



## EathComm Correlation to the Oregon Science Standards, Grades 9-12

### Earth and Space Science

Content Standards/Performance Expecations	Location/Page where Standard is found
<p><b>H.1 <u>Structure and Function</u>: A system’s characteristics, form, and function are attributed to the quantity, type, and nature of its components.</b></p>	
H.1E.1 Classify the bodies in our solar system based on properties and composition. Describe attributes of our galaxy and evidence for multiple galaxies in the universe.	E8-E13, E14-E27 and E47-E57
H.1E.2 Describe the structure and composition of Earth’s atmosphere, geosphere, and hydrosphere.	Hydrosphere U68 – U115 and F2-F59 Atmosphere E82-E138 Geosphere U2-U61 and R86-R139
<p><b>H.2 <u>Interaction and Change</u>: The components in a system can interact in dynamic ways that may result in change. In systems, changes occur with a flow of energy and/or transfer of matter.</b></p>	
H.2E.1 Identify and predict the effect of energy sources, physical forces, and transfer processes that occur in the Earth system. Describe how matter and energy are cycled between system components over time.	G2 – G54 G60 – G110 G120 – G170 U2 – U61 F64 – F116 R2 – R77 R144 – R151
H.2E.2 Explain how Earth’s atmosphere, geosphere, and hydrosphere change over time and at varying rates. Explain techniques used to elucidate the history of events on Earth.	E146-E184
H.2E.3 Describe how the universe, galaxies, stars, and planets evolve over time.	E8-E13 and E69-E77
H.2E.4 Evaluate the impact of human activities on environmental quality and the sustainability of Earth systems. Describe how environmental factors influence resource management.	G164 - G170 U122 – U166 R2 – R77 R86 – R139

	R144- R199 E82 – E138
<b>H.3 Scientific Inquiry: Scientific inquiry is the investigation of the natural world by a systematic process that includes proposing a testable question or hypothesis and developing procedures for questioning, collecting, analyzing, and interpreting multiple forms of accurate and relevant data to produce justifiable evidence-based explanations and new explorations.</b>	
H.3S.1 Based on observations and science principles formulate a question or hypothesis that can be investigated through the collection and analysis of relevant information.	G23 – G29, G39, G86-G87, F5 – F6, F14 – F16, F129 – F130
H.3S.2 Design and conduct a controlled experiment, field study, or other investigation to make systematic observations about the natural world, including the collection of sufficient and appropriate data.	G165-G169, U113 – U119, R63 – R66, R73 – R76, R89 – R90, R170 – R172, R178 – R179,
H.3S.3 Analyze data and identify uncertainties. Draw a valid conclusion, explain how it is supported by the evidence, and communicate the findings of a scientific investigation.	In every Investigate section
H.3S.4 Identify examples from the history of science that illustrate modification of scientific knowledge in light of challenges to prevailing explanations.	E82 – E138 and E146-E184
H.3S.5 Explain how technological problems and advances create a demand for new scientific knowledge and how new knowledge enables the creation of new technologies.	U122 – U166
<b>H.4 Engineering Design: Engineering design is a process of formulating problem statements, identifying criteria and constraints, proposing and testing possible solutions, incorporating modifications based on test data, and communicating the recommendations.</b>	
H.4D.1 Define a problem and specify criteria for a solution within specific constraints or limits based on science principles. Generate several possible solutions to a problem and use the concept of trade-offs to compare them in terms of criteria and constraints.	G165-G169, U113 – U119, R63 – R66, R73 – R76, R89 – R90, R170 – R172, R178 – R179,
H.4D.2 Create and test or otherwise analyze at least one of the more promising solutions. Collect and process relevant data. Incorporate modifications based on data from testing or other analysis.	G165-G169, U113 – U119, R63 – R66, R73 – R76, R89 – R90, R170 – R172, R178 – R179,
H.4D.3 Analyze data, identify uncertainties, and display data so that the implications for the solution being tested are clear.	G165-G169, U113 – U119, R63 – R66, R73 – R76, R89 – R90, R170 – R172, R178 – R179,
H.4D.4 Recommend a proposed solution, identify its strengths and weaknesses, and describe how it is better than alternative designs. Identify further engineering that might be done to refine the recommendations.	G165-G169, U113 – U119, R63 – R66, R73 – R76, R89 – R90, R170 – R172, R178 – R179,

H.4D.5 Describe how new technologies enable new lines of scientific inquiry and are largely responsible for changes in how people live and work.	F64 – F116, R2 – R77, R86-R139, R144-R199, E82 – E138
H.4D.6 Evaluate ways that ethics, public opinion, and government policy influence the work of engineers and scientists, and how the results of their work impact human society and the environment.	In all the Inquiring Further sections