

**Illinois Learning Standards Goal 12
Content Standards Mapping**

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LIFE SCIENCE	Boardworks High School Biology Presentation
A. Know and apply concepts that explain how living things function, adapt and change.	
12.A.4a Explain how genetic combinations produce visible effects and variations among physical features and cellular functions of organisms.	Cell Differentiation Controlling Protein Synthesis DNA Replication 2 Genes and Alleles Gene Mutations Genetic Variation Incomplete Dominance and Codominance Inherited Diseases Patterns of Inheritance Transcription and Translation
12.A.4b Describe the structures and organization of cells and tissues that underlie basic life functions including nutrition, respiration, cellular transport, biosynthesis and reproduction.	Aerobic Respiration Cells to Organisms Controlling Movement Digestion Eukaryotic Cells Female Reproductive System Meiosis Mitosis Organelles Photosynthesis 1 Photosynthesis 2 Prokaryotic Cells Protein Synthesis Specialized Plant Cells The Endocrine System The Kidneys The Nervous System The Respiratory System Types of Muscles The Stages of Meiosis The Stages of Mitosis

<p>12.A.4c Describe processes by which organisms change over time using evidence from comparative anatomy and physiology, embryology, the fossil record, genetics and biochemistry.</p>	<p>Classification Evolution Extinction Fossil Record Population Genetics The Process of Evolution</p>
<p>12.A.5a Explain changes within cells and organisms in response to stimuli and changing environmental conditions (e.g. homeostasis, dormancy).</p>	<p>Behavior Diabetes Glucoregulation Homeostasis Hormones The Endocrine System The Kidneys The Nervous System Thermoregulation</p>
<p>12.A.5b Analyze the transmission of genetic traits, diseases and defects.</p>	<p>DNA Replication 2 Genetic Mutations Genes and Alleles Gregor Mendel Genetic Variation Inherited Diseases Meiosis Mitosis Patterns of Inheritance Transcription and Translation</p>
<p>B. Know and apply concepts that describe how living things interact with each other and with their environment.</p>	
<p>12.B.4a Compare physical, ecological and behavioral factors that influence interactions and interdependence of organisms.</p>	<p>Behavior Ecosystems Ecosystems and Succession Host-Parasite Interactions Predator-Prey Relationships</p>
<p>12.B.4b Simulate and analyze factors that influence the size and stability of populations within ecosystems (e.g. birth rate, death rate, predation, migration patterns).</p>	<p>Describing Populations Ecosystems Human Populations Predator-Prey Relationships</p>

<p>12.B.5a Analyze and explain biodiversity issues and the causes and effects of extinction.</p>	<p>Extinction Human Impact on the Environment Introduction to Biodiversity Loss of Diversity Over-fishing Sustainability</p>
<p>12.B.5b Compare and predict how life forms can adapt to changes in the environment by applying concepts of change and constancy (e.g. variations within a population increase the likelihood of survival under new conditions).</p>	<p>Animal Adaptations Ecosystems Environmental Variation Evolution Extinction Genetic Variation Plant Adaptations Population Genetics The Process of Evolution</p>