Wisconsin Science Standard F
Curriculum Standards

Life and Environmental Science	Boardworks High School Biology Presentations
THE CELL	
F.12.1 Evaluate the normal structures and the general and special functions of cells in single-celled and multiple-celled organisms	Eukaryotic Cells Prokaryotic Cells Organelles Aerobic Respiration Cell Theory Cells to Organisms
F.12.2 Understand how cells differentiate and how cells are regulated	Cell Differentiation DNA DNA Replication 1 DNA Replication 2 Controlling Protein Synthesis Transcription and Translation Enzymes Enzyme Shape Osmosis Protein Synthesis Proteins Nucleic Acids
THE MOLECULAR BASIS OF HEREDITY	

F.12.3 Explain current scientific ideas and information about the molecular and genetic basis of heredity	Meiosis DNA DNA Replication 1 DNA Replication 2 Genes and Alleles Genetic Variation Incomplete Dominance and Codominance Inherited Diseases Patterns of Inheritance Gregor Mendel Population Genetics The Stages of Meiosis Genetic Mutation
F.12.4 State the relationships between functions of the cell and functions of the organism as related to genetics and heredity	Cell Differentiation DNA Nucleic Acids Controlling Protein Synthesis
BIOLOGICAL EVOLUTION	
F.12.5 Understand the theory of evolution, natural selection, and biological classification	Darwin Evolution The Process of Evolution Classification
F.12.6. Using concepts of evolution and heredity, account for changes in species and the diversity of species, include the influence of these changes on science, e.g. breeding of plants or animals	The Process of Evolution Population Genetics Selective Breeding GM Organisms Loss of Diversity Evolution Superbugs
THE INTERDEPENDENCE OF ORGANISMS	
F.12.7 Investigate how organisms both cooperate and compete in ecosystems	Describing Populations Ecosystems Ecosystems and Succession

F.12.8 Using the science themes, infer changes in ecosystems prompted by the introduction of new species, environmental conditions, chemicals, and air, water, or earth pollution	Human Impact on the Environment Air Pollution Water Pollution Loss of Diversity The Impact of Mining The Impact of Using CFCs Climate Change Extinction Fossil Fuels Over-fishing
MATTER, ENERGY AND ORGANIZATION IN LIVING SYSTEMS	
F.12.9 Using the science themes, investigate energy systems (related to food chains) to show how energy is stored in food (plants and animals) and how energy is released by digestion and metabolism	Energy Transfer in Food Chains Energy Loss in Food Chains Digestion Food Chains Recycling Nutrients Aerobic Respiration Photosynthesis 1 Photosynthesis 2
F.12.10 Understand the impact of energy on organisms in living systems	Energy Transfer in Food Chains Energy Loss in Food Chains Digestion Food Chains Recycling Nutrients Aerobic Respiration Photosynthesis 1 Photosynthesis 2
F.12.11 Investigate how the complexity and organization of organisms accommodates the need for obtaining, transforming, transporting, releasing, and eliminating the matter and energy* used to sustain an organism	Photosynthesis 1 Photosynthesis 2 Aerobic Respiration Food Chains Digestion Animal Adaptations Plant Adaptations
THE BEHAVIOR OF ORGANISMS	

F.12.12 Trace how the sensory and nervous systems of various organisms react to the internal and external environment and transmit survival or learning stimuli to cause changes in behavior or responses	Behavior Reflexes The Nervous System Homeostasis Thermoregulation Glucoregulation