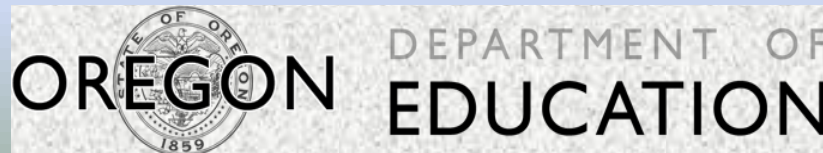


Alignment of Oregon Science Standards

Crosswalk of 2009 Oregon Science Standards to
2014 Oregon Science Standards (Next Generation Science Standards)



Alignment of Oregon Science Standards

2014 Science Standards (Next Generation Science Standards) and 2009 Science Standards

Introduction

These pages show how the content, practices, and cross-cutting concepts (CCC) associated with the new Oregon Science Standards (NGSS) adopted in March 2014 align to the Oregon Science Standards adopted in February 2009. It is important to remember that the new Oregon Science Standards (NGSS) will be phased in so that districts can implement changes in local curriculum, provide appropriate professional development for teachers and administrators, and provide students with opportunities to learn the content, practices, and cross-cutting concepts prior to assessment. Oregon students will continue to be assessed on the Oregon 2009 Science Content Standards via OAKS Science until a new science assessment that aligns with the newly adopted standards is developed and becomes operational in 2018-2019.

Purpose

The purpose of this document is to provide educators with a view of the alignment between the 2009 content standards currently required as part of each Oregon district's curriculum and instruction in the subject area of science, and those contained in the new 2014 Oregon Science Standards (NGSS). An examination of the content of these pages is meant to provide at least some clarification on the following issues:

- What content, practices, and cross-cutting concepts are new and have not previously been a part of Oregon's 2009 Science Standards?
- What content, practices, and cross-cutting concepts will now need to be part of the curriculum at an earlier (or later) grade level than where they are currently taught and assessed?
- In what instances are similar skills being addressed, but with a somewhat different emphasis or with different expectations regarding the degree of sophistication?

Organization of the Alignment Tables

The rows in the table show whether there is a corresponding 2009 Oregon science standard(s) for each of the new 2014 Oregon science standards (NGSS) performance expectation (PE) in the areas of content, practices, and cross-cutting concepts (CCC). Codes designate the degree of alignment: S = Strong; P = Partial; D = Different Grade; N = New (not in any 2009 ORSS). The 2009 Oregon Science Standards that are not aligned to any new 2014 Oregon Science Standard (NGSS) are included at the end of the document. The bulleted statements at the beginning of the document provide summary information about the differences between the two sets of standards.

Alignment of Oregon's 2014 Science Standards (NGSS) with 2009 Oregon Science Standards (2009 ORSS)

Degree of Alignment Codes: **S** = Strong; **P** = Partial; **D** = Different Grade; **N** = New (not in any 2009 ORSS)

2009 Oregon Science Standards that are not aligned to any New Oregon Science Standard (NGSS) are included at the end of the document. The bulleted statements at the beginning of the document provide summary information about the differences between the two sets of standards..

Grade: 5

- Earth Systems and Life Sciences are more developed and rigorous in the NGSS than the 2009 ORSS.
- 2009 ORSS 5.2E.1 moves to middle school at a more rigorous level in NGSS and is partially addressed in 4th grade.
- Study of matter has moved to 5th grade from 3rd and 6th grade.
- Most standards in the 2009 ORSS 3-5 grade band remain intact, the greatest changes are the instructional approaches moving from content-based to more performance-based. In NGSS, students are asked to understand, use, and apply scientific processes to a greater degree than the 2009 ORSS.
- In the NGSS, content is more integrated with scientific inquiry standards, increased rigor and real-world connections.

NGSS PE	2009 ORSS	NGSS Content	NGSS Practice	NGSS CCC	Notes on Alignment
5-PS1 Matter and Its Interactions					
5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.	6.1P.1	D/P		P	CCC are cause and effect; and scale, proportion, and quantity.
5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.	6.1P.1 4.2P.1	D/P D/P		P P	CCC are cause and effect; and scale, proportion, and quantity.
5-PS1-3. Make observations and measurements to identify materials based on their properties.	5.3S.1 5.3S.2		P S	P P	CCC are cause and effect; and scale, proportion, and quantity.
5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	5.3S.1		S	P	CCC are cause and effect; and scale, proportion, and quantity.
5-PS2 Motion and Stability: Forces and Interactions					
5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.	5.2P.1	S		P	CCC is cause and effect.
5-PS3 Energy					
5-PS3-1. Use models to describe that that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	5.2L.1	P		N	CCC is energy and matter.
5-LS1 From Molecules to Organisms: Structures and Processes					
5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.	7.2L.2	D/S		N	CCC is energy and matter.
5-LS2 Ecosystems: Interactions, Energy, and Dynamics					
5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	5.2L.1 6.2L.2	S D/P		N N	CCC is systems and system models.

Alignment of Oregon's 2014 Science Standards (NGSS) with 2009 Oregon Science Standards (2009 ORSS)

Degree of Alignment Codes: **S** = Strong; **P** = Partial; **D** = Different Grade; **N** = New (not in any 2009 ORSS)

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Grade: 5

NGSS PE	2009 ORSS	NGSS Content	NGSS Practice	NGSS CCC	Notes on Alignment
<i>5-ESS1 Earth's Place in the Universe</i>					
5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth.	5.1E.1 6.1E.2	P D/S		N N	CCC are patterns and scale, proportion, and quantity.
5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	5.1E.1	P		N	CCC are patterns and scale, proportion, and quantity.
<i>5-ESS2 Earth's Systems</i>					
5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	6.1E.1 5.2E.1	D/P P		N	CCC are scale, proportion, and quantity and system and system models.
5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.	6.2E.1	D/P		N	CCC are scale, proportion, and quantity and system and system models.
<i>5-ESS3 Earth and Human Activity</i>					
5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	4.1E.1 6.2L.2	D/P D/P		N N	CCC is system and system models.
<i>3-5-ETS1 Engineering Design</i>					
3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	5.4D.1		S	N	CCC is influence of engineering, technology, and science on society and the natural world.
3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	5.4D.1 5.4D.2 4.4D.3 6.4D.1		P P D/P D/S	N N N N	CCC is influence of engineering, technology, and science on society and the natural world.
3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	5.4D.2		S	N	CCC is influence of engineering, technology, and science on society and the natural world.
2009 ORSS not aligned to any NGSS:					
5.3S.3 Explain the reasons why similar investigations may have different results.					
5.4D.3 Explain that inventions may lead to other inventions and once an invention exists, people may think of novel ways of using it.					