* Earth Systems and Life Sciences are more developed and rigorous in the NGSS standards than the previous state standards.
* 5.2E.1 Current state standard 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.
* Almost all standards in the 3-5 grade band remained 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 in current state standards.
* Content is more integrated with scientific inquiry standards, increased rigor and real-world connections.

| NGSS PE | ORSS | Content | Practice | 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- cause and effect; 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- cause and effect; 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- cause and effect; 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- cause and effect; 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- 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-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- 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- systems and system models |
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| 5-ESS1 Earth's Place in the Universe | | | | | |
| 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- patterns; 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- patterns; scale, proportion, and quantity |
| 5-ESS2 Earth's Systems | | | | | |
| 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- scale, proportion, and quantity 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- scale, proportion, and quantity system and system models |
| 5-ESS3 Earth and Human Activity | | | | | |
| 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- system and system models |
| 3-5-ETS1 Engineering Design | | | | | |
| 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- 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- 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- influence of engineering, technology, and science on society and the natural world |
|  | | | | | |
| The following ORSS are 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. | | | | | |