

OREGON ALIGNMENT FOR NIH SUPPLEMENT USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY

USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY		
Oregon Science Content Standards: CIM		
Lesson	CCG	Descriptor
1, 2, 3	SC.CM.LS.01.07	Explain how the development of tools and technology, including microscopes, has aided in the understanding of cells and microbes.
3, 4	SC.CM.LS.02.05	Recognize the existence of technology that can alter and/or determine inherited traits.
2, 3	SC.CM.SI.01	Based on observations and scientific concepts, ask questions or form hypotheses that can be answered or tested through scientific investigations.
2	SC.CM.SI.02	Design a scientific investigation that provides sufficient data to answer a question or test a hypothesis.
1, 2, 3	SC.CM.SI.03	Collect, organize, and display sufficient data to facilitate scientific analysis and interpretation.
2, 3	SC.CM.SI.04	Summarize and analyze data, evaluating sources of error or bias. Propose explanations that are supported by data and knowledge of scientific terminology.
3	Unifying Concepts and Processes	Understand that any collection of things that have an influence on one another can be thought of as a system.
1, 2, 3	Unifying Concepts and Processes	Understand that a model is a tentative scheme or structure with explanatory power.
1, 2, 3	Unifying Concepts and Processes	Understand that changes in scale influence the characteristics, properties, and relationships within a system.
1, 4	History and Nature of Science	Understand that science is a human endeavor practiced by individuals from many different cultures.
1, 2, 3	History and Nature of Science	Understand that scientific knowledge is subject to change based on new findings and results of scientific observation and experimentation.
3	History and Nature of Science	Understand that scientific knowledge distinguishes itself through the use of empirical standards, logical arguments, and skepticism.
3, 4	Science in Personal and Social Perspectives	Describe the role of science and technology in local, national, and global issues.

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All lessons	Science and Technology	Understand the relationship that exists between science and technology.
4	Science and Technology	Understand the process of technological design to solve problems and meet needs.

Oregon Mathematics Content Standards: CIM

Lesson	CCG	Descriptor
1	MA.CM.CE.02	Order and compare numbers expressed in scientific notation to each other and to other forms of real numbers.
1	MA.CM.CE.06	Compute with real numbers, including absolute value and numbers expressed in scientific notation.
1	MA.CM.CE.08	Mentally multiply and divide by powers of 10 to estimate results of computations involving numbers expressed in scientific notation.
1, 2	MA.CM.ME.01	Determine the appropriate units, scales, and tools for problem situations involving measurement.
1, 2	MA.CM.PS.01	Interpret the concepts of a problem-solving task and translate them into mathematics.
1, 2	MA.CM.PS.02	Choose strategies that can work and then carry out the strategies chosen.
1, 2	MA.CM.PS.04	Use pictures, symbols, and/or vocabulary to convey the path to the identified solution.
1, 2	MA.CM.PS.05	Accurately solve problems using mathematics.

Oregon English/Language Arts Content Standards: CIM

Lesson	CCG	Descriptor
3, 4	EL.CM.RE.02	Listen to, read, and understand a wide variety of informational and narrative text, including classic and contemporary literature, poetry, magazines, newspapers, reference materials, and online information.
3, 4	EL.CM.RE.03	Make connections to text, within text, and among texts across the subject areas.
2, 3, 4	EL.CM.RE.04	Demonstrate listening comprehension of more complex text through class and/or small group interpretive discussions across the subject areas.
2, 3, 4	EL.CM.RE.05	Match reading to purpose—location of information, full comprehension, and personal enjoyment.
2, 3, 4	EL.CM.RE.06	Understand and draw upon a variety of comprehension strategies as needed—re-reading, self-correcting, summarizing, class and group discussions, generating and responding to essential questions, making predictions, and comparing information from several sources.
2, 3, 4	EL.CM.RE.07	Clearly identify specific words or wordings that are causing comprehension difficulties and use strategies to correct.
2, 3, 4	EL.CM.RE.08	Understand, learn, and use new vocabulary that is introduced and taught directly through informational text, literary text, and instruction across the subject areas.
2, 3, 4	EL.CM.RE.09	Determine meanings of words using contextual and structural clues.
2, 3, 4	EL.CM.RE.14	Understand technical vocabulary in subject area reading.

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3, 4	EL.CM.RE.15	Read textbooks; biographical sketches; letters; diaries; directions; procedures; magazines; essays; primary source historical documents; editorials; news stories; periodicals; bus routes; catalogs; technical directions; consumer, workplace, and public documents.
2, 3, 4	EL.CM.RE.16	Synthesize information found in various parts of charts, tables, diagrams, glossaries, or related grade-level text to reach supported conclusions.
2, 3, 4	EL.CM.RE.18	Demonstrate sophisticated use of technology by following directions in technical manuals (e.g., those found with graphing calculators and specialized software programs and in access guides to World Wide Websites on the Internet).
3	EL.CM.RE.19	Identify and/or summarize sequence of events, main ideas, facts, supporting details, and opinions in informational and practical selections.
3	EL.CM.RE.20	Clarify understanding of informational texts by creating sophisticated outlines, graphic organizers, diagrams, logical notes, or summaries.
3	EL.CM.RE.27	Differentiate among reasoning based on fact versus reasoning based on opinions, emotional appeals, or other persuasive techniques.
3	EL.CM.RE.29	Compare and contrast information on the same topic after reading several passages or articles.
4	EL.CM.RE.33	Generate relevant questions about readings on issues that can be researched.
3, 4	EL.CM.WR.08	Establish a coherent and clearly supported thesis that engages the reader, conveys a clear and distinctive perspective on the subject, maintains a consistent tone and focus throughout the piece of writing, and ends with a well supported conclusion.
3, 4	EL.CM.WR.14	Produce writing that shows accurate spelling.
3, 4	EL.CM.WR.17	Demonstrate an understanding of proper English usage, including the consistent use of verb tenses and forms.
3, 4	EL.CM.WR.20	Write legibly.
3, 4	EL.CM.WR.23	Write analytical essays and research reports: <ul style="list-style-type: none"> • Gather evidence in support of a thesis, including information on all relevant perspectives. • Convey information and ideas from primary and secondary sources accurately and coherently. • Make distinctions between the relative value and significance of specific data, facts, and ideas. • Include visual aids by employing appropriate technology to organize and record information on charts, maps, and graphs. • Anticipate and address readers' potential misunderstandings, biases, and expectations. • Use technical terms and notations accurately. • Document sources.
2, 3, 4	EL.CM.SL.01	Present and support a clear thesis statement and choose appropriate types of proof (e.g., statistics, testimony, specific instances) that meet standard tests for evidence, including credibility, validity, and relevance.
2, 3, 4	EL.CM.SL.06	Use appropriate grammar.
2, 3, 4	EL.CM.SL.10	Formulate judgments about ideas under discussion, and support those judgments with convincing evidence.
All lessons	EL.CM.SL.11	Follow complex verbal instructions that include technical vocabulary and processes.

Oregon Health Content Standards: CIM

Lesson	CCG	Descriptor
3	HE.CM.HS.01	Access information and resources to meet specific health needs and solve health related problems.