Mohawk Local Schools   Grade BIOLOGY

Quarter 4   Curriculum Guide

Guiding Principles of the Scientific Inquiry/Learning Cycle:

Evaluate….Engage…Explore…Explain…Extend…Evaluate

Identify ask valid and testable questions
Research books, other resources to gather known information
Plan and Investigate
Use appropriate mathematics, technology tools to gather, interpret data.
Organize, evaluate, interpret observations, measurements, other data
Use evidence, scientific knowledge to develop explanations
Communicate results with graphs charts, tables

Critical Areas of Focus Being Addressed:
- o   Diversity and Interdependence of Life
- o   Scientific Inquiry

Content Statements Addressed and Whether they are Knowledge, Reasoning, Performance Skill, or Product: (DOK1) (DOK2) (DOK3) (DOK4)	Underpinning Targets Corresponding with Standards and Whether they are Knowledge, Reasoning, Performance Skill, or Product: "I can…..", "Students Will Be Able To……."
Ecosystems – Carrying capacity (DOK1) (DOK2) (DOK4)	• Interpret models describing carrying capacity and homeostasis within ecosystems supported with

	mathematical evidence. (R) • Interpret population graphs or charts containing authentic, real-world data; (R) • Use mathematical reasoning to interpret exponential or logistic growth models; (R) • Design or simulate a population growth model by manipulating environmental conditions; (P) • Give population graphs or charts containing data, analyzing the history or predict the future of an ecosystem; (K) • Use mathematical models to explain carrying capacity and homeostasis within ecosystems; (R) • Given a scenario, design an experiment to predict the effect of several possible factors on the carrying capacity. (P)
Ecosystems – Equilibrium disequilibrium (DOK 2)	• Understand cyclical fluctuations of ecosystems around a rough state of equilibrium; (R) • Describe energy flow at ecosystem and molecular levels; (R) • Interpret diagrams of food chains and webs to explain real-world relationships or events within an ecosystem (e.g., biomagnification, invasive species, energy flow and nutrient cycle changes); (R) • Comprehend scenarios involving remediation and habitat restoration programs (e.g., fish populations in the Great Lakes); (R) • Comprehend scenarios involving niche partitioning, competition for resources, immigration/emigration from an ecosystem, or environmental change; (R) • Predict the effect of geological, biological, or environmental changes on a population within an ecosystem (e.g., climate change, deforestation, human development); (R) • Discuss the implications of technology or engineering

	on an ecosystem (e.g., power plant increasing water temperature); (R)