

**Physical Science for Grades 7-12 (Ed 612.34)
Reviewer Matrix Worksheet**

Institution Name: _____

Date of Visit: _____

Ed 612.34 Physical Science For Grades 7-12

Directions to the Reviewer: At the end of the visit, you will be asked to rate each standard in your content area using this Rating Matrix and the Program Approval Recommendation Form to recommend a level of approval for the program. Please follow the instructions at the top of columns 2, 3, and 4. The Rubric for determining the rating required in Column 2 for each standard is as follows:

ON STANDARD	APPROACHING STANDARD	STANDARD NOT MET
Candidates' <u>opportunities</u> address all of the competencies specified for the individual certification areas	Candidates' <u>opportunities</u> address most of the competencies specified for the individual certification areas	Candidates' <u>opportunities</u> address some or none of the competencies specified for the individual certification areas

Ed 612.34 <u>Physical Science For Grades 7-12</u>	<u>RATING</u> ON STANDARD or APPROACHING STANDARD or STANDARD NOT MET	<u>RATIONALE</u> [Required] Describe the reviewed evidence that lead to this rating	<u>RECOMMENDATION</u> [Required if rating is below 'on standard'] SUGGESTION [Optional for 'on standard' or 'approaching standard'] COMMENDATION [Optional]
(a) A teacher preparation program in physical science for grades 7-12 shall meet the science program general requirements of Ed 507.29(c).			
(b) The physical science program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas: (1) In the area of fundamental content knowledge, the candidate shall have the ability to:			
a. Represent visually and verbally how the world works at the atomic, micro, and macro levels;			

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<p>b. Demonstrate content knowledge in the following fundamental areas of chemistry:</p> <p>1. Structure and properties of matter, including, but not limited to:</p> <ul style="list-style-type: none"> (i) Atomic structure and substructure; (ii) Periodic table and organization; (iii) Electrical forces between atoms; and (iv) Types of bonds and behavior of substances, such as solubility, conductivity, and malleability; 			
<p>2. Chemical reactions, including, but not limited to:</p> <ul style="list-style-type: none"> (i) Exothermic and endothermic reactions; (ii) Chemical reactions, products, and conservation laws; (iii) Kinetic, thermal, and bond energy; and (iv) Transformation of processes; 			
<p>3. Nuclear processes, including, but not limited to:</p> <ul style="list-style-type: none"> (i) Fusion, fission, and radioactive decays; and 			

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<p>(ii) Applications of nuclear energy;</p>			
<p>c. Demonstrate content knowledge in the following fundamental areas of physics:</p> <p>1. Relationship between energy, forces and matter, including, but not limited to:</p> <ul style="list-style-type: none"> (i) Newton’s laws of motion; (ii) Conservation of momentum; (iii) Universal law of gravitation; (iv) Coulomb’s law; (v) Electrical and magnetic forces; and (vi) Electromagnetic spectrum; 			
<p>2. Waves, including, but not limited to, properties of waves, interactions with matter and other waves, and electromagnetic radiation as follows:</p> <ul style="list-style-type: none"> (i) Magnetic and electrical forces and the electromagnetic spectrum; (ii) Particle and wave models of 			

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electromagnetic radiation; (iii) Electromagnetic interaction with matter; and (iv) Information technologies and instrumentation that transmit data through electromagnetic waves; and			
d. Understand and be able to apply mathematical concepts and techniques including, but not limited to variable analysis as related to physical science at least through the level of college statistics.			

Reviewer’s Recommended Rating for Physical Science Grades 7-12 Program Approval based on a review of both Ed 610.02 Professional Education and Ed 612.34:

REVIEWER INFORMATION:

PRINT NAME: _____

SIGNATURE: _____

DATE: _____