

# MISSOURI EDUCATOR GATEWAY ASSESSMENTS

## Field 075 Biology

### 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
<b>From Molecules to Organisms: Structure and Processes</b>		
0001 Analyze the chemistry of living systems.	6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS1.C.3, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS1-1, MS-LS1-7, MS-ETS1-1-4, HS-LS1-1, HS-LS1-6, HS-ETS1-1-4
0002 Analyze cell structure, function, bioenergetics, and cellular homeostasis.	6-8.LS1.A.1, 6-8.LS1.A.2, 6-8.LS1.C.1, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS1.B.1, 9-12.LS1.C.1-2, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS1-1, MS-LS1-2, MS-LS1-6, MS-ETS1-1-4, HS-LS1-4, HS-LS1-5, HS-LS1-7, HS-LS2-3, HS-ETS1-1-4
0003 Demonstrate knowledge of the structures and functions of organisms, including their life cycles.	6-8.LS1.A.3-4, 6-8.LS1.B.2, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS1.A.2, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS1-3-4, MS-LS1-8, MS-ETS1-1-4, HS-LS1-2, HS-LS1-4, HS-ETS1-1-4
<b>Ecosystems: Interactions, Energy, and Dynamics</b>		
0004 Analyze obtaining, storing, and using energy and matter to maintain homeostasis.	6-8.LS1.C.1, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS1.A.2, 9-12.LS1.A.3, 9-12.LS2.B.1, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS1-5-7, MS-LS2-3, MS-ETS1-1-4, HS-LS1-3, HS-LS1-5, HS-LS1-7, HS-LS2-3, HS-ETS1-1-4

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0005 Analyze populations and communities.	6-8.LS1.B.1-2, 6-8.LS2.A.1-2, 6-8.LS2.C.1-2, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS2.A.1, 9-12.LS2.C.1-2, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS1-4, MS-LS2-1, MS-LS2-2, MS-LS2-4, MS-ETS1-1-4, HS-LS2-1-2, HS-LS2-2, HS-LS2-6, HS-LS2-8, HS-ETS1-1-4
0006 Demonstrate knowledge of ecosystems and biomes.	6-8.LS2.B.1, 6-8.LS2.C.1-2, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS1.C.1-2, 9-12.LS2.B.1-3, 9-12.LS2.C.1-3, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS1-6, MS-LS2-2, MS-LS2-3, MS-LS2-5, MS-ETS1-1-4, HS-LS1-5, HS-LS1-7, HS-LS2-3-7, HS-LS4-6, HS-ETS1-1-4
<b>Heredity: Inheritance and Variation of Traits</b>		
0007 Analyze molecular genetics.	6-8.LS4.B.2, 6-8.LS4.B.2, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS1.A.1, 9-12.LS3.B.2-3, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS3-1, MS-ETS1-1-4, HS-LS1-1, HS-LS3-2, MS-ETS1-1-4
0008 Apply patterns and processes of inheritance.	6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS1.B.1, 9-12.LS3.A.1, 9-12.LS3.B.1, 9-12.LS3.B.3-4, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS1-5, MS-LS3-1-2, MS-LS4-5, MS-ETS1-1-4, HS-LS1-1, HS-LS1-4, HS-LS3-1-3, HS-ETS1-1-4

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<b>Biological Evolution: Unity and Diversity</b>		
0009 Demonstrate knowledge of biological evolution.	6-8.LS4.B.1, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS3.B.2-4, 9-12.LS4.B.1-2, 9-12.LS4.C.1-2, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS3-1, MS-LS4-1, MS-LS4-4, MS-LS4-6, MS-ETS1-1-4, HS-LS3-3, HS-LS4-2-5, HS-ETS1-1-4
0010 Demonstrate knowledge of common ancestry and diversity.	6-8.LS4.A.1, 6-8.ETS1.A.1, 6-8.ETS1.B.1-3, 9-12.LS4.A.1-2, 9-12.ETS1.A.1-2, 9-12.ETS1.B.1-2	MS-LS4-1-3, MS-ETS1-1-4, HS-LS4-1, HS-LS4-5, HS-ETS1-1-4
<b>Chemistry</b>		
0011 Apply knowledge of chemistry concepts.	6-8.PS1.A.1-2,4, 6-8.PS1.B.1-2, 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
<b>Physics</b>		
0012 Apply knowledge of physics concepts.	6-8.PS2.A.1-2, 6-8.PS2.B.1-3, 6-8.PS3.A.1-3, 6-8.PS3.B.1, 6-8.PS4.A.1-2, 9-12.PS2.A.1, 9-12.PS2.A.2, 9-12.PS2.A.3, 9-12.PS2.B.1-2, 9-12.PS3.A.2-3, 9-12.PS3.B.1, 9-12.PS3.C.1, 9-12.PS4.A.1, 9-12.PS4.B.1-2	MS-PS2-1-5, MS-PS3-1-5, MS-PS4-1-2, HS-PS2-1-5, HS-PS3-1, HS-PS3-2, HS-PS3-4-5

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<b>Earth Science</b>		
0013 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, 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