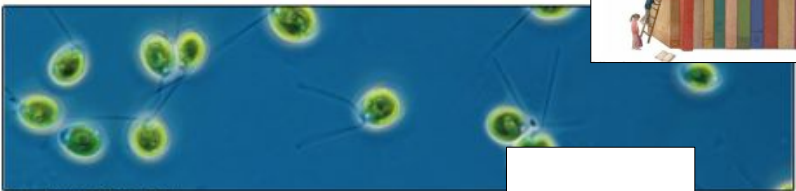
Skills & Strategies, Reading Levels, and Key Concepts	Cells: The Smallest Units of Life	Cells: Animal Cells and Plant Cells	Cells: Organization and Function	Cells: Growth and Division
Comprehension Skills	Answer Questions	Find Examples	Compare	Explain
Science Process Skills	Classify, Summarize, Communicate	Classify, Summarize, Communicate	Classify, Summarize, Communicate	Classify, Summarize, Communicate
Reading Level	Grade 2	Grade 3	Grade 4	Grade 5
Guided Reading / Lexile	1-12 (100)	12-15 (150)	16-18 (180)	19-22 (220)
Key Standards-Based Science Concepts	The cell is the basic unit of life. All living things are made of cells. Different cell parts perform different functions. Cells work in groups.	The cell is the basic unit of life. All living things are made of cells. Different cell parts perform different functions. Cells work in groups. Plant cells and animal cells are both similar and different.	The cell is the basic unit of life. All living things are made of cells. Different cell parts perform different functions. Cells work in groups. Plant cells and animal cells are both similar and different. Cell function is related to cell structure.	The cell is the basic unit of life. All living things are made of cells. Different cell parts perform different functions. Cells work in groups. Plant cells and animal cells are both similar and different. Cell function is related to cell structure.

Original Millmark Book Set on Cells

Blue: Guided Reading L-M
Green: Guided Reading O-P
Orange: Guided Reading Q-R
Purple: Guided Reading T-U

Comprehension Strategies		Authentic Language Tasks	
• Make Connections	• Make Inferences	• Restate	• Give Examples
• Determine Importance	• Synthesize	• Describe	• Ask and Answer Questions
• Ask Questions	• Monitor Comprehension	• Compare	• Show Sequence
• Visualize		• Explain	• Persuade

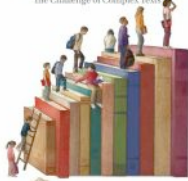
Cells



You are here: [Home](#) / [Subjects](#) / [Cells](#)

Concepts, Skills, and Strategies

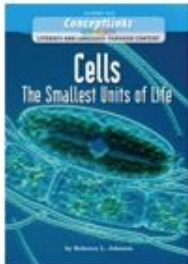
Advancing Our Students' Language and Literacy
The Challenge of Complex Text



Millmark
EDUCATION

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K-12

Differentiated Entry Points



The Smallest Units of Life

by Rebecca L. Johnson

Reading Level: Grade 2
Guided Reading Level: L-M
Lexile® Level: 480
TESOL Level: 1/2 Starting/Emerging

eBooks | Printed Readers

2	230L to 580L
3	360L to 720L
4	480L to 830L
5	620L to 950L

Key Standards-Based Science Concepts

- The cell is the basic unit of life. All living things are made of cells.
- Different cell parts perform different functions

Comprehension Strategy

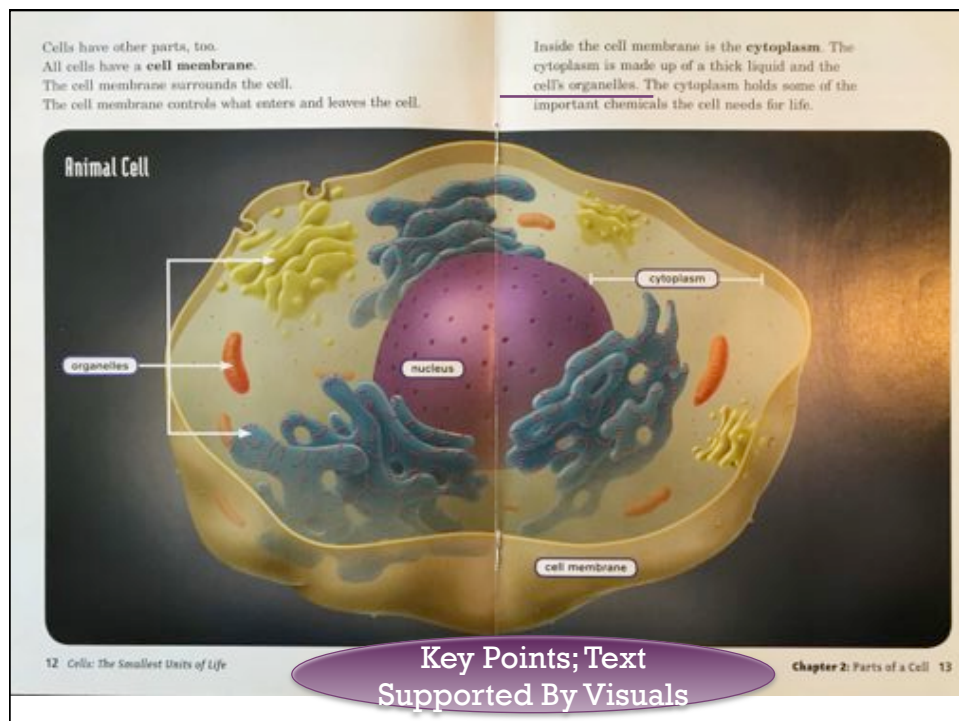
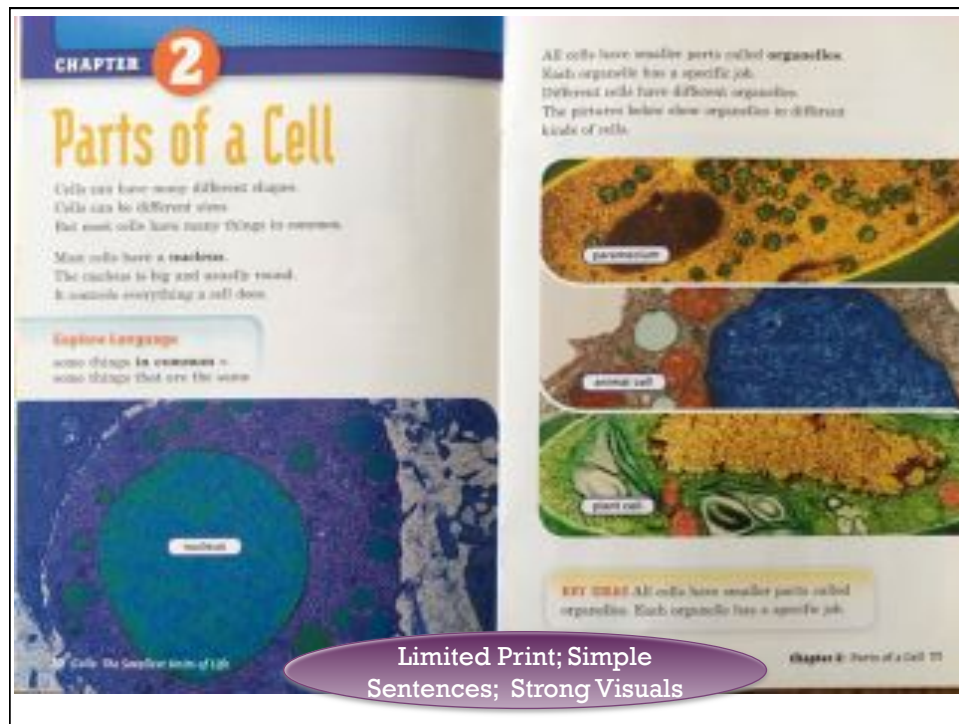
Ask Questions

Language Skill

Answer Questions

Science Process Skills

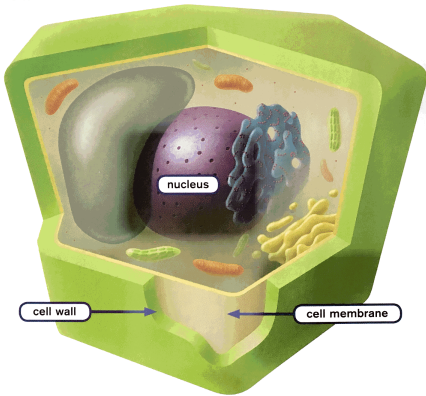
- Classify
- Communicate
- Summarize



Some cells also have a **cell wall**. The cell wall is outside the cell membrane. A cell wall helps protect a cell. It also makes a cell stronger.

Plant cells have a cell wall. Some bacteria have a cell wall, too. Animal cells do not have a cell wall.

Plant Cell




KEY IDEAS All cells have a cell membrane. Plant cells and some bacteria also have a cell wall.

YOUR TURN

SUMMARIZE

Look at the picture of the plant cell on page 14. What cell parts do you see? Summarize the job of those parts in a chart like the one below. Talk about your chart with a friend.




Cell Part	Job in the Cell
nucleus	
cell membrane	
cell wall	

Simple Note Taking

MAKE CONNECTIONS

How is a cell wall like the wall of a room?
How is it different? Share your ideas.

 **STRATEGY FOCUS**

Ask Questions


Look at the diagram of a cell on page 14. What questions do you have about the diagram?

14 Cells: The Smallest Units of Life

Chapter 2: Parts of a Cell 15

CHAPTER 2

Inside an Animal Cell



Cells are the building blocks of living things. The cells that make up animals and plants have some things in common. But they are not exactly the same. Let's take a closer look at an animal cell.

With a microscope, you can see some parts of an animal cell. A **cell membrane** covers the cell. The cell membrane controls what enters and leaves the cell.

cell membrane - a thin covering that surrounds a cell

Lexile 560
GRL = O/P
Gr. Level = 3

There are many small parts inside the cell. One of these parts is the **nucleus**. The nucleus controls everything that happens inside a cell.

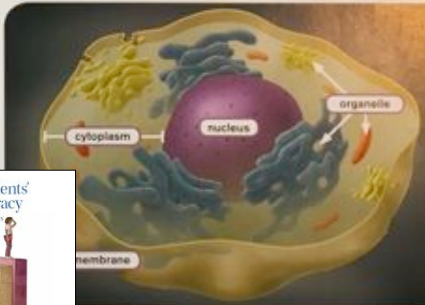
A cell also has **cytoplasm**. Cytoplasm includes everything between the cell membrane and the nucleus. Part of the cytoplasm is a very thick liquid. The other part is made up of tiny **organelles**. Every organelle has a specific job inside a cell.

nucleus - the cell structure that controls all a cell does

cytoplasm - everything between the cell membrane and the nucleus in a cell


organelles - small parts inside a cell that carry out different jobs

An animal cell has a cell membrane, nucleus, cytoplasm, and many organelles.



Advancing Our Students' Language and Literacy

The Challenge of Complex Text



10 Cells: Animal Cells and Plant Cells

Chapter 2: Inside an Animal Cell 11

Making Proteins

Proteins are important materials in cells. Almost every part of a cell has proteins in it. **Ribosomes** are very tiny organelles. The job of ribosomes is to make proteins.

New proteins move to the **endoplasmic reticulum**, or ER. Inside this organelle, proteins are **modified**, or changed.

proteins - important materials in cells
ribosomes - tiny organelles that make proteins
endoplasmic reticulum (ER) - an organelle that modifies new proteins
modified - changed

On page Glossing

Animal Cell

ribosomes
 nucleus
 mitochondrion
 endoplasmic reticulum
 Golgi body

Protein Packages and Energy

From the endoplasmic reticulum, modified proteins travel to **Golgi bodies**. These organelles modify the proteins a little more. Then the Golgi bodies pack proteins into little sacs. The packaged proteins move out into the cytoplasm. They go to wherever they are needed in the cell.

Mitochondria are other organelles. Each mitochondrion has **energy**. A cell gets all the energy it needs, using the energy needed to make and package proteins, from its mitochondria.

Golgi bodies - organelles that modify and package proteins
mitochondria - organelles that provide energy for a cell
energy - the ability to do work

▼ This is a close-up photo of a Golgi body. The green color was added to show more detail.

SHARE IDEAS Explain
 what ribosomes do in a cell.

12 Cells: Animal Cells and Plant Cells

Chapter 2: Inside an Animal Cell 13

Providing Support

A cell has lots of small parts within its cell membrane. These parts are supported by the **cytoskeleton**. The cytoskeleton supports all of the structures in a cell. It also helps the cell keep its shape.

cytoskeleton - a supporting structure inside a cell

Word Study

Explore Language
cyto- = cell
cytoskeleton = a cell's skeleton

KEY IDEAS Cells contain smaller parts called organelles. Each organelle has a specific job inside a cell.

The cytoskeleton is made up of thin fibers that support the cell's structures.

YOUR TURN

SUMMARIZE
 Look at the drawing of the animal cell on pages 12-13. Make a chart like the one here. List the parts of an animal cell, and summarize the job of each part. Discuss your chart with a friend.

Animal Cell Part	What This Part Does
cell membrane	
nucleus	

Writing to Review

MAKE CONNECTIONS
 How is a cell's cytoskeleton like the skeleton in your body?

STRATEGY FOCUS


Ask Questions
 What questions did you have before, during, and after reading this chapter?
 What questions did you answer?

14 Cells: Animal Cells and Plant Cells

Chapter 2: Inside an Animal Cell 15

CHAPTER 2

The Super-Organized Cell



► Hooke's illustration of cells in a plant tissue

▲ Robert Hooke's microscope

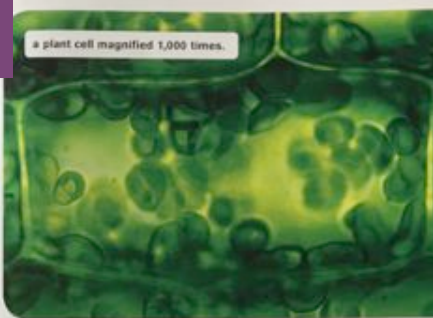
In the 1660s, English scientist Robert Hooke built a new kind of microscope. With it, Hooke was able to **magnify** a slice of plant tissue. He saw that the tissue was made up of structures that looked like small rooms. He called them "cells."

As microscopes improved, scientists were able to see inside cells. They discovered that cells contained many smaller structures. Over time, scientists figured out that the structures carry out many different jobs in a cell. They work together in very organized ways.

magnify - make to look larger than it really is

10 Cells: Organization and Function


Lexile 700
GRL = Q/R
Gr. Level = 4



a plant cell magnified 1,000 times.

All cells are wrapped in a thin covering. This **cell membrane** protects the cell. Some things can pass through the cell membrane, other things cannot.

Just inside the cell membrane are dozens of tiny structures. The **nucleus** is one of the largest structures inside a cell. It is the cell's control center. The nucleus controls everything that happens in a cell.



Plant Cell

nucleus

cell membrane

cell membrane - a thin, protective covering that surrounds a cell

nucleus - the cell structure that controls everything that happens in a cell

SHARE IDEAS
Explain the job of the nucleus.

Chapter 2: The Super-Organized Cell 11

Progressively Adding
More Information While
Recycling Basic Facts

CHAPTER 2

The Super-Organized Cell

Little "Organs"

Cytoplasm lies between the nucleus and the cell membrane. Part of the cytoplasm is a thick liquid called **cytosol**. The rest of the cytoplasm is made up of tiny **organelles**. Like organs in a body, organelles each have a special job to do.

Ribosomes are extremely small organelles. But they have a very important job. Ribosomes make **proteins**. Proteins are the building blocks of most structures in a cell.

cytoplasm - everything between the cell membrane and the nucleus

cytosol - the liquid part of cytoplasm

organelles - small structures inside cells that carry out specific jobs

ribosomes - tiny organelles that make proteins

proteins - building blocks of most structures in cells


Explore Language

-elle = little

organelle = little organ

12 Cells: Organization and Function

What Features Continue?



Animal Cell

Golgi body

nucleus

ribosomes

endoplasmic reticulum

cytoplasm

mitochondria

cell membrane

KEY IDEAS A cell contains an organized group of small structures called organelles. Each organelle does a specific job in a cell.

endoplasmic reticulum - an organelle that modifies newly made proteins

modified - changed

Golgi bodies - organelles that modify and package proteins

cytoskeleton - a supporting structure inside a cell

mitochondria - energy-supplying organelles

Chapter 2: The Super-Organized Cell 13

What Features Continue?

Animal Versus Plant

Animal cells and plant cells are very similar. But they are not exactly the same. Plant cells have a few structures that animal cells don't have.


All plant cells have a **cell wall**. The cell wall surrounds the cell membrane. It supports and protects a plant cell. Most plant cells also have **chloroplasts** and a large **vacuole**. Chloroplasts use energy from sunlight to make food for a plant. The vacuole stores water and other substances.

cell wall – a tough covering that surrounds plant cells

chloroplasts – green organelles that use energy from sunlight to make food

vacuole – a storage organelle

KEY IDEA Plant cells have structures that animal cells do not have.



Plant Cell

14 Cells: Organization and Function

YOUR TURN

SUMMARIZE

Look at the chart below. In a notebook, draw an animal cell and a plant cell. Using the chart and the pictures in Chapter 2 as a guide, sketch each cell's organelles and other structures. Label them. Share your drawings with a partner.

Structure	Animal Cell	Plant Cell
nucleus	✓	✓
cell membrane	✓	✓
cytoplasm	✓	✓
ribosomes	✓	✓
endoplasmic reticulum	✓	✓
Golgi bodies	✓	✓
cytoskeleton	✓	✓
mitochondria	✓	✓
cell wall		✓
vacuole		✓
chloroplasts		✓

MAKE CONNECTIONS

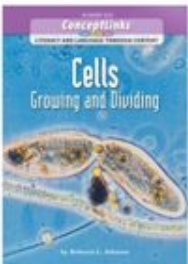
Your brain is an organ. It controls most of what happens in your body. How is your brain like the nucleus in a cell?

STRATEGY FOCUS

Ask Questions

What questions did you have before, during, and after reading this chapter? What questions did you answer? Tell where you found the answers.

Chapter 2: The Super-Organized Cell 15



eBooks | Printed Readers

Growing and Dividing

by Rebecca L. Johnson

Reading Level: Grade 5
Guided Reading Level: T-U
Lexile® Level: 720
TESOL Level: 5 Bridging

Key Standards-Based Science Concepts

- The cell is the basic unit of life. All living things are made of cells.
- Different cell parts perform different functions

Grade 5
GRL = T/U
New Topic

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USE LANGUAGE TO GIVE EXAMPLES

Words that Give Examples

When you give examples, you give more information about something. Certain phrases show that you are giving an example.


EXAMPLE

One-celled living things **include** bacteria and algae.

Animals **such as** frogs and sloths are many-celled living things.

The sloth has many organs. **For example**, its eyes, heart, lungs, and liver are organs.

With a friend, talk about organelles. Give examples of different organelles and the jobs they do.



Focusing In On How Language Works

Write an Example

Choose an animal. Give an example of an organ system that animal has.

- Start with a general statement about the organ system.
- Give examples of organs in the organ system.
- Illustrate the organ system and label the organs.

Words You Can Use

for example
such as
one of these is
include


Words that Compare

When you compare, you tell how things are alike and different. The word **both** shows that things are alike. The connecting words **but** and **however** signal differences.

EXAMPLE

Animal cells and plant cells **both** have cell membranes. Plant cells also have cell walls, **but** animal cells do not.

With a friend, compare plant and animal cells. Tell how they are alike and different.



animal cell

plant cell

Write a Comparison

Animals, including humans, can have similar organ systems. Compare the digestive system or respiratory system of two animals.

- Tell what the organ system does for both animals.
- Tell how the organ systems differ.

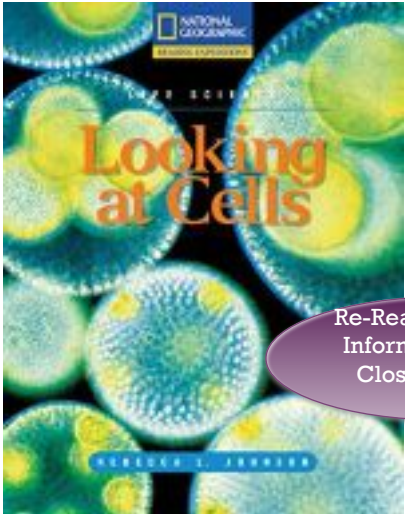
Words You Can Use

Comparison Words

both
like
too
in some ways
in common
same
but
however


Use Language to Give Examples

Books 2 and 3



Re-Reading of Same Information as Get Closer to Grade Level

National Geographic School Publishing, 2003
 Reading Expeditions/Life Science
 Rebecca L. Johnson, Author
 GRL W-X
 Lexile 870




Compass Point Books, 2006
 Exploring Science/Life Science
 Darlene R. Stille, Author
 Grade Level 7.4
 Lexile 1030

Chapter 1

Not-So-Simple Cells

Most cells are too small to be seen with the naked eye. In fact, people didn't even know cells existed—until someone invented a way to see very tiny things up close.



6

Looking at Cells, National Geographic Reading Expeditions; Life Science Lexile 870 (5th/6th)

The tool that allowed people to peer into the world of cells is the microscope. Leeuwenhoek's microscopes had just one lens, a small, round piece of polished glass shaped so that it would magnify objects.


Other people were using microscopes that had two flatter lenses, one at each end of a long tube. In about 1665 English scientist Robert Hooke used such a microscope to look at thin slices of the cork plant. To Hooke, the magnified cork seemed built of little compartments. He called them *cellulae*, which is Latin for "small rooms." That's how cells got their name.

As years passed, microscopes improved. Scientists used them to study parts of many plants and animals in great detail. By the 1800s, people realized that all living things were made up of one or more cells. Scientists saw many different kinds of cells under their microscopes. Most of those cells shared three basic features—a membrane, a nucleus, and cytoplasm.

START

The Cell Membrane
Surrounding every cell is a **cell membrane**. At first scientists thought this membrane simply held the cell together and kept everything inside from leaking out. Today we know that the cell membrane does much more. It allows some things, like certain chemicals, to pass into or out of the cell; it keeps others out.

◀ Robert Hooke's drawings compare the structure of honeycomb (right) with cork.



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The cell membrane is very choosy. It has places that work like little doors. If the right kind of chemical comes along, the "door" will open and let the chemical in or out.

Plant cells and one-celled organisms called **bacteria** have another layer—a **cell wall**—surrounding their cell membrane. The cell wall makes a cell strong and tough.

Human Cell



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The Control Center
The users of early microscopes also noticed that most cells have a dark spot inside, usually near the center. This spot came to be called the **nucleus**. Later scientists discovered that the nucleus is a tiny sac full of thread-like structures called **chromosomes**. Chromosomes, in turn, are made up of **genes**. A cell's genes control much of what the cell does—how and when to grow, how to change. Because the nucleus houses the genes, it is the major control center for the cell.

The Cytoplasm
The stuff that fills the cell and surrounds the nucleus is the **cytoplasm**. It's thicker than water. It's more like a just-made gelatin dessert that's not yet firm enough to jiggle. Floating around in the cytoplasm are all sorts of chemicals. Some of these chemicals come in through the choosy cell membrane. Other chemicals are manufactured by the cell itself.

Wait a minute! Manufactured? By what? You guessed it—there's more to cells than just a membrane, nucleus, and cytoplasm. As people invented better and different kinds

of microscopes, they discovered that the cytoplasm of most cells is packed with all sorts of structures called **organelles**. Some of what we know about cell organelles has come from studying them using very powerful electron microscopes. Some of these microscopes can magnify cells up to 300,000 times.

Some organelles look like long tubes. Others are shaped like peas or beans. Still others resemble stacks of pancakes. Organelles, or "little organs," inside cells all have different jobs to do.

Think about how a factory that manufactures cars or computers works. In a way, cells are factories. Their organelles work together to make, package, and ship chemical "products." So grab a hardhat and let's check out this factory.

Little Organs, Big Jobs
As you already know, the nucleus is the cell's control center. It's like the factory's main office, where the engineers and architects—the genes—are found. Genes are in charge of planning and directing what goes on inside the cell.



A researcher uses a scanning electron microscope.

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Recycling of Information and Chances to Practice are CRITICAL for ELLs

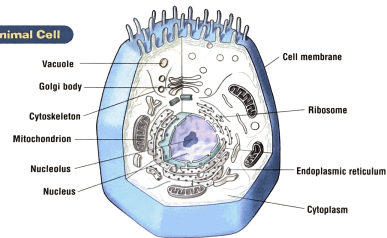
The Factory

Step out of the main office and you'll practically run right into **ribosomes**. These tiny, rounded organelles are like factory robots. Ribosomes make chemicals called **proteins**. They use plans sent from the nucleus to build different kinds of proteins. They build proteins by putting together small chemicals found in the cytoplasm. Inside the nucleus, there's a dark spot—the **nucleolus**—that helps make ribosomes.

Some ribosomes are plastered onto the sides of the **endoplasmic reticulum**, or ER for short. The ER

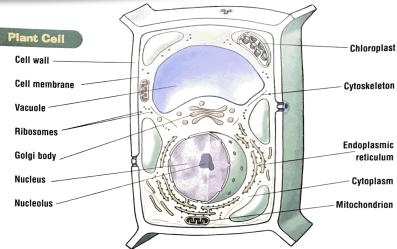
is a maze of tiny curving, branching tubes. It's the "assembly line" in the cell factory. Newly made proteins enter at one end. As they move along, as if on a conveyor belt, they are tweaked here and changed a bit there. When "finished" proteins reach the end of the ER, the tip pinches off to form a little sac. This little sac cruises through the cytoplasm and bumps into the **Golgi body**. The Golgi takes in the proteins, changes them a bit more, and then sends them off in another little sac. Many of these protein packages move to the cell membrane and are released to the outside.

Animal Cell



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Plant Cell



The Power Plant

All factories have a power plant to provide the energy to run the equipment. **Mitochondria** are the power plants inside cells. They contain the chemical machinery needed to break down sugars. The energy that is released makes the work going on in a cell possible.

In addition to a power plant, some factories also have solar panels that make electricity from sunlight. In a cellular factory, **chloroplasts** have a similar job. These organelles are found in the cells of plants and other living things that use sunlight to make their own food.

The Storage Rooms

Every factory has storage rooms, where products and materials are stored. **Vacuoles** are the storage rooms inside cells. They are filled with chemical products the cells have made.

The cell's **cytoskeleton** is a framework that supports the cell, like the beams and walls that support a factory building. Unlike a factory's framework, the cytoskeleton can flex and change shape.

How are plant and animal cells alike and different?

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+ Planning Tool for Integrated ENL Common Planning Time

Gloria M. Ortiz, NYSED Language RBE-RN

TEMPLATE FOR CONTENT AREA AND ENGLISH AS A NEW LANGUAGE PLANNING

In the Integrated-English as a New Language (ENL) co-teaching approach, both content area and ENL teachers play an equal role in the instruction of all students in the classroom. However, co-teaching is effective when each one capitalizes on each other's expertise. Below is a template that can be used by both teachers as a guide to plan instruction for ELLs and distribute co-planning roles in the classroom. It can help teachers thinking in backward planning their lessons even when teaching alone.

	CONTENT AREA	LANGUAGE
1. Choose which of the co-teaching models you will use for this lesson. Decide what role each teacher will have.		
2. Identify one or more content objective/learning objectives. A. For which Reading or Lexile level(s) did you plan? _____		
3. Identify one or more language objective(s). A. For which NYSESLAT Proficiency Level(s) did you plan? _____		
4. Who will activate/construct prior knowledge to create a connection that will help students engage in the lesson?		
5. Choose 5-7 words students will need to know to understand the concept(s). (Think of words that are transferrable across content areas). Ensure that the vocabulary		

aligns to the proficiency levels of the students. Decide who will do direct vocabulary instruction.		
6. Identify parts of the lesson that call for: explicit instruction and plan for the ENL students. Think about: <ul style="list-style-type: none"> provision of scaffolds checkpoints at least one high-yield instructional strategy in reading, writing or study skills. Decide who will address each of these parts of the lesson. 		
7. What pictures, visuals, realia, or manipulatives will help students clarify and make connections? Decide who will be responsible for finding these supports.		
8. What alternate texts might you need to find to reach all of your ELLs (in L1 or L2): Who will be responsible for locating these alternate texts?		
8. When you plan for a group activity discuss: <ul style="list-style-type: none"> What the purpose of the activity will be. What kind of grouping will you need? What tools would you provide each group with? 		

<ul style="list-style-type: none"> Is there a need to differentiate the written or reading tool or task? <p>Decide what these should look like and who will create the supports.</p>		
9. What prompts, graphic organizers, etc., will help students organize information learned for future writing assignments?		
<p>10. Decide what type(s) of formative/summative assessments you will give the students.</p> <ul style="list-style-type: none"> Is there a need to differentiate the assessment? What will it measure? Who will grade the assessment? Who will collect and analyze the results? How will the results be used by both teachers? Who will provide interventions? 		
11. Final Assessment		
12. Homework Assignment		

Created by Gloria M. Ortiz- NYSED Language RBERN

Explore Strategies for Actively + Engaging ELLs in Language Practice within Integrated ENL/ Content Area Settings

- Listening/Reading
- Speaking/Writing