



## Investigating Earth Systems Correlation to the Oregon Science Standards, Grades 6-8

### Grade 6

Content Standards/Performance Expecations	Location/Page where Standard is found
<b>6.1 <u>Structure and Function</u>: Living and non-living systems are organized groups of related parts that function together and have characteristics and properties.</b>	
6.1E.1 Describe and compare the properties and composition of the layers of Earth.	P8 – P 21
6.1E.2 Describe the properties of objects in the solar system.	A1 – A78
<b>6.2 <u>Interaction and Change</u>: The related parts within a system interact and change.</b>	
6.2E.1 Explain the water cycle and the relationship to landforms and weather.	C48 – C54 W21- W28
<b>6.3 <u>Scientific Inquiry</u>: Scientific inquiry is the investigation of the natural world based on observation and science principles that includes proposing questions or hypotheses, and developing procedures for questioning, collecting, analyzing, and interpreting accurate and relevant data to produce justifiable evidence-based explanations.</b>	
6.3S.1 Based on observation and science principles propose questions or hypotheses that can be examined through scientific investigation. Design and conduct an investigation that uses appropriate tools and techniques to collect relevant data.	P22- P24, P30-P34,
6.3S.2 Organize and display relevant data, construct an evidence-based explanation of the results of an investigation, and communicate the conclusions.	C79 – C82,

6.3S.3 Explain why if more than one variable changes at the same time in an investigation, the outcome of the investigation may not be clearly attributable to any one variable.	
<b>6.4 <u>Engineering Design</u>: Engineering design is a process of identifying needs, defining problems, developing solutions, and evaluating proposed solutions.</b>	
6.4D.1 Define a problem that addresses a need and identify science principles that may be related to possible solutions.	P22- P24, P30-P34, C1- C7,
6.4D.2 Design, construct, and test a possible solution to a defined problem using appropriate tools and materials. Evaluate proposed engineering design solutions to the defined problem.	A10-A11
6.4D.3 Describe examples of how engineers have created inventions that address human needs and aspirations.	P1- P7,

### Grade 7

<b>Content Standards/Performance Expecations</b>	<b>Location/Page where Standard is found</b>
<b>7.1 <u>Structure and Function</u>: Living and non-living systems are composed of components which affect the characteristics and properties of the system.</b>	
<b>No Content Standard</b>	
<b>7.2 <u>Interaction and Change</u>: The components and processes within a system interact.</b>	
7.2E.1 Describe and evaluate the environmental and societal effects of obtaining, using, and managing waste of renewable and non-renewable resources.	W1 – W57
7.2E.2 Describe the composition of Earth’s atmosphere, how it has changed over time, and implications for the future.	C69 – C83
7.2E.3 Evaluate natural processes and human activities that affect global environmental change and suggest and evaluate possible solutions to problems.	R58, W48-W57

7.2E.4 Explain how landforms change over time at various rates in terms of constructive and destructive forces.	R1 – R63
<b>7.3 <u>Scientific Inquiry</u>: Scientific inquiry is the investigation of the natural world based on observation and science principles that includes proposing questions or hypotheses, designing procedures for questioning, collecting, analyzing, and interpreting multiple forms of accurate and relevant data to produce justifiable evidence-based explanations.</b>	
7.3S.1 Based on observations and science principles propose questions or hypotheses that can be examined through scientific investigation. Design and conduct a scientific investigation that uses appropriate tools and techniques to collect relevant data.	W23 – W27, R15-R23, R29-R31,
7.3S.2 Organize, display, and analyze relevant data, construct an evidence-based explanation of the results of an investigation, and communicate the conclusions including possible sources of error.	In all the sections called Investigate.
7.3S.3 Evaluate the validity of scientific explanations and conclusions based on the amount and quality of the evidence cited.	C69- C74, C79 -82
<b>7.4 <u>Engineering Design</u>: Engineering design is a process of identifying needs, defining problems, identifying constraints, developing solutions, and evaluating proposed solutions.</b>	
7.4D.1 Define a problem that addresses a need and identify constraints that may be related to possible solutions.	W9 – W11 W32 – W37 W42-W44 W48 – W55
7.4D.2 Design, construct, and test a possible solution using appropriate tools and materials. Evaluate the proposed solutions to identify how design constraints are addressed.	W9 – W11 W48 – W55
7.4D.3 Explain how new scientific knowledge can be used to develop new technologies and how new technologies can be used to generate new scientific knowledge.	

## Grade 8

Content Standards/Performance Expectations	Location/Page where Standard is found
8.1 <u>Structure and Function</u> : Systems and their components function at various levels of complexity.	

<b>No Content Standard</b>	
<b>8.2 <u>Interaction and Change</u>: Systems interact with other systems.</b>	
8.2E.1 Explain how gravity is the force that keeps objects in the solar system in regular and predictable motion and describe the resulting phenomena. Explain the interactions that result in Earth’s seasons.	A1-A73
8.2E.2 Describe the processes of Earth’s geosphere and the resulting major geological events.	P1-P65
8.2E.3 Explain the causes of patterns of atmospheric and oceanic movement and the effects on weather and climate.	C1-C83
8.2E.4 Analyze evidence for geologic, climatic, environmental, and life form changes over time.	F49 – F53, C69-C83
<b>8.3 <u>Scientific Inquiry</u>: Scientific inquiry is the investigation of the natural world based on observations and science principles that includes proposing questions or hypotheses and designing procedures for questioning, collecting, analyzing, and interpreting multiple forms of accurate and relevant data to produce justifiable evidence-based explanations and new explorations.</b>	
8.3S.1 Based on observations and science principles propose questions or hypotheses that can be examined through scientific investigation. Design and conduct a scientific investigation that uses appropriate tools, techniques, independent and dependent variables, and controls to collect relevant data.	P22- P24, P30-P34,
8.3S.2 Organize, display, and analyze relevant data, construct an evidence-based explanation of the results of a scientific investigation, and communicate the conclusions including possible sources of error. Suggest new investigations based on analysis of results.	In all the Investigate sections.
8.3S.3 Explain how scientific explanations and theories evolve as new information becomes available.	C69- C74, C79 -82

<p><b>8.4 <u>Engineering Design</u>: Engineering design is a process of identifying needs, defining problems, identifying design criteria and constraints, developing solutions, and evaluating proposed solutions.</b></p>	
<p>8.4D.1 Define a problem that addresses a need, and using relevant science principles investigate possible solutions given specified criteria, constraints, priorities, and trade-offs.</p>	<p>A10-A11</p>
<p>8.4D.2 Design, construct, and test a proposed engineering design solution and collect relevant data. Evaluate a proposed design solution in terms of design and performance criteria, constraints, priorities, and trade-offs. Identify possible design improvements.</p>	
<p>8.4D.3 Explain how creating a new technology requires considering societal goals, costs, priorities, and trade-offs.</p>	