Youngstown City Schools
Grade 8 Science Pacing Guide
Grading Period 3

Strand/ Content Statement	Duration	Clear Learning Targets	Curriculum Resources	Vocabulary/Concepts
LIFE SCIENCE **Diversity of species occurs through gradual processes over many generations. Fossil records provide evidence that changes have occurred in number and types of species. (8.LS.1)** *Topics within this content statement will be assessed on **both** Part I: Performance-Based Assessment and Part 2: End-Of-Year Assessment of Ohio's Next Generation Assessments for Science.	Weeks 1-3	**"I Can…"** – explain how diversity can result from sexual reproduction. – describe how variations may allow for survival when the environment changes. – use data and evidence from geologic and fossil records to infer what the environment was like at the time of deposition.	Curriculum Units • Diversity of Living Things Science Textbook: Holt Series On-line Simulations: www.phet.colorado.edu • Natural Selection **(http://www.explorelearning.com)** • GIZMO: Inheritance • GIZMO: Natural Selection • GIZMO: Rainfall and Bird Beaks Discovery Education: (www.discoveryeducation.com) • Fossil Life: An Introduction [20:39] • Interpreting the Fossil Record [4:26] • Daily Planet: Uncovering Fossils [17:57] • Dinosaurs and Mass Extinction[2:07] • What Happened? Extinction of the Dinosaurs [4:09] Ohio Department of Education - Science: http://education.ohio.gov/Topics/Ohio-s-New-Learning-Standards/Science	Diversity Fossil Record Variations Traits Geologic and Fossil Records Extinction

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LIFE SCIENCE **Reproduction is necessary for the continuation of every species. (8.LS.2)** *Topics within this content statement will only be assessed on Part 2: End-Of-Year Assessment of Ohio's Next Generation Assessments for Science.	Weeks 3 -5	**"I Can…"** - explain that every organism alive today comes from a long line of ancestors who reproduced successfully every generation. -describe reproduction as the transfer of genetic information from one generation to the next. - predict the probability of traits that can occur with mixing of genes from two individuals (sexual reproduction). - use a model to represent the transfer of genes from one individual to the next generation (asexual reproduction). - compare the characteristics of asexual and sexual reproduction. (identical v. unique offspring; low energy expenditure v. high energy expenditure; short amount of time v. longer gestation, etc.) - compare meiosis and mitosis, their phases and purposes.	Curriculum Units • Asexual and Sexual Reproduction Science Textbook On-line Simulations: www.phet.colorado.edu • Inheritance • Cell division On-line Simulations(GIZMOS): http://www.explorelearning.com • GIZMO: Inheritance • GIZMO: Cell Division Discovery Education: • Cell Division [19:00] • Genes, Genetics, and DNA [24:13] • Genetic Engineering and Agriculture [21:18] Ohio Department of Education - Science: http://education.ohio.gov/Topics/Ohio-s-New-Learning-Standards/Science	Asexual Reproduction Bacteria Chromosome Clone Female Fertilization Gamete Genetic Modification (GM) Male Media Bias Meiosis Mitosis Sexual Reproduction Zygote

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LIFE SCIENCE **The characteristics of an organism are a result of inherited traits received from parent(s) (8.LS.3)** *Topics within this content statement will only be assessed on Part 2: End-Of-Year Assessment of Ohio's Next Generation Assessments for Science.	Weeks 6 -9	**"I Can…"** - explain how traits are passed from one generation to the next - identify the difference between dominant and recessive traits -demonstrate the Mendelian Law of Segregation -demonstrate the Mendelian Law of Independent Assortment ○ analyze Family Histories to Identify Inherited Genetic Disorders	Curriculum Units • Heredity: Traits, Genes, Alleles Science Textbook On-line Simulations: www.phet.colorado.edu • Genetics On-line Simulations: (www.explorelearning.com) • GIZMO: Inheritance • GIZMO: Mouse Genetics (one trait) • GIZMO: Chicken Genetics Discovery Education: (www.Discoveryeducation.com) • Genes, Genetics, and DNA [24:13] • Greatest Discoveries with Bill Nye: Genetics [44:39] • Understanding Genetics [37:13] • Patterns of Inheritance [2:31] Ohio Department of Education - Science: http://education.ohio.gov/Topics/Ohio-s-New-Learning-Standards/Science

Vocabulary/Concepts

Alleles
Co-dominance
Dominant Allele
Fertilization
Genes
Genetics
Genotype
Heredity
Heterozygous (hybrid)
Homozygous (purebred)
Hybrid
Offspring
Phenotype
Probability
Punnett Square
Recessive Allele
Trait