

Science Standards Comparison Overview: NGSS, NYSSLS, & the 1996 Standards

NGSS	NYSSLS	NYS 1996 Science Standards
Organized into 3 content domains - Physical science - Life Science - Earth & Space Sciences	Organized into 3 content domains - Physical science - Life Science - Earth & Space Sciences	Organized into 4 distinct content domains - The Living Environment (Life Sciences) - Physical Setting (Earth Science) - Physical Setting (Chemistry) - Physical Setting (Physics)
Multiple suggested course progressions (3-4 courses) are possible	Unknown	Organized into 4 distinct courses
Variable sequencing of courses is possible	Variable sequencing of courses is possible	Variable sequencing of courses is possible
Courses may be integrate content from multiple domains	Unknown	Courses generally do not integrate content from multiple domains
Focus on 3-Dimensional learning: - Science & Engineering Practices - Disciplinary Core Ideas - Crosscutting Concepts	Focus on 3-Dimensional learning: - Science & Engineering Practices - Disciplinary Core Ideas - Crosscutting Concepts	Focus on 1-2 dimensions of learning - Content standards - Science practices (process & technical skills)
Unified concept around Science and Engineering Practices and Crosscutting Concepts across all science disciplines	Unified concept around Science and Engineering Practices and Crosscutting Concepts across all science disciplines	Science and Engineering Practices (Standards 1,2,5,6,7) vary across disciplines
Include standards for Engineering, Technology, and Applications of Science (4)	Include standards for Engineering, Technology, and Applications of Science (4)	Include standards for Engineering, Technology, and Applications of Science (5)
Laboratory experiences are suggested, but chosen by the instructor	Unknown	Mandated laboratory experiences are required in some courses (LE and ES), plus 1,200 hours of

		hands-on laboratory experiences chosen by the instructor
71 total Performance Expectations - Physical science (24) - Life science (24) - Earth & Space Science (19) - Engineering (4)	79 total Performance Expectations - Physical science (30) - Life science (24) - Earth & Space Science (21) - Engineering Design (4)	Content standards and organization (Standard 4 in Science) vary across disciplines

Life Science comparison

NYSSLS	NYS 1996 Science Standards
5 Topics 24 Performance Expectations 15 Disciplinary Core Ideas 13 Life Science specific 1 Physical Science 1 Engineering & Technology	10 Key Ideas 3 based on scientific inquiry (standard 1) 7 content-based (standard 4) 28 Performance Indicators 13 based on scientific inquiry (standard 1) 15 content-based (standard 4) 110 Major Understandings
Suggested lab experiences based on examples given in the PE or associated DCIs	Laboratory checklist & required laboratories
Integrated Science & Engineering Practices	Standard 1
Integrated Crosscutting Concepts	Crosscutting Concepts not explicitly outlined in the core curriculum

Earth & Space Science comparison

NYSSLS	NYS 1996 Science Standards
5 Topics 21 Performance Expectations 17 Disciplinary Core Ideas 12 Earth & Space Science 4 Physical Science 1 Engineering & Technology	21 Key Ideas 7 based on analysis, inquiry, and design (standard 1) 3 mathematical analysis 3 scientific inquiry 1 engineering design 3 based on information systems (standard 2) 7 based on interconnectedness: common themes (standard 6) 1 systems thinking 1 models 1 magnitude and scale 1 equilibrium and stability 1 patterns of change 1 optimization 2 based on interdisciplinary problem solving (standard 7) 1 connections 1 strategies 3 content-based (standard 4) 5 Performance Indicators (standard 4) 49 Major Understandings (standard 4)
Suggested lab experiences based on examples given in the PE or associated DCIs	3 sets of laboratory skills assessed by current Regents examination (part D)
Integrated Science & Engineering Practices	Some of the Key Ideas based on standards 1 and 2 offer a sample of the types of activities that teachers are expected to incorporate into their curriculum in order to have students develop content understanding through practices
Integrated Crosscutting Concepts	Key Ideas based on standard 6 offer a sample of the types of activities that

teachers are expected to incorporate into their curriculum in order to have students use 'common themes' as thinking tools to develop content understanding

Physical Science comparison

NYSSLS	NYS 1996 Science Standards
5 Topics 30 Performance Expectations 14 Disciplinary Core Ideas 12 Physical Science 2 Engineering & Technology	Chemistry 24 Key Ideas 7 based on analysis, inquiry, and design (standard 1) 3 mathematical analysis 3 scientific inquiry 1 engineering design 2 based on information systems (standard 2) 5 based on interconnectedness: common themes (standard 6) 1 systems thinking 1 models 1 magnitude and scale 1 equilibrium and stability 1 patterns of change 2 based on interdisciplinary problem solving (standard 7) 1 connections 1 strategies 5 based on discipline specific skills (standard 4) 3 content-based (standard 4) 9 Performance Indicators (standard 4) 110 Major Understandings (standard 4) Physics 22 Key Ideas

	• 7 based on analysis, inquiry, and design (standard 1) ○ 3 mathematical analysis ○ 3 scientific inquiry ○ 1 engineering design • 3 based on information systems (standard 2) • 6 based on interconnectedness: common themes (standard 6) ○ 1 systems thinking ○ 1 models ○ 1 magnitude and scale ○ 1 equilibrium and stability ○ 1 patterns of change ○ 1 optimization • 2 based on interdisciplinary problem solving (standard 7) ○ 1 connections ○ 1 strategies • 2 based on discipline specific skills (standard 4) • 2 content-based (standard 4) 4 Performance Indicators (standard 4) 61 Major Understandings (standard 4)
Suggested lab experiences based on examples given in the PE or associated DCIs	No specific lab suggestions
Integrated Science & Engineering Practices	Some of the Key Ideas based on standards 1 and 2 offer a sample of the types of activities that teachers are expected to incorporate into their curriculum in order to have students develop content understanding through practices
Integrated Crosscutting Concepts	Key Ideas based on standard 6 offer a sample of the types of activities that teachers are expected to incorporate into their curriculum in order to have students use 'common themes' as thinking tools to develop content understanding

