

OREGON ALIGNMENT FOR NIH SUPPLEMENT CELL BIOLOGY AND CANCER

CELL BIOLOGY AND CANCER		
Oregon Science Content Standards: CIM		
Activity	CCG	Descriptor
2	SC.CM.LS.01.01	Describe how biological systems can maintain equilibrium (homeostasis).
2	SC.CM.LS.02.02	Recognize and understand the differences between meiosis and mitosis in cellular reproduction.
1, 2, 3	SC.CM.LS.02.03	Recognize that changes in DNA (mutations) and anomalies in chromosomes create changes in organisms.
2	SC.CM.LS.02.05	Recognize the existence of technology that can alter and/or determine inherited traits.
2	SC.CM.LS.04.04	Explain the relationship between genetics, mutations, and biological evolution.
3, 4	SC.CM.SI.01	Based on observations and scientific concepts, ask questions or form hypotheses that can be answered or tested through scientific investigations.
3, 4	SC.CM.SI.02	Design a scientific investigation that provides sufficient data to answer a question or test a hypothesis.
1, 2, 3, 4	SC.CM.SI.03	Collect, organize, and display sufficient data to facilitate scientific analysis and interpretation.
1, 2, 3, 4	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.
1, 2, 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.
3, 4	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 both patterns of change and stability are important in the natural world.
1, 2	Unifying Concepts and Processes	Understand that changes in scale influence the characteristics, properties, and relationships within a system.
2, 4	History and Nature of Science	Understand that science is a human endeavor practiced by individuals from many different cultures.
2, 3, 4	History and Nature of Science	Understand that scientific knowledge is subject to change based on new findings and results of scientific observation and experimentation.
2, 3, 4	History and	Understand that scientific knowledge distinguishes itself through the use of empirical standards, logical arguments,

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	Nature of Science	and skepticism.
4, 5	Science in Personal and Social Perspectives	Describe the role of science and technology in local, national, and global issues.
1, 4, 5	Science in Personal and Social Perspectives	Explain risks and benefits in personal and community health from a science perspective.
3, 4	Science and Technology	Understand the relationship that exists between science and technology.

Oregon Mathematics Content Standards: CIM

Activity	CCG	Descriptor
1, 3	MA.CM.CE.06	Compute with real numbers, including absolute value and numbers expressed in scientific notation.
3	MA.CM.SP.07	Determine appropriate designs for simulations (surveys, observational studies, and experiments) and modeling to study a problem and construct empirical probability distributions to represent results.
1,3	MA.CM.SP.08	Use matrices, histograms, scatter plots, stem-and-leaf plots, and box-and whisker-plots to interpret data.
1, 3	MA.CM.SP.11	Make predictions about populations based on reported sample statistics.
3	MA.CM.AR.16	Determine when data represented in a table or graph represents a linear, quadratic, or exponential relationship.
3	MA.CM.AR.18	Analyze the nature of change of each variable in a non-linear relationship as suggested by a table of values, a graph, or a formula.
3	MA.CM.PS.01	Interpret the concepts of a problem-solving task and translate them into mathematics.
3	MA.CM.PS.02	Choose strategies that can work and then carry out the strategies chosen.
3	MA.CM.PS.04	Use pictures, symbols, and/or vocabulary to convey the path to the identified solution.
1, 3	MA.CM.PS.05	Accurately solve problems using mathematics.

Oregon English/Language Arts Content Standards: CIM

Activity	CCG	Descriptor
All activities	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.
All activities	EL.CM.RE.03	Make connections to text, within text, and among texts across the subject areas.
All activities	EL.CM.RE.04	Demonstrate listening comprehension of more complex text through class and/or small group interpretive

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		discussions across the subject areas.
All activities	EL.CM.RE.05	Match reading to purpose—location of information, full comprehension, and personal enjoyment.
All activities	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.
All activities	EL.CM.RE.07	Clearly identify specific words or wordings that are causing comprehension difficulties and use strategies to correct.
All activities	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.
All activities	EL.CM.RE.09	Determine meanings of words using contextual and structural clues.
All activities	EL.CM.RE.14	Understand technical vocabulary in subject area reading.
All activities	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.
All activities	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).
All activities	EL.CM.RE.19	Identify and/or summarize sequence of events, main ideas, facts, supporting details, and opinions in informational and practical selections.
2, 3	EL.CM.RE.20	Clarify understanding of informational texts by creating sophisticated outlines, graphic organizers, diagrams, logical notes, or summaries.
All activities	EL.CM.RE.27	Differentiate among reasoning based on fact versus reasoning based on opinions, emotional appeals, or other persuasive techniques.
All activities	EL.CM.RE.29	Compare and contrast information on the same topic after reading several passages or articles.
3, 4	EL.CM.RE.33	Generate relevant questions about readings on issues that can be researched.
2, 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.
1, 2, 3, 4	EL.CM.WR.14	Produce writing that shows accurate spelling.
1, 2, 3, 4	EL.CM.WR.17	Demonstrate an understanding of proper English usage, including the consistent use of verb tenses and forms.
1, 2, 3, 4	EL.CM.WR.20	Write legibly.
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.

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		<ul style="list-style-type: none"> • 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.
5	EL.CM.WR.24	<p>Write persuasive compositions:</p> <ul style="list-style-type: none"> • Structure ideas and arguments in a sustained and logical fashion. • Use specific rhetorical (communication) devices to support assertions, such as appealing to logic through reasoning; appealing to emotion or ethical beliefs; or relating a personal anecdote, case study, or analogy. • Clarify and defend positions with precise and relevant evidence, including facts, expert opinions, quotations, and expressions of commonly accepted beliefs and logical reasoning. • Address readers' concerns, counter-claims, biases, and expectations.
2, 3, 4, 5	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.
All activities	EL.CM.SL.06	Use appropriate grammar.
All activities	EL.CM.SL.10	Formulate judgments about ideas under discussion, and support those judgments with convincing evidence.
1, 2, 3, 4	EL.CM.SL.11	Follow complex verbal instructions that include technical vocabulary and processes.
Oregon Health Content Standards: CIM		
Activity	CCG	Descriptor
4, 5	HE.CM.HS.01	Access information and resources to meet specific health needs and solve health related problems.
5	HE.CM.HS.02	Demonstrate personal responsibility to follow procedures that enhance health and reduce risk.
1, 2, 5	HE.CM.HS.03	Analyze influences on health related choices (e.g., personal/family/cultural values, media, technology, peers, body image, emotions, physical and social environments, and public health policies)
5	HE.CM.HS.06	Use a decision making model to make lifelong healthy decisions.
5	HE.CM.HS.07	Advocate to self, peers, family and community members, the importance of participating in health enhancing behaviors and abstaining from unsafe behaviors.
5	HE.CM.EH.01	Identify ways to prevent exposure to the sun, including tanning beds.
5	HE.CM.EH.02	Analyze influences that encourage young people to abstain from protecting oneself from the sun and influences that encourage the use of tanning beds.
5	HE.CM.EH.03	Communicate to others the importance of preventing exposure to UV rays and other harmful substances.