

# Next Generation Science Curriculum

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**Authored by the Pascack Valley Regional Science Curriculum Committee:**

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## **Overview**

The following units were created in a joint effort between the school districts of Montvale, Hillsdale, River Vale, Woodcliff Lake and the Pascack Valley Regional Curriculum Office. Representatives from each grade level and each district worked collaboratively to create units in an Understanding by Design format. Professional development was provided in regard to the NGSS (Science and Engineering), Understanding by Design, Performance Assessment, Depths of Knowledge and Integrating the Common Core Standards.

The unit format is designed with three sections: Desired Results, Assessment and Learning Plan. The Desired Results section provides the teachers with the essential questions, knowledge, understandings and skills students should acquire. The Assessment section contains at least one sample performance task which incorporates the scientific practices and aligns to the performance expectations for the unit. Other ongoing assessments are required and can be in the form of: teacher observations, journal entries, class discussion, additional performance assessments and written test. The Learning Plan section is intended to provide some resources for teachers that support each unit. This section is not intended to be the daily lessons for the unit. Rather it provides support for the units by including links to websites and mentor text titles.

## **Rationale**

The regional science curriculum is designed to provide students with experiences in the eight scientific practices, disciplinary core ideas and crosscutting concepts throughout the year at each grade level. The NGSS creates instructional shifts in various ways. The curriculum is designed to engage students in conducting investigations, solving problems, as well as developing explanations and designing solutions supported by evidence-based arguments and reasoning. The units were developed to provide students with multiple investigations driven by the essential questions, with a range of possible outcomes that collectively lead to a deep understanding of scientific ideas.

## **Implementation**

Over the course of the 2015-16 school year, teachers in kindergarten through eighth grade will engage in the implementation stage of this process under the lead of the Regional Instructional Curriculum Coordinator (RICC). The RICC will provide professional development for all teachers to ensure they are prepared for the transition to the NGSS and the instructional shifts required by the new set of standards. The regional science curriculum committee will continue to revise the units by integrating New Jersey's 2014 21st Century Life and Careers Standards and the 2014 Technology Standards. In addition, the committee will create a pacing chart and revise the learning plans for each unit to provide for more support for teachers.