

Maine Science Blueprint – High School

Coverage of Science Disciplines

All items on the Maine Science Assessment for High School are aligned to a science topic and to a specific performance expectation. To ensure ample coverage of all grade-level performance expectations, the blueprint specifies targets for the minimum and maximum number of operational score points aligned to each science topic.

Science Discipline	Target Percent	Target Operational Items		Target Operational Score Points		Science Topics	Performance Expectations	Target Operational Score Points by Science Topic	
		Min	Max	Min	Max			Min	Max
Physical Science	33%	14	16	17	19	Structure and Properties of Matter	HS-PS1-1 HS-PS1-3 HS-PS1-8 HS-PS2-6	2	5
						Chemical Reactions	HS-PS1-2 HS-PS1-4 HS-PS1-5 HS-PS1-6 HS-PS1-7	2	5
						Forces and Interactions	HS-PS2-1 HS-PS2-2 HS-PS2-3 HS-PS2-4 HS-PS2-5	2	5
						Energy	HS-PS3-1 HS-PS3-2 HS-PS3-3 HS-PS3-4 HS-PS3-5	2	5
						Waves and Electromagnetic Radiation	HS-PS4-1 HS-PS4-2 HS-PS4-3 HS-PS4-4 HS-PS4-5	2	5

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Science Discipline	Target Percent	Target Operational Items		Target Operational Score Points		Science Topics	Performance Expectations	Target Operational Score Points by Science Topic	
		Min	Max	Min	Max			Min	Max
Life Science	33%	14	16	17	19	Structure and Function	HS-LS1-1 HS-LS1-2 HS-LS1-3	2	5
						Matter and Energy in Organisms and Ecosystems	HS-LS1-5 HS-LS1-6 HS-LS1-7 HS-LS2-3 HS-LS2-4 HS-LS2-5	2	5
						Interdependent Relationships in Ecosystems	HS-LS2-1 HS-LS2-2 HS-LS2-6 HS-LS2-7 HS-LS2-8 HS-LS4-6	2	5
						Inheritance and Variation of Traits	HS-LS1-4 HS-LS3-1 HS-LS3-2 HS-LS3-3	2	5
						Natural Selection and Evolution	HS-LS4-1 HS-LS4-2 HS-LS4-3 HS-LS4-4 HS-LS4-5	2	5

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Science Discipline	Target Percent	Target Operational Items		Target Operational Score Points		Science Topics	Performance Expectations	Target Operational Score Points by Science Topic	
		Min	Max	Min	Max			Min	Max
Earth and Space Science	33%	14	16	17	19	Space Systems	HS-ESS1-1 HS-ESS1-2 HS-ESS1-3 HS-ESS1-4	2	5
						History of Earth	HS-ESS1-5 HS-ESS1-6 HS-ESS2-1	2	5
						Earth's Systems	HS-ESS2-2 HS-ESS2-3 HS-ESS2-5 HS-ESS2-6 HS-ESS2-7	2	5
						Weather and Climate	HS-ESS2-4 HS-ESS3-5	2	5
						Human Sustainability	HS-ESS3-1 HS-ESS3-2 HS-ESS3-3 HS-ESS3-4 HS-ESS3-6	2	5
Total	100%	44		55				55	

Coverage of Science Practices

To ensure appropriate coverage of the science practices, the majority of the Maine Science items (at least 90%) are aligned to a Science and Engineering Practice (SEP). Items that do not measure a SEP are aligned to a Disciplinary Core Idea (DCI) and sometimes a Crosscutting Concept (CCC).

The SEPs are grouped into three more general science practices—Investigate, Evaluate, and Reason Scientifically—based on the skills they entail. The blueprint specifies the target percentage of operational score points aligned to the three science practices.

Science Practice	Science and Engineering Practices (SEP)	Target Percent	Target Operational Items		Target Operational Score Points	
			Min	Max	Min	Max
Investigate	SEP1 SEP3	30%	12	14	16	18
Evaluate	SEP4 SEP5 SEP7	30%	12	14	16	18
Reason Scientifically	SEP2 SEP6	30%	12	14	16	18
	Total	90%	40		50	

Student Experience by Test Session

The science assessment will include three, equal-length test sessions. The number of items and score points per session may vary slightly, but each session is designed to be completed in the designated testing time. Field test items are embedded in Session 2 and Session 3.

Session	Time (minutes)	Operational					Field Test					Total				
		Clusters	Clustered Items	Standalone Items	Total Items	Total Score Points	Clusters	Clustered Items	Standalone Items	Total Items	Total Score Points	Clusters	Clustered Items	Standalone Items	Total Items	Total Score Points
Session 1	60	4	16	2	18	23	—	—	—	—	—	4	16	2	18	23
Session 2	60	3	12	2	14	18	1	4	1	5	5	4	16	3	19	23
Session 3	60	3	12	—	12	15	1	4	1	5	8	4	16	1	17	22
Total	180	10	40	4	44	55	2	8	2	10	13	12	48	6	54	68