

Field 240 – Chemistry

Alignment of Test Framework Objectives with State and National Standards

Illinois Licensure Testing System Framework Objectives for Chemistry	State Board of Education Rules- Title 23 of the Illinois Administrative Code–27.140	Next Generation Science Standards
Subarea I: Science Process Skills		
0001 Understand practices of science and engineering.	a, b, i, o, p, q	MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4, SEP1–8
0002 Understand crosscutting concepts and their applications across science and engineering disciplines.	j, k, o, p, q	CCC1–7
0003 Understand the process of reading, and apply knowledge of strategies for promoting students' reading development in the science classroom.	s	
Subarea II: Disciplinary Core Ideas		
0004 Understand the disciplinary core ideas of chemistry.	b, e, o, p, q	MS-PS1-1, MS-PS1-2, MS-PS1-4, MS-PS1-5, MS-PS1-6, MS-PS3-4, HS-PS1-1, HS-PS1-2, HS-PS1-4, HS-PS1-5, HS-PS1-6, HS-PS1-7, HS-PS1-8, HS-PS2-6, SEP1, 2, 4, 5, 6, 8, CCC1–7
0005 Understand the disciplinary core ideas of physics.	b, e, f, o, p, q	MS-PS2-1, MS-PS2-2, MS-PS2-3, MS-PS2-4, MS-PS2-5, MS-PS3-1, MS-PS3-2, MS-PS3-3, MS-PS3-4, MS-PS3-5, MS-PS-4-1, MS-PS-4-2, MS-PS-4-3, HS-PS2-1, HS-PS2-2, HS-PS2-3, HS-PS2-4, HS-PS2-5, HS-PS3-1, HS-PS3-2, HS-PS3-3, HS-PS3-4, HS-PS4-1, HS-PS4-2, HS-PS4-3, SEP1, 2, 4, 5, 6, 8, CCC1–8
0006 Understand the disciplinary core ideas of biology.	b, c, d, o, p, q	MS-LS1-1, MS-LS1-2, MS-LS1-3, MS-LS1-4, MS-LS1-5, MS-LS1-6, MS-LS1-7, MS-LS3-1, MS-LS3-2, MS-LS4-1, MS-LS4-2, MS-LS4-4, MS-LS4-6, HS-LS1-1, HS-LS1-2, HS-LS1-3, HS-LS1-4, HS-LS1-5, HS-LS1-6, HS-LS1-7, HS-LS2-3, HS-LS3-1, HS-LS3-2, HS-LS3-3, HS-LS4-1, HS-LS4-2, HS-LS4-3, HS-LS4-4, HS-LS4-5, SEP1, 2, 4, 5, 6, 8, CCC1–8

The information in this document is subject to change if revisions are made to assessment framework or the state or national standards. Any changes will fully supersede the information in this document.

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0007 Understand the disciplinary core ideas of Earth and space science.	b, g, h, o, p, q	NGSS: MS-ESS1-1, MS-ESS1-2, MS-ESS1-4, MS-ESS2-1, MS-ESS2-2, MS-ESS2-3, MS-ESS2-4, MESS2-5, MS-ESS2-6, HS-ESS1-1, HS-ESS1-2, HS-ESS1-3, HS-ESS1-4, HS-ESS1-6, HS-ESS2-3, HS-ESS2-5, SEP1, 2, 4, 5, 6, 8, CCC1–8
0008 Understand the disciplinary core ideas of environmental science.	b, d, g, o, p, q	MS-LS2-1, MS-LS2-2, MS-LS2-3, MS-LS2-4, MS-LS2-5, MS-ESS3-1, MS-ESS3-2, MS-ESS3-3, MESS3-4, HS-LS2-1, HS-LS2-2, HS-LS2-3, HS-LS2-5, HS-LS2-7, HS-LS4-6, HSESS2-2, HS-ESS2-6, HS-ESS2-7, HS-ESS3-1, HS-ESS3-4, HS-ESS3-6, SEP1, 2, 4, 5, 6, 8, CCC1–8
Subarea III: Structure and Properties of Matter		
0009 Understand atomic structure and theory, trends and relationships in the periodic table, and the nature of bonds.	a, b, i, o, p, q	MS-PS1-1, MS-PS1-2, HS-PS1-1, HS-PS1-2, HS-PS1-4, HS-PS1-7, HS-PS1-8, MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4, SEP1–8
0010 Understand the structure and properties of substances.	j, k, o, p, q	HS-PS1-3, HS-PS2-6, HS-PS3-2, CCC1–7
011 Understand the characteristics and properties of solutions.	s	HS-PS1-2
Subarea IV: Chemical Reactions and Processes		
0012 Understand the properties of matter and the principles of conservation of matter, mass, and charge.	b, e, o, p, q	MS-PS1-2, MS-PS1-3, MS-PS1-5, HS-PS1-2, MS-PS1-1, MS-PS1-2, MS-PS1-4, MS-PS1-5, MS-PS1-6, MS-PS3-4, HS-PS1-1, HS-PS1-2, HS-PS1-4, HS-PS1-5, HS-PS1-6, HS-PS1-7, HS-PS1-8, HS-PS2-6, SEP1, 2, 4, 5, 6, 8, CCC1–7

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0013 Understand energy, thermodynamics, and equilibrium in chemical systems.	b, e, f, o, p, q	MS-PS1-4, MS-PS1-6, MS-PS2-3, MS-PS3-1–5, HS-PS1-4–6, HS-PS3-3, HS-PS3-4, MS-PS2-1, MS-PS2-2, MS-PS2-3, MS-PS2-4, MS-PS2-5, MSPS3-1, MS-PS3-2, MS-PS3-3, MS-PS3-4, MS-PS3-5, MS-PS-4-1, MS-PS-4-2, MSPS-4-3, HS-PS2-1, HS PS2-2, HS-PS2-3, HS-PS2-4, HS-PS2-5, HS-PS3-1, HSPS3-2, HS-PS3-3, HS-PS3-4, HS-PS4-1, HS-PS4-2, HS-PS4-3, SEP1, 2, 4, 5, 6, 8, CCC1–8