

Marshall Public Schools

Grading for Learning Rubric



The purpose of grading is to communicate the student's performance in relation to the learning goals and standards.

Grading Scale

0 = No Evidence No evidence of conceptual understanding.	1 = Needs Improvement Evidence of minimal understanding, not grasping the concepts even with teacher assistance.	2 = Progressing Evidence shows growth; progressing toward the standard/s.	3 = Proficient Evidence demonstrates understanding and application of the standard/s.	4 = Exemplary Evidence demonstrates a deeper understanding of the standard/s.
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Course Title: Biology

Grade Level(s): 9-12

Standard #1: Questioning

Needs Improvement	Progressing	Proficient	Exemplary
I can ask clarifying questions based on my observations.	I can ask questions that seek additional information or clarify a relationship.	I can ask questions that draw connections between different aspects of a topic, or which improve a model.	I can ask questions that: <ul style="list-style-type: none"> a) lead to investigation development or provide alternate data interpretation b) draw connections to different aspects of science or to other content areas

Standard #2: Investigating

Needs Improvement	Progressing	Proficient	Exemplary
I can carry out prescribed procedures to acquire data and/or information.	I can plan and conduct an investigation to produce data. I can identify variables in my investigation.	I can manipulate and control variables appropriately in my planned investigation; the data produced is used to answer my question(s).	I can plan and conduct an investigation to produce data/research to serve as the basis of evidence to answer my questions or solve a problem. I can provide a sound rationale for the choice in the manipulated variables.

Standard #3: Modeling

* Models include: diagrams, drawings, physical replicas, mathematical representations, analogies, and computer simulations

Needs Improvement	Progressing	Proficient	Exemplary
I can use a model to explain a concept.	I can use a model to explain relationships between concepts.	I can develop or evaluate a model based on evidence to illustrate relationships between concepts. I can design a test of the model to determine its reliability.	I can develop/revise/use a model based on evidence to predict relationships between components of a system, or apply my own model as a solution to solve a problem.

Standard #4: Analyzing and Interpreting Data

Needs Improvement	Progressing	Proficient	Exemplary
<p>I can analyze data quality (qualitative or quantitative) using tools, technologies, and/or models.</p> <p>I can identify general trends in variables.</p>	<p>I can determine the relationship between variables (eg: linear, exponential).</p> <p>I can compare and contrast various types of data (eg: self-generated, published).</p> <p>I can identify possible sources of error.</p>	<p>I can mathematically describe the relationship between variables (eg: calculate rates of change, construct equations that relate variables).</p> <p>I can evaluate reliability of data, consider limitations of data analysis, or be able to distinguish between causal and correlational relationships.</p>	<p>I can evaluate the impact of new data on the working explanations and/or model of a proposed process.</p>

Standard #5: Constructing and Supporting Explanations

Needs Improvement	Progressing	Proficient	Exemplary
<p>I can make a claim regarding general trends in variables.</p>	<p>I can make a claim regarding the relationship between variables and support it with credible evidence.</p>	<p>I can explain results of the investigation by applying scientific reasoning, theory or models.</p> <p>I provide counter-arguments or explore other possible conclusions.</p>	<p>I can refine the investigation, design a solution, make connections, or apply the findings.</p> <p>I can critically evaluate counter-arguments or other possible conclusions.</p> <p>I can use multiple formats (images/ diagrams, verbal descriptions, video/animations, etc...) to explain scientific reasoning.</p>

Standard #6: Evaluating and Communicating Information

Needs Improvement	Progressing	Proficient	Exemplary
<p>I can obtain and integrate accurate information from a reliable scientific resource, and communicate this information effectively.</p> <p>All sources (research and images) are cited in APA format.</p>	<p>I can gather accurate information from multiple reliable scientific resources, and communicate this information effectively.</p> <p>All sources (research and images) are cited in APA format.</p>	<p>I can obtain, integrate, and compare accurate information from multiple reliable scientific resources, and communicate this information effectively.</p> <p>All sources (research and images) are cited in APA format.</p>	<p>I can make accurate connections based upon multiple credible scientific resources, use primary resources, and assess the validity/reliability while communicating the information effectively.</p> <p>All sources (research and images) are cited in APA format.</p>

Standard #7: Content Knowledge

	Needs Improvement	Progressing	Proficient	Exemplary
MITOSIS and CANCER	<p>I can explain how mitosis is related to growth/repair</p> <p>I can identify risk factors for developing cancer</p>	<p>I can explain cellular structures and their role in cell division</p> <p>I can describe characteristics of cancerous versus normal cells - I can properly identify traits of a benign or malignant tumor</p>	<p>I can explain the role of DNA in cell division, including the role of DNA mutation in cancer development</p>	<p>I can apply knowledge of cell division and the structures related to mitosis and explain cancer treatment (explain chemo/radiation, cancer development)</p>

	Needs Improvement	Progressing	Proficient	Exemplary
MEIOSIS and GENETIC DISEASES	<p>I can explain how meiosis is related to gamete production</p>	<p>I can justify the reason for 2 types of cell division when considering their role in a species</p>	<p>I can distinguish between the role of mitosis and meiosis (where, how, and why)</p>	<p>I can apply my knowledge of cell division to explain disease causes and treatment (explain karyotypes and other genetic diseases)</p>

	Needs Improvement	Basic	Proficient	Exemplary
HEREDITY	<p>I can define and explain vocabulary</p> <p>I can finish monohybrid crosses (simple punnett squares)</p>	<p>I can determine genotypes to use in the monohybrid cross, complete the cross, and analyze the results</p> <p>I can set up and complete test crosses</p>	<p>I can set up, complete, and analyze sex-linked punnett squares, pedigrees, and multiple allele punnett squares (blood types)</p>	<p>I can set up, complete, and analyze dihybrid crosses (double punnett squares; ex: A+/B-)</p>