

**MINNESOTA TEACHER LICENSURE EXAMINATIONS<sup>SM</sup> (MTLE)<sup>SM</sup>**

**ELEMENTARY EDUCATION (GRADES K–6)  
SUBTEST III  
MATCH STUDY  
MAY 2018**

<b>Subarea I Science</b>	<b>MN Rules for Teachers of Elementary Education 8710.3200 Subject Matter Standards</b>	<b>Minnesota K-12 Academic Standards in Science 2009</b>	<b>ACEI Elementary Education Standards</b>	<b>NRC Next Generation Science Standards</b>
<b>18</b>	A(5), J(1), (2)(a)–(f), (3)–(4), (8)(d)i–vii	K.1.(1)–(2); 1.1.1.(1), 1.1.3.(1)–(2); 2.1.(1), 2.2.(1)–(2); 3.1.1.(1)–(2), 3.1.3.(2),(4); 4.3.(3); 5.1.1.(1)–(2), 5.1.3.(2),(4), 6.1.3.(1),(4)	Curriculum: 2.2	<u>Disciplinary Core Ideas</u> Engineering design: 2-ETS1, 5-ETS1 Links among engineering, technology, science and society: 2-ETS2, 5-ETS2 <u>Science and Engineering Practices</u> SEP.1: Asking questions and defining problems SEP.2: Developing and using models SEP.3: Planning and carrying out investigations SEP.4: Analyzing and interpreting data SEP.5: Using mathematics and computational thinking SEP.6: Constructing explanations and designing solutions SEP.7: Engaging in argument from evidence SEP.8: Obtaining, evaluating, and communicating information
<b>19</b>	J(5)	K.2.1.(1); 2.2.1.(1)–(2), 2.2.2.(1)–(2); 3.2.3.(1); 4.2.1.(1)–(2), 4.2.3.(1)–(2); 5.2.2.(1); 6.2.1.(1)–(2), 6.2.2.(1)–(2), 6.2.3.(1)–(2)	Curriculum: 2.2	<u>Disciplinary Core Ideas</u> Matter and its Interactions: 2-PS1, 5-PS1, MS-PS1 Motion and Stability: K-PS2, 3-PS2, 5-PS2, MS-PS2 Energy: K-PS3, 4-PS3, 5-PS3, MS-PS3 Waves and their Applications: 1-PS4, 4-PS4, MS-PS4

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Subarea I Science	MN Rules for Teachers of Elementary Education 8710.3200 Subject Matter Standards	Minnesota K-12 Academic Standards in Science 2009	ACEI Elementary Education Standards	NRC Next Generation Science Standards
				<p><u>Science and Engineering Practices</u>                      SEP.2: Developing and using models                      SEP.4: Analyzing and interpreting data                      SEP.5: Using mathematics and computational thinking                      SEP.6: Constructing explanations and designing solutions                      SEP.8: Obtaining, evaluating, and communicating information</p> <p><u>Crosscutting Concepts</u>                      CCC.1: Patterns                      CCC.2: Cause and effect                      CCC.3: Scale, proportion, and quantity                      CCC.5: Energy and matter</p>
20	J(6)	K.4.1.(1), K.4.2.(1); 1.4.1.(1), 1.4.2.(1), 1.4.3.(1); 2.4.1.(1), 2.4.2.(1), 2.4.3.(1); 3.4.1.(1), 3.4.3.(2); 4.4.4.(2); 5.4.1.(1), 5.4.2.(1), 5.4.4.(1)	Curriculum: 2.2	<p><u>Disciplinary Core Ideas</u>                      From Molecules to Organisms: K-LS1, 1-LS1, 3-LS1, 4-LS1, 5-LS1, MS-LS1                      Ecosystems: 2-LS2, 3-LS2, 5-LS2, MS-LS2                      Heredity: 1-LS3, 3-LS3, MS-LS3                      Biological Evolution: 2-LS4, 3-LS4, MS-LS4</p> <p><u>Science and Engineering Practices</u>                      SEP.2: Developing and using models                      SEP.4: Analyzing and interpreting data                      SEP.6: Constructing explanations and designing solutions                      SEP.8: Obtaining, evaluating, and communicating information</p>

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				<u>Crosscutting Concepts</u> CCC.1: Patterns CCC.2: Cause and effect CCC.3: Scale, proportion, and quantity CCC.4: Systems and system models CCC.5: Energy and matter CCC.6: Structure and function CCC.7: Stability and change
21	J(7)	K.3.2.(2), 1.3.1.(3), 2.3.2.(2), 3.3.3.(1)–(2), 4.3.1.(3), 4.3.2.(3), 5.3.1.(2)	Curriculum: 2.2	<u>Disciplinary Core Ideas</u> Earth's Place in the Universe: 1-ESS1, 2-ESS1, 4-ESS1, 5-ESS1, MS-ESS1 Earth's Systems: K-ESS2, 2-ESS2, 3-ESS2, 4-ESS2, 5-ESS2, MS-ESS2 Earth and Human Activity: 2-ESS3, 5-ESS3 <u>Science and Engineering Practices</u> SEP.2: Developing and using models SEP.4: Analyzing and interpreting data SEP.6: Constructing explanations and designing solutions SEP.8: Obtaining, evaluating, and communicating information <u>Crosscutting Concepts</u> CCC.1: Patterns CCC.2: Cause and effect CCC.3: Scale, proportion, and quantity CCC.4: Systems and system models CCC.5: Energy and matter CCC.7: Stability and change

Subarea II Social Studies	MN Rules for Teachers of Elementary Education 8710.3200 Subject Matter Standards	Minnesota K-12 Academic Standards in Social Studies	ACEI Elementary Education Standards	NCSS National Standards for Social Studies Teachers
22	B(1), C(7), I(1)	K.1.1.(1), K.3.1.(1), K.4.1.(1)–(2); 1.1.1.(1), 1.2.1.(1), 1.3.1.(1), 1.4.1.(1)–(2); 2.1.1.(1), 2.2.1.(1), 2.3.1.(1), 2.4.1.(1)–(2); 3.1.1.(1), 3.2.1.(1), 3.3.1.(1), 3.4.1.(1)–(2); 4.1.1.(1), 4.2.1.(1), 4.3.1.(1)–(2); 5.1.1.(1), 5.2.1.(1), 5.3.1.(1), 5.4.1.(1)–(2); 6.1.1.(1), 6.2.1.(1), 6.3.1.(1), 6.4.1.(2)	Curriculum: 2.4 Instruction: 3.3	I.A.II Time, Continuity, and Change II.3. Critical Thinking, Problem Solving, and Performance Skills II.4. Active Learning and Motivation II.5. Inquiry, Collaboration, and Supportive Classroom Interaction
23	I(2)(b)–(c), (g), I.(3)–(4)	K.3.2.(3), K.4.2.(4); 1.3.2.(3), 1.4.2.(4); 2.3.4.(9), 2.4.2.(4); 3.3.3.(6),(8), 3.4.2.(3),(5), 3.(7)–(9); 4.3.2.(3)–(4), 4.3.3.(5)–(6), 4.3.4.(9)–(10), 4.4.2.(4); 5.3.2.(3), 5.3.4.(10), 5.4.2.(3), 5.4.4.(15)–(17); 6.3.3.(6), 6.3.4.(10), 6.4.4.(15)–(23)	Curriculum: 2.4 Instruction: 3.4	I.A.I Culture and Cultural Diversity I.A.II Time, Continuity, and Change I.A.III People, Places, and Environments I.A.IV Individual Development and Identity I. B.1 History; B.2 Geography
24	I(2)(a),(d)–(j)	K.1.2.(2), K.1.4.(7), K.2.1.(1), K.2.4.(5); 1.1.2.(2), 1.1.4.(6)–(7), 1.2.3.(3), 1.2.4.(5); 2.1.2.(2), 2.1.4.(7), 2.2.3.(3), 2.2.4.(5); 3.1.2.(2), 3.1.4.(6), 3.2.2.(2), 3.2.4.(5); 4.1.4.(6), 4.2.3.(3), 4.2.4.(5); 5.1.2.(2), 5.1.3.(4), 5.1.4.(6)–(7), 5.2.2.(2), 5.2.4.(6); 6.1.3.(4)–(5), 6.1.4.(6), 6.1.5.(10), 6.2.2.(2), 6.2.4.(5),(8)	Curriculum: 2.4 Instruction: 3.5	I.A.I Culture and Cultural Diversity I.A.IV Individual Development and Identity I.A.V Individuals, Groups, and Institutions I.A.VI Power, Authority, and Governance I.A.VII Production, Distribution, and Consumption I.A.VIII Science, Technology, and Society I.A.IX Global Connections I.A.X Civic Ideals and Practices I.B.3 Civics and Government; I.B.4 Economics I.B.5 Psychology II.4. Active Learning and Motivation

Note: Per the Minnesota Board of Teaching Rules and Standards, the content area tests for the Minnesota Teacher Licensure Examinations (MTLE) are to measure primarily the content area knowledge of candidates for teacher licensure. Pedagogical knowledge and skills are assessed through other means, such as the three pedagogical examinations: Early Childhood, Elementary, and Secondary.

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