



# MOHAWK

## Local School District

*Preparing today's students for tomorrow's challenges*

### Mohawk Local Schools 8<sup>th</sup> Grade - SCIENCE

### Quarter 1 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:

- Species and Reproduction
- Science Inquiry and Applications

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....."

Diversity of species occurs through gradual processes over many generations. Fossil records provide evidence that changes have occurred in most species.  
 (DOK 3)

- The students can explain how diversity can result from sexual reproduction. **R**
- The students can describe how variations may allow for survival when the environment changes. **PS**
- The students can use data and evidence from geologic

	<p>and fossil records to infer what the environment was like at the time of deposition. <b>PS</b></p>
<p>Reproduction is necessary for the continuation of every species. (DOK 2)</p>	<ul style="list-style-type: none"> <li>• The students can explain that every organism alive today comes from a long line of ancestors who reproduced successfully every generation. <b>R</b></li> <li>• The students can describe reproduction as the transfer of genetic information from one generation to the next. <b>K</b></li> <li>• The students can predict the probability of traits that can occur with mixing of genes from two individuals (sexual reproduction). <b>R</b></li> <li>• The students can use a model to represent the transfer of genes from one individual to the next generation (asexual reproduction). <b>K</b></li> <li>• The students can 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.) <b>R</b></li> <li>• The students can compare meiosis and mitosis, their phases and purposes. <b>R</b></li> </ul>
<p>The characteristics of an organism are a result of inherited traits received from parent(s). (DOK 3)</p>	<ul style="list-style-type: none"> <li>• The students can explain how traits are passed from one generation to the next. <b>R</b></li> <li>• The students can identify the difference between dominant and recessive traits. <b>R</b></li> <li>• The students can demonstrate the Mendelian Law of Segregation. <b>R</b></li> <li>• The students can demonstrate the Mendelian Law of Independent Assortment. <b>R</b></li> <li>• The students can analyze Family Histories to Identify Inherited Genetic Disorders. <b>PS</b></li> </ul>