

MISSOURI EDUCATOR GATEWAY ASSESSMENTS

Field 078 Physics

Content Alignment Study

The Content Alignment Study below provides information about the alignment of knowledge and skills described in the competencies that make up the test framework for this licensure test with the state and national standards designated by the Department of Elementary and Secondary Education for this field. The table indicates those portions of the relevant state and/or national standards that are addressed -- in whole or in part -- by each competency.

Test Competency	Missouri 6–12 Science Grade-Level Expectations	Next Generation Science Standards (NGSS) and National Science Teaching Association (NSTA) Standards
Motion and Stability: Mechanical Forces and Interactions		
0001 Analyze linear and angular motion.	6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS2.A.1, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-ETS1-1-4, HS-PS2-1, HS-ETS1-1-4
0002 Apply knowledge of forces as interactions and their effects on linear and angular motion and stability.	6-8.PS2.A.2, 6-8.PS2.B.2, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS2.A.1, 9-12.PS2.B.1, 9-12.ESS1.B.1, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-PS2-1, MS-PS2-2, MS-PS2-4, MS-ETS1-1-4, HS-PS2-1, HS-PS2-4, HS-ESS1-4, HS-ETS1-1-4
0003 Apply knowledge of energy and conservation of energy.	6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS3.A.1, 9-12.PS3.A.2, 9-12.PS3.A.3, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-PS3-3, MS-PS3-4, MS-ETS1-1-4, HS-PS3-1, HS-PS3-2, HS-PS3-3, HS-ETS1-1-4
0004 Apply knowledge of conservation of linear and angular momentum.	6-8.PS2.A.1-2, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS2.A.2-3, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-PS2-1, MS-PS2-2, MS-ETS1-1-4, HS-PS2-2, HS-PS2-3, HS-ETS1-1-4

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Motion and Stability: Electromagnetic Forces and Interactions		
0005 Apply knowledge of properties of electric fields.	6-8.PS2.B.1, 6-8.PS2.B.3, 6-8.PS3.A.2, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS3.C.1, 9-12.PS3.A.2, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-PS2-3, MS-PS2-5, MS-PS3-2, MS-ETS1-1-4, HS-PS3-5, HS-PS3-2, HS-PS2-4, HS-ETS1-1-4
0006 Apply knowledge of properties of magnetic fields and electromagnetic induction.	6-8.PS2.B.1, 6-8.PS2.B.3, 6-8.PS3.A.2, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS2.B.2, 9-12.PS3.C.1, 9-12.PS3.A.3, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-PS2-3, MS-PS2-5, MS-PS3-2, MS-ETS1-1-4, HS-PS2-5, HS-PS3-5, HS-PS3-3, HS-ETS1-1-4
0007 Apply knowledge of properties of electric circuits.	6-8.PS2.B.1, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS3.A.2, 9-12.PS1.A.4, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-PS2-3, MS-ETS1-1-4, HS-PS3-2, HS-PS2-6, HS-ETS1-1-4
Thermodynamics, Modern Physics, Waves, and Light		
0008 Apply knowledge of principles of thermodynamics.	6-8.PS3.A.3, 6-8.PS3.A.4, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS3.B.1, 9-12.PS3.A.2, 9-12.PS3.A.3, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-PS3-3, MS-ETS1-1-4, HS-PS3-4, HS-PS3-2, HS-PS3-3, HS-ETS1-1-4

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0009 Apply knowledge of fundamental principles of modern and nuclear physics.	6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS1.C.1, 9-12.PS4.A.2, 9-12.PS4.B.1, 9-12.ESS1.A.2, 9-12.ETS1.A.1, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-ETS1-1-4, HS-PS1-8, HS-PS4-3, HS-PS4-5, HS-ESS1-2, HS-ETS1-1-4
0010 Apply knowledge of properties of waves.	6-8.PS4.A.1, 6-8.PS4.A.2, 9-12.PS4.A.1, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS4.A.2, 9-12.PS4.B.1, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-PS4-1, MS-PS4-2, MS-PS4-3, MS-ETS1-1-4, HS-PS4-1, HS-PS4-3, HS-PS4-5, HS-PS4-2, HS-ETS1-1-4
0011 Apply knowledge of light and electromagnetic radiation.	6-8.PS4.A.2, 9-12.PS4.B.1, 9-12.PS4.B.2, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.PS4.A.1, 9-12.PS4.A.2, 9-12.LS1.C.1, 9-12.ETS1.A.2, 9-12.ETS1.B.1-2	MS-ETS1-1-4, HS-PS4-5, HS-PS4-4, HS-PS4-1, HS-PS4-3, HS-LS1-5, HS-ETS1-1-4
Chemistry		
0012 Apply knowledge of chemistry concepts.	6-8.PS1.A.1-2, 6-8.PS1.A.4, 6-8.PS1.B.1-2, 6-8.PS3.A.4, 9-12.PS.1.A.1, 9-12.PS.1.A.2, 9-12.PS.1.A.5, 9-12.PS.1.B.3	MS-PS1-1-2, MS-PS1-4, MS-PS1-5, HS-PS1-1, HS-PS1-2, HS-PS1-4, HS-PS1-7, HS-PS3-4

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Biology		
0013 Apply knowledge of biology concepts.	6-8.LS1.A.1-4, 6-8.LS1.B.1-2, 6-8.LS1.C.1, 6-8.LS2.A.1-2, 6-8.LS2.B.1, 6-8.LS2.C.1, 6-8.LS4.B.1-2, 6-8.LS4.C.1, 9-12.LS1.A.1-3, 9-12.LS1.B.1, 9-12.LS1.C.1-2, 9-12.LS2.A.1, 9-12.LS2.B.1-3, 9-12.LS2.C.1, 9-12.LS3.A.1, 9-12.LS3.B.1-4, 9-12.LS4.A.1-2, 9-12.LS4.B.1-2, 9-12.LS4.C.1-2	MS-LS1-1-4, MS-LS1-6-8, MS-LS2-1-4, MS-LS3-1-2, MS-LS4-1-6, HS-LS1-1-5, HS-LS1-7, HS-LS2-1-6, HS-LS3-1-3, HS-LS4-1-5
Earth Science		
0014 Apply knowledge of Earth science concepts.	6-8.ESS1.A.1-3, 6-8.ESS1.C.1, 6-8.ESS2.A.1-2, 6-8.ESS2.B.1, 6-8.ESS2.C.1-3, 6-8.ESS3.A.1, 6-8.ESS3.B.1, 6-8.ESS3.C.1-2, 6-8.ESS3.D.1-2, 9-12.ESS1.A.1-3, 9-12.ESS1.C.1, 9-12.ESS2.A.3-4, 9-12.ESS2.C.1, 9-12.ESS2.D.1, 9-12.ESS3.A.1-2, 9-12.ESS3.C.1-2, 9-12.ESS3.D.2	MS-ESS1-1-2, MS-ESS1-4, MS-ESS2-1-6, MS-ESS3-1-5, HS-ESS1-1-5, HS-ESS2-1, HS-ESS2-3-6, HS-ESS3-1, HS-ESS3-3-5