HOW YOUR BRAIN UNDERSTANDS WHAT YOUR EAR HEARS		
Oregon Science Content Standards: Grade 8		
Lesson	**CCG**	**Descriptor**
	SC.08.PS.01.02	Recognize that substances may be grouped by their physical properties.
3, 4	**SC.08.PS.05**	Compare forms and behaviors of various types of energy.
4	**SC.08.PS.06**	Describe and explain various energy transfers and resulting transformations.
4	**SC.08.PS.06.02**	Explain the principle that energy is conserved, neither created nor destroyed.
4, 5	**SC.08.LS.01.01**	Identify organ systems at work during a particular activity and describe their effect on each other.
5	**SC.08.LS.02.04**	Explain how our understanding of cells and microbes has changed over time.
1, 3, 5	**SC.08.LS.03.02**	Identify traits inherited through genes and those resulting from interactions with the environment.
3, 4, 5	**SC.08.SI.01**	Based on observations and scientific concepts, ask questions or form hypotheses that can be explored through scientific investigations.
3, 4, 5	**SC.08.SI.02**	Design a scientific investigation to answer questions or test hypotheses.
3, 4, 5	**SC.08.SI.03**	Collect, organize, and display sufficient data to support analysis.
3, 4, 5	**SC.08.SI.04**	Summarize and analyze data including possible sources of error. Explain results and offer reasonable and accurate interpretations and implications.
2, 3, 4	**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, 3, 4	**Unifying Concepts and Processes**	Understand that a model is a tentative scheme or structure with explanatory power.
1, 3, 4	**Unifying Concepts and Processes**	Understand that both patterns of change and stability are important in the natural world.
2, 3, 4	**History and Nature of Science**	Understand that science is a human endeavor practiced by individuals from many different cultures.
3, 4, 5	**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, 4	**History and Nature of Science**	Understand that scientific knowledge distinguishes itself through the use of empirical standards, logical arguments and skepticism.
5	**Science in**	Describe the role of science and technology in local, national and global issues.

	Personal and Social Perspectives	
4, 5	**Science in Personal and Social Perspectives**	Explain risks and benefits in personal and community health from a science perspective.
4, 5	**Science and Technology**	Understand the relationship that exists between science and technology.

Oregon Mathematics Content Standards: Grades 6 – 8

Grade 6

Lesson	CCG	Descriptor
3, 5	**MA.06.CE.01**	Order, model, and compare positive rational numbers (fractions, decimals, and percentages).
3, 5	**MA.06.CE.20**	Use the inverse operations of addition and subtraction to solve problems and check solutions involving adding and subtracting fractions and mixed numbers.
3, 5	**MA.06.CE.21**	Apply the associative, commutative, and distributive properties to simplify computations with positive rational numbers.
3, 5	**MA.06.AR.01**	Represent, analyze, and determine rules for finding patterns involving positive rational numbers with tables, graphs, words, and when possible, symbolic rules.
3, 5	**MA.06.AR.06**	Model and solve contextualized problems using various representations such as graphs, tables, and equations.
3, 5	**MA.06.AR.09**	Investigate how a change in one variable relates to a change in a second variable.
3, 5	**MA.06.PS.01**	Interpret the concepts of a problem-solving task and translate them into mathematics.
3, 5	**MA.06.PS.02**	Choose strategies that can work and then carry out the strategies chosen.
3, 5	**MA.06.PS.04**	Use pictures, symbols, and/or vocabulary to convey the path to the identified solution.
3, 5	**MA.06.PS.05**	Accurately solve problems using mathematics.

Grade 7

Lesson	CCG	Descriptor
3	**MA.07.CE.03**	Use rates, ratios, and percents to solve problems.
3, 5	**MA.07.CE.16**	Use inverse operations (addition and subtraction, multiplication and division) to solve problems and check solutions involving calculations with integers.
3, 5	**MA.07.CE.17**	Apply the associative, commutative, and distributive properties to simplify computations with rational numbers (with

		an emphasis on integers).
3, 5	**MA.07.SP.06**	Formulate questions and design experiments or surveys to collect relevant data.
3, 5	**MA.07.SP.08**	Distinguish between random and biased samples and identify possible sources of bias in sampling.
3, 5	**MA.07.SP.09**	Represent and interpret data using frequency distribution tables, box-and whisker-plots, stem-and-leaf plots, and single- and multiple-line graphs.
3, 5	**MA.07.SP.14**	Use observations about differences between two or more samples to make conjectures about the populations from which the samples were taken.
3, 5	**MA.07.AR.01**	Represent, analyze, and determine rules for finding patterns involving integers with tables, graphs, words, and when possible, symbolic rules.
3, 5	**MA.07.AR.07**	Recognize and represent direct variation using tables, graphs, and equations.
3, 5	**MA.07.AR.08**	Identify and sketch a graph that models a given situation.
3, 5	**MA.07.AR.09**	Identify and describe how a change in one variable relates to a change in a second variable.
3, 5	**MA.07.PS.01**	Interpret the concepts of a problem-solving task and translate them into mathematics.
3, 5	**MA.07.PS.02**	Choose strategies that can work and then carry out the strategies chosen.
3, 5	**MA.07.PS.04**	Use pictures, symbols, and/or vocabulary to convey the path to the identified solution.
3, 5	**MA.07.PS.05**	Accurately solve problems using mathematics.
Grade 8		
Lesson	**CCG**	**Descriptor**
3	**MA.08.CE.01**	Apply proportions to solve problems.
3, 5	**MA.08.CE.04**	Apply equivalent forms of rational numbers (including percents) to solve problems.
3, 5	**MA.08.CE.11**	Apply the associative, commutative, and distributive properties to simplify computations with rational numbers.
3, 5	**MA.08.SP.05**	Collect and display data as lists, tables, and plots using appropriate technology (e.g., graphing calculators, computer software).
3, 5	**MA.08.SP.07**	Estimate or predict the occurrence of future events using data.
3, 5	**MA.08.AR.01**	Represent, analyze and determine rules for finding patterns relating to linear functions, nonlinear functions, and arithmetic sequences with tables, graphs, and symbolic rules.
3, 5	**MA.08.AR.16**	Determine when data represented in a table or graph represents a linear or nonlinear relationship.
3, 5	**MA.08.AR.19**	Analyze the nature of change in quantities in linear relationships represented by graphs, tables, or formulas.
3, 5	**MA.08.PS.01**	Interpret the concepts of a problem-solving task and translate them into mathematics.
3, 5	**MA.08.PS.02**	Choose strategies that can work and then carry out the strategies chosen.
3, 5	**MA.08.PS.03**	Use pictures, symbols, and/or vocabulary to convey the path to the identified solution.
3, 5	**MA.08.PS.04**	Accurately solve problems using mathematics.

Oregon English/Language Arts Content Standards: Grades 6 – 8		
Lesson	**CCG**	**Descriptor**
1, 3, 4, 5	**EL.06.RE.03 EL.07.RE.02 EL.08.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.
1, 3, 4, 5	**EL.06.RE.04 EL.07.RE.03 EL.08.RE.03**	Make connections to text, within text, and among texts across the subject areas.
1, 3, 4, 5	**EL.06.RE.05 EL.07.RE.04 EL.08.RE.04**	Demonstrate listening comprehension of more complex text through class and/or small group interpretive discussions across the subject areas.
1, 3, 4, 5	**EL.06.RE.06 EL.07.RE.05 EL.08.RE.05**	Match reading to purpose—location of information, full comprehension, and personal enjoyment.
1, 3, 4, 5	**EL.06.RE.07 EL.07.RE.06 EL.08.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.
1, 3, 4, 5	**EL.06.RE.08 EL.07.RE.07 EL.08.RE.07**	Clearly identify specific words or wordings that are causing comprehension difficulties and use strategies to correct.
1, 3, 4, 5	**EL.06.RE.09 EL.07.RE.08 EL.08.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.
1, 3, 4, 5	**EL.06.RE.10 EL.07.RE.09 EL.08.RE.09**	Develop vocabulary by listening to and discussing both familiar and conceptually challenging selections read aloud across the subject areas.
1, 3, 4, 5	**EL.07.RE.10 EL.08.RE.10**	Determine the meanings of words using contextual and structural clues.
1, 3, 4, 5	**EL.06.RE.11**	Determine the meaning of unknown words or words with unusual meanings in informational and narrative text by using word, sentence, and paragraph clues.
1, 3, 4, 5	**EL.06.RE.15 EL.07.RE.14 EL.08.RE.14**	Read textbooks, biographical sketches, letters, diaries, directions, procedures, magazines, essays, primary source historical documents, editorials, news stories, periodicals, bus routes, and catalogs.
1, 3, 4, 5	**EL.06.RE.16 EL.07.RE.15**	Locate information in titles, tables of contents, chapter headings, illustrations, captions, glossaries, indexes, graphs, charts, diagrams, and tables to aid understanding of grade-level text.

1, 3, 4, 5	**EL.08.RE.15**	Synthesize information found in various parts of charts, tables, diagrams, glossaries, or related grade-level text to reach supported conclusions.
1, 3, 4, 5	**EL.06.RE.19 EL.07.RE.18 EL.08.RE.17**	Identify and/or summarize sequence of events, main ideas, facts, supporting details, and opinions in informational and practical selections.
3, 4, 5	**EL.06.RE.20 EL.07.RE.19 EL.08.RE.18**	Clarify understanding of informational texts by creating simple (6 & 7) or detailed (8) outlines, graphic organizers, diagrams, logical notes, or summaries.
1, 3, 4, 5	**EL.06.RE.23 EL.07.RE.23 EL.08.RE.21**	Infer the main idea when it is not explicitly stated, and support with evidence from the text.
1, 3, 4, 5	**EL.06.RE.25 EL.07.RE.25**	Distinguish among facts, supported inferences, and opinions in text. (6) Differentiate between conclusions that are based on fact and those that are based on opinion. (7)
1, 3, 4, 5	**EL.06.RE.26**	Connect and clarify main ideas by identifying their relationships to multiple sources, known information and ideas, and related topics.
2, 3, 4, 5	**EL.06.WR.10 EL.07.WR.10 EL.08.WR.10**	Write for different purposes and to a specific audience or person, adjusting tone and style as necessary (6) to engage the interest of the reader (7). Create compositions that engage the reader, have a clear message, a coherent thesis, and end with a clear and well-supported conclusion. (8)
2, 3, 4, 5	**EL.06.WR.11**	Write multi-paragraph compositions that: Engage the interest of the reader, state a clear purpose, use common organizational structures for providing information in writing, such as chronological order, cause-and-effect, similarity and difference, and posing and answering a question, develop the topic with supporting details and precise language, provide transitions to link paragraphs, and conclude with a detailed summary linked to the purpose of the composition.
2, 3, 4, 5	**EL.07.WR.11**	Write multi-paragraph compositions-descriptions, explanations, comparison-and-contrast papers, problem and solution essays that: state the thesis or purpose, explain the situation, organize the composition clearly, following an organizational pattern appropriate to the type of composition-comparison and contrast; organization by categories; and arrangement by spatial order, order of importance, or climactic order, and provide evidence to support arguments and conclusions.
2, 3, 4, 5	**EL.06.WR.17 EL.07.WR.17 EL.08.WR.17**	Spell correctly frequently misspelled words (their, they're, there / loose, lose, loss / choose, chose / through, threw / it's, its). (6) Spell correctly derivatives (words that come from a common base or root word) by applying the spellings of bases and affixes (prefixes and suffices) (7) Use correct spelling conventions. (8)
2, 3, 4, 5	**EL.06.WR.22 EL.07.WR.25 EL.08.WR.23**	Write legibly.
2, 3, 4, 5	**EL.06.WR.27 EL.07.WR.30**	Write summaries: using formal paragraph structure, that contain the main ideas and most significant details using the student's own words, except for quotations (6); include the main ideas and most significant details, use the student's own words, except for quotations, and reflect underlying meaning, not just the superficial details (7).
All lessons	**EL.06.SL.01**	Develop a focus and point of view (6) to achieve particular purposes and to appeal to the background and interests

	EL.07.SL.01	of the audience.
All lessons	**EL.08.SL.01**	Develop a focus and present information to achieve particular purposes by matching the message, vocabulary, voice modulation, expression, and tone to the audience and purpose.
All lessons	**EL.06.SL.02**	Match the purpose, message, occasion, and delivery to the audience.
All lessons	**EL.06.SL.03** **EL.07.SL.02**	Organize information: using supporting details, reasons, descriptions, and examples (6); arranging details, reasons, descriptions, and examples effectively and persuasively in relation to the audience (7).
All lessons	**EL.03.SL.03**	Use credible and relevant information to convey message.
All lessons	**EL.06.SL.07** **EL.07.SL.05** **EL.08.SL.06**	Use correct grammar consistently. (6 & 7) Use appropriate grammar. (8)
All lessons	**EL.07.SL.07**	Ask questions to obtain information, including evidence to support the speaker's claims and conclusions.
All lessons	**EL.06.SL.11**	Restate and execute multiple-step oral directions and instructions.
Oregon Health Education Content Standards: Grade 8		
Lesson	**CCG**	**Descriptor**
3, 4, 5	**HE.08.HS.03**	Analyze influences on health and well-being (e.g., culture, family, media, technology, peers, body image, emotions, and physical and social environments).
3, 5	**HE.08.HS.05**	Use a goal setting model to set short- and long-term goals for healthy living.
3, 5	**HE.08.HS.06**	Use a decision making model that will enhance health and well-being.
3, 5	**HE.08.HS.07**	Advocate to self, peers, family and community members, the benefits of health and safety enhancing practices.