Columbus County Schools *Science Curriculum Guide*		
SUBJECT: Science	**GRADE LEVEL:** 8th	**GRADING PERIOD:** 1st – 2nd nine weeks
Module(s): D: Ecology and the Environment	Time Frame: 30 days **Dates: Aug. 25th – Oct. 10th**	**Unit: 2 Ecology and the Environment**
Essential Standard: **8. L.3:** Understand how organisms interact with and respond to the biotic and abiotic components of their environment.		

Lessons:	Technology and Literacy Standards and Tasks	Academic Vocabulary:	Assessment(s):	Additional Resources:
Lesson Name: **Ecosystems and Interactions Within** Clarifying Objective: **8. L.3.1:** Explain how factors such as food, water, shelter and space affect populations in an ecosystem. **8.L.3.2:** Summarize the relationships among producers, consumers and decomposers including the positive and negative consequences of such interactions including:	• CCSS.ELA-Literacy.RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. • CCSS.ELA-Literacy.RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. CCSS.ELA-Literacy.RST.6-8.5 Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic. CCSS.ELA-Literacy.RST.6-8.6	✯ population ✯ producer ✯ consumer ✯ decomposer ✯ coexistence ✯ cooperation ✯ competition ✯ predator ✯ prey ✯ parasitism ✯ mutualism ✯ thermal ✯ habitat ✯ matter ✯ energy ✯ niche ✯ biotic ✯ abiotic	Formative: • Quizzes • Cooperative Activities • Labs, Science Notebook • Foldable • Word Maps (graphic organizers) • Bell Ringer/Exit Tickets **Science Formative Assessment 75 practical strategies** • **Card sorts p.56** • **Annotated student drawings p.53**	• Science Fusion: D Ecology and the environment-Unit 1, lesson 1-4, pages 12-68. • *North Carolina End of Grade Coach (2013):* Chapter 5 • *Passing the North Carolina EOG Science* American Book Company: Chapter 8 • *McDougal Littell Science* Grade 8: Unit B: Chapter 3 • *McDougal Littell Science* Grade 6:

• Coexistence and cooperation • Competition(predator/prey) • Parasitism • Mutualism Time Frame: **20 days** Essential Question: How are different parts of the environment connected? How does energy flow through an ecosystem? What determines a population's size? **STUDENT "I CAN" STATEMENTS** • I can differentiate between biotic and abiotic factors. • I can identify factors that influence organisms. • I can identify producers, consumers, and decomposers in a food chain or web. • I can explain how organisms are affected by symbiotic relationships. • I can give examples of symbiotic relationships. • I can illustrate how energy flows from the sun to producers to consumers to decomposers.	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text. 8. SI.1: Research relevant topics, use graphic organizers, and evaluate the validity of non-fiction science resources both online and in text. **Activity: Write to Learn** **Science 6 6.1 How are organisms on Earth connected?** **Science 5 5.1 What is an ecosystem?**	✯ internal ✯ external ✯ structure ✯ scavenger ✯ terrestrial ✯ aquatic/marine ✯ fresh water ✯ salt water ✯ food webs ✯ symbiotic ✯ commensalism ✯ ecosystem	• **First word/last word p. 89-91** • **K/W/L variations p.128** **Uncovering student ideas in science. Vol. 1 (Keeley)** • **Is it living? p.123** **Uncovering student ideas in science. Vol. 3 (Keeley)** • **Is it a plant? P.93** • **Needs of seeds. P.102** • **Is it food for plants? P.113** Summative: • Projects (with rubrics: Powerpoint/Flip chart, Animoto, Prezi, brochures, WebQuests, internet based research assignments • ClassScape: Classroom based and County	Unit D: Chapter 2 • *NCDPI Curriculum Unit Grade 6 "Population Dynamics"* • *Project Learning Tree Manual*: • Activity 7, 22, 23, 24, 26, 29 • *Project Wild Aquatic:* • "Water We Eating" p. 83 • "Marsh Munchers" p. 35 • *Project Wild:* • "Habitat Rummy" p.14 • "How Many Bears Can Live in this Forest" p. 23 • "Oh Deer" p.36 • "Carrying Capacity" p. 46 • "Habitat Lap Sit" p.61 • "Good Buddies" p.91 • "Muskox Maneuvers" p. 130 • "Ecosystem Facelift" p. 166 • "Shrinking Habitats" p. 310 • "Hazardous Links, Possible Solutions" p. 326

			Benchmark • Chapter and Unit tests(Science fusion Test bank)	
Lesson Name: **The Web of Life** Clarifying Objective: **8. L.3.3:** Explain how the flow of energy within food webs is interconnected with the cycling of matter (including water, nitrogen, carbon dioxide and oxygen). Time Frame:**10 days** Essential Question: How do energy and matter move through ecosystems? **STUDENT "I CAN" STATEMENTS** • I can explain how an aquatic food chain and a terrestrial food chain can be interconnected. • I can illustrate a food chain. • I can differentiate between a food web and a food chain. • I can explain the processes involved in the nitrogen cycle. • I can illustrate the carbon cycle. • I can summarize how food provides energy to organisms. • I can describe how glucose is used for building cellular	L.2: Summarizing activities and identify processes that lead to a logical conclusion. L.6: Use of articles, journals, and leveled readers from various authors that focus on nonfiction science texts. L.7: Translate text evidence into graphic organizers. 8. SI.1: Research relevant topics, use graphic organizers, and evaluate the validity of non-fiction science resources both online and in text. **Activity: Write to Learn** **Science 5 5.1 What is an ecosystem?**	✯ condensation ✯ transpiration ✯ evaporation ✯ precipitation ✯ food chain ✯ cycle ✯ fertilizer ✯ herbivore ✯ carnivore ✯ omnivore ✯ photosynthesis ✯ ecologist ✯ autotrophic ✯ heterotrophic	Formative: • Quizzes • Cooperative Activities • Labs, Science Notebook • Foldables • Word Maps (graphic organizers) • Bell Ringer/Exit Tickets **Uncovering student ideas in science. Vol. 3 (Keeley)** • **Is it a plant? P.93** • **Needs of seeds. P.102** • **Is it food for plants? P.113** Summative: • Projects (with rubrics: Powerpoint/Flip chart, Animoto, Prezi, brochures, WebQuests,	• Science Fusion: D Ecology and the environment- • *McDougal Littell Science* Grade 8: • Unit E: Chapter 2 • *McDougal Littell Science* Grade 8: • Unit E: Chapter 3 • *McDougal Littell Science* Grade 8: • Unit E: Chapter 1 • Unit D: Chapter 5 • *NCDPI Curriculum Unit Grade 6* "Ecosystem Interactions" • *Passing the North Carolina EOG Science* (American Book Company): Chapters 21*, 23, 24* • *North Carolina End of Grade Coach*

structures. • I can match major cellular structures with their functions. • I can identify organic compounds and their use for growth and survival.			internet based research assignments • ClassScape: Classroom based and County Benchmark • Chapter and Unit tests(Science fusion Test bank)	*(2013): Chapter 3, 5* • *Project Learning Tree: Activity 45* • *Project Wild Aquatic:* • "Water We Eating" p. 83 • *"*Marsh Munchers" p. 35