

Alignment of OAE Middle Grades Science Assessment Framework with Ohio-specified Standards

This alignment study identifies the national and/or Ohio educational standards that are addressed in whole or in part by each competency of the assessment framework. An indication of alignment does not necessarily imply complete congruence of the content of an OAE test competency with the relevant standard. The information in this document is subject to change if revisions are made to the assessment framework. Any changes will fully supersede the information contained in this document.

Competencies		Ohio Educational Preparation Standards	Ohio Educator Standards	Ohio Student Standards	
Science (4-6)		NSTA 2012 Standards for Science Teacher Preparation: Elementary and Middle School Content Analysis Form	Ohio Standards for the Teaching Profession	Ohio Revised Science Standards and Model Curriculum: Grades K-8	CCSS - Reading Standards for Literacy in Science and Technical Subjects
<u>Nature of Science</u>					
0001	Understand principles and procedures of scientific inquiry.	Interdisciplinary Perspectives: A.3-A.4; A.9-A.10 Phys Sci: A.17	2	Science Inquiry and Application	Gr. 4-5: 2-4; 7-8 Gr. 6-12: 2-4; 7-8
0002	Understand the history and nature of science.	Interdisciplinary Perspectives: A.3, A.7	2	Science Inquiry and Application	
0003	Understand the relationships between science, technology, engineering, mathematics, and society.	Interdisciplinary Perspectives: A.1- A.2; A.5	2	Science Inquiry and Application	Gr. 4-5: 2-4; 7-8 Gr. 6-12: 1-2; 4

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<u>Physical Science</u>					
0004	Understand the properties and characteristics of matter.	Phys Sci: A.1-A.3; A.12; A.14-A.15; A.17	2	Gr. 4: Electricity, Heat, and Matter	
0005	Understand physical and chemical changes in matter.	Phys Sci: A.3-A.4; A.12-A.13	2	Gr. 4: Electricity, Heat, and Matter	
0006	Understand the characteristics and transformations of different forms of energy.	Phys Sci: A.4; A.7-A.11; A.13	2	Gr. 4: Electricity, Heat, and Matter Gr. 5: Light, Sound, and Motion	
0007	Understand relationships between force, mass, and motion.	Phys Sci: A.5-A.6; A.10-A.11	2	Gr. 6: Matter and Motion	
0008	Understand characteristics and properties of mechanical and electromagnetic waves.	Phys Sci: A.7-A.8	2	Gr. 4: Electricity, Heat, and Matter Gr. 5: Light, Sound, and Motion	
<u>Life Science</u>					
0009	Understand the characteristics, organization, and processes of cells.	Bio: A.10; A.12	2	Gr. 6: Cellular to Multicellular	

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0010	Understand characteristics and life processes of living organisms.	Bio: A.1-A.2; A.4; A.6; A.8; A.13; A.15	2	Gr. 4: Earth's Living History Gr. 6: Cellular to Multicellular	
0011	Understand the concepts and principles related to genetics, the theory of evolution, and the classification of organisms.	Bio: A.3; A.9; A.11; A.14	2	Gr. 4: Earth's Living History Gr. 6: Cellular to Multicellular	
0012	Understand characteristics of different biomes, relationships between organisms, population dynamics, and the flow of matter and energy through ecosystems.	Bio: A.4-A.5; A.7- A.8; A.10	2	Gr. 4: Earth's Living History Gr. 5: Interactions within Ecosystems	

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<u>Earth and Space Science</u>					
0013	Understand the history of Earth, characteristics of Earth materials and resources, and the geologic processes that shape Earth.	Earth & Space Sci: A.4-A.6; A.8; A.11; A.13-A.14	2	Gr. 4: Earth's Living History Gr. 4: Earth's Surface Gr. 5: Cycles and Patterns in the Solar System (includes Earth Systems) Gr. 6: Rocks, Minerals, and Soil	
0014	Understand characteristics and properties of the hydrosphere.	Earth & Space Sci: A.3-A.4; A.6; A.9-A.11; A.13-A.14	2	Gr. 4: Earth's Surface Gr. 5: Cycles and Patterns in the Solar System (includes Earth Systems) Gr. 6: Rocks, Minerals, and Soil	

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0015	Understand Earth's atmosphere, weather, and climate.	Earth & Space Sci: A.2- A.3; A.11- A.12	2	Gr. 5: Cycles and Patterns in the Solar System (includes Earth Systems)	
0016	Understand characteristics of the solar system and the universe.	Earth & Space Sci: A.1- A.2; A.8	2	Gr. 5: Cycles and Patterns in the Solar System (includes Earth Systems)	