

USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY		
Maine Science & Technology Performance Indicators: Grades 9 – Diploma		
Lesson	Indicator	Descriptor
1, 2, 3	A2	Evaluate the effectiveness of a model by comparing its predictions to actual observations from the physical setting, the living environment, and the technological world.
1, 2, 3	A4.a	Describe how large changes of scale may change how physical and biological systems work and provide examples.
1, 2	A4.b	Mathematically represent large magnitudes of scale.
2, 3	B1.a	Identify questions, concepts, and testable hypotheses that guide scientific investigations.
2, 3	B1.b	Design and safely conduct methodical scientific investigations, including experiments with controls.
1, 2, 3	B1.d	Formulate and revise scientific investigations and models using logic and evidence.
1, 2, 3	B1.e	Use a variety of tools and technologies to improve investigations and communications.
1, 2, 3	B1.f	Recognize and analyze alternative explanations and models using scientific criteria.
2, 3	B1.g	Communicate and defend scientific ideas.
3	C1.a	Describe how hypotheses and past and present knowledge guide and influence scientific investigations.
3	C1.b	Describe how scientists defend their evidence and explanations using logical arguments and verifiable results.
1, 3, 4	C2.a	Provide an example that shows how science advances with the introduction of new technologies and how solving technological problems often impacts new scientific knowledge.
1, 4	C2.b	Provide examples of how creativity, imagination, and a good knowledge base are required to advance scientific ideas and technological design.
1, 3, 4	C2.c	Provide examples that illustrate how technological solutions to problems sometimes lead to new problems or new fields of inquiry.
1, 4	C3.c	Explain how ethical, societal, political, economic, religious, and cultural factors influence the development and use of science and technology.
1, 4	C4.b	Select and describe one of the major episodes in the history of science including how the scientific knowledge changed over time and any important effects on science and society.
3	E3.d	Describe ways in which cells can malfunction and put an organism at risk.
Maine Mathematics Performance Indicators: Grade 9 – Diploma		
Lesson	Indicator	Descriptor
1	A1.c	Compute using laws of exponents.

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1	A1.d	Multiply and divide numbers expressed in scientific notation.
1	B1.b	Represent an approximate measurement using appropriate numbers of significant figures.
3	B2.a	Recognize when correlation has been confused with cause and effect.

Maine English Language Arts Performance Indicators: Grade 9 – Diploma

Lesson	Indicator	Descriptor
2, 3, 4	A1.a	Use a flexible range of before, during and after reading strategies to deepen understanding of the author’s message.
2, 3, 4	A1.b	Demonstrate ownership of appropriate vocabulary by effectively using a word in different contexts and for different reasons.
2, 3, 4	A1.c	Determine the meaning of unknown words by analyzing the context in which they are used, using reference sources, and applying knowledge of word parts and their meanings.
2, 3, 4	A1.f	Demonstrate comprehension by evaluating texts using established criteria.
2, 3, 4	A3.a	Evaluate the extent to which the author’s conclusions can be logically drawn from the provided evidence.
2, 3, 4	A3.b	Evaluate the data contained in tables, charts, graphics, etc., for accuracy, credibility, and relevancy.
4	B1.a	Locate, summarize, and synthesize information from primary and secondary sources, as necessary.
3, 4	B1.e	Create legible final drafts.
3, 4	B2.a	Use diction, syntax, imagery, and tone to create a distinctive voice.
3, 4	B2.b	Organize ideas in a logical sequence with effective transitions.
3, 4	B3.a	Explain and evaluate information from reading, listening, or viewing.
3, 4	B3.b	Write thesis-driven essays that build a logical argument and support assertions with examples and evidence that are accurate, credible, and relevant.
3, 4	C1.c	Synthesize information from varied sources and/or data gathered from fieldwork and interviews.
3, 4	D1.a	Use appropriate diction, syntax, and figurative language to suit purpose, context, and audience.
3, 4	D2.a	Use appropriate punctuation, spelling, and sentence and paragraph structure to suit purpose, situation, and audience.
All lessons	E1.a	Formulate clarifying questions.
All lessons	E1.b	Examine and critique information presented.
All lessons	E1.c	Expand on ideas presented by others.
All lessons	E2.a	Choose and present appropriate information logically and ethically.
2, 3	F1.b	Explain the similarities and differences between the messages conveyed by print and non-print sources.

Maine Health and Physical Education Performance Indicators: Grade 9 – Diploma

Lesson	Indicator	Descriptor
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MAINE ALIGNMENT FOR NIH SUPPLEMENT USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY

3	A3	Explain causes of common diseases, disorders, and other health problems and propose ways to reduce, prevent, or treat them.
1, 3, 4	D2	Evaluate the impact of technology, including medical technology, on personal, family, and community health.