

## Alignment of OAE Physics 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	
<b>Physical Sciences: Physics (7-12)</b>		NSTA 2012 Standards for Science Teacher Preparation: Secondary Science Content Analysis Form	Ohio Standards for the Teaching Profession	Ohio Revised Science Standards and Model Curriculum: High School	CCSS - Reading Standards for Literacy in Science and Technical Subjects
<u>Nature of Science</u>					
0001	Understand principles and procedures of scientific inquiry.	Unifying Concepts: A.1-3; Phys: A.10; B.21	2	Science Inquiry and Application	Gr. 6-12: 2-4; 7-8
0002	Understand the history of science, its connections with other sciences, and the relationships among science, technology, and society.	Unifying Concepts: A.1-A.2; A.4-A.5 Chem: B.25 Phys: A.11; B.19-B.20; Bio: B.19 Earth/Space Sci: B.20	2	Science Inquiry and Application	Gr. 6-12: 1-2; 4
<u>Mechanics</u>					
0003	Understand motion in one and two dimensions.	Phys: A.2	2	Phys: Motion	

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0004	Understand forces as interactions and their effects on motion.	Phys: A.2-A.3	2	Phys: Motion; Forces, Momentum, and Motion	
0005	Understand the conservation of energy and linear momentum.	Phys: A.1; A.3-A.4	2	Phys: Energy	
0006	Understand simple harmonic motion and rotational dynamics.	Phys: A.2; B.14	2	Phys: Motion; Forces, Momentum, and Motion	
<u>Electricity and Magnetism</u>					
0007	Understand properties of the electric field.	Phys: A.4; A.9; B.18	2	Phys: Electricity and Magnetism	
0008	Understand properties of the magnetic field and electromagnetic induction.	Phys: A.5; A.9; B.18	2	Phys: Forces, Momentum, and Motion; Electricity and Magnetism	
0009	Understand properties of electric circuits.	Phys: A.1-A.2; A.9; B.18	2	Phys: Electricity and Magnetism	
<u>Waves</u>					
0010	Understand the fundamental properties of waves.	Phys: A.1-A.2; A.8	2	Phys: Waves (wave properties)	

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0011	Understand the characteristics of light and electromagnetic radiation.	Phys: A.8; B.17	2	Phys: Waves (light phenomena)	
<u>Modern Physics</u>					
0012	Understand thermal energy and the kinetic theory of matter.	Phys: A.1; A.5-A.6; B.12	2	Phys: Energy	
0013	Understand fundamental ideas of modern physics.	Phys: A.6-A.7; B.12; B.15; B.16-B.17	2	Phys: Energy	
0014	Understand the fundamental principles of nuclear physics.	Phys: A.6-A.7; B.12-B.13; B.16	2	Phys: Energy	