



PARAMOUNT UNIFIED SCHOOL DISTRICT

GREAT THINGS ARE HAPPENING IN PARAMOUNT SCHOOLS



K-8 Next Generation Science Standards Update

Board of Education Meeting

June 25, 2018

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Purpose of Presentation

- Provide an update on the implementation of the Next Generation Science Standards (NGSS) in both elementary and middle school.
- Provide information on the two options, or course models, for science instruction in grades 6-8.



Why NGSS?

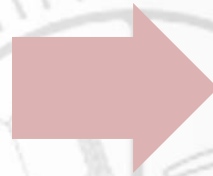
- Prepare students to pursue career opportunities in science-related fields in the 21st century.
- Include critical thinking and communication skills needed for rapid advancements in science and technology.
- Are written to address the science expectations of high performing countries to ensure our students can compete in the global economy.



What is taking place in science in K-5?

2017-2018

- Science Lead Teacher meetings
- NGSS awareness training for all teachers at all grade-levels (summer)
- Administer CAST field test (grade 5)



2018-2019

- Science Lead Teacher meetings
- NGSS-aligned science lessons taught by all teacher (fall and spring)
- Professional development for grade 5 (fall and spring)
- Administer CAST operational test (grade 5)
- Textbook adoption



What is taking place in science in 6-8?

2017-2018

- Professional development for all science teachers (3 days)
- Science Lead Teacher meetings
- Course models discussion
- Administer CAST field test (grade 8)



2018-2019

- Professional development for all science teachers (2 days)
- Science Lead Teacher meetings
- Communicate course model recommendation and plan
- Administer CAST operational test (grade 8)
- Textbook adoption



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NGSS Course Models for 6-8 Science

Discipline-Specific

Grade 6 Earth and Space
Science

Grade 7 Life Science

Grade 8 Physical Science

Integrated

Grade 6 Integrated

Grade 7 Integrated

Grade 8 Integrated



What is the Integrated Course Model?

Interweaves science disciplines in a progression that connects science topics as they relate in the natural world.

	Disciplinary Core Idea		Subtopic	Integrated			Discipline-Specific		
				6	7	8	6	7	8
Earth & Space	1	Earth's Place in the Universe	Universe, Stars, Solar System			X	X		
			History of Planet Earth			X	X		
	2	Earth's Systems	Water Cycle, Weather, Climate	X			X		
			Rock cycle, Plate tectonics		X		X		
	3	Earth and Human Activity	Global climate change causes	X			X		
			Resources availability		X		X		
			Natural hazards		X		X		
			Resource consumption			X	X		



What are the Benefits of the Grades 6-8 Integrated Course Model ?

- Standards are based around unifying ideas and are bundled according to natural connections rather than being limited to disciplinary boundaries.
- Teachers can address real-world phenomena, ask questions, and seek answers to questions as they connect naturally and across disciplines.
- Defined as “preferred” model by state of California—the Science Expert Panel concluded that the integrated model is most effective for optimizing student learning of NGSS.
- High-performing countries in the field of science use an integrated science model.



Middle School Course Model: Communication

April 2018

Presented course model options to 6-8 science lead teachers.

May 2018

Collected feedback from teams at each site, discussions facilitated by lead teachers.

May 2018

Shared feedback from lead teacher discussion with 6-8 principals. Solicited input from principals.



Insights from Science Teachers

Discipline Specific

Aligns to current course sequence so teachers are familiar with the content

Allows for continuous transition from the current sequence in terms of student content knowledge

Students do not develop “holistic” understandings as they are learning without the full context—this often leads to disjointed understandings

Integrated

Teachers may not be familiar with all science disciplines

Grade-level gaps in the content of the new sequence of courses will need to be addressed

Models the real-world connectedness of all science disciplines and develops holistic understandings

Prepare students for CAST

Address all NGSS standards for grades 6-8



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Course Model Recommendation

Based on feedback from science lead teachers, science teachers and principals we recommend the implementation of the Integrated Course Model in grades 6-8 science in the 2019-20 school year.



Next Steps

Fall 2018

Hold Science Lead Teacher meetings.

Communicate course model to all 6-8 science lead teachers, science teachers, principals.

Spring 2019

Review and recommend K-8 textbooks for adoption; 6-8 texts that align to the integrated course model.

Summer 2019

Provide professional development for K-8 teachers; professional development to prepare 6-8 teachers to transition to an integrated model.

Develop supplemental curriculum to support content gaps in 6-8.

Plan parent communication.



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NGSS: A new vision for science instruction

Students will be doing science, not just learning about it



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