

8710.3340 MIDDLE LEVEL ENDORSEMENT LICENSE FOR TEACHERS OF GENERAL SCIENCE.

Subpart 1. **Scope of practice.** A teacher of general science with a middle level endorsement license is authorized to teach students in grades 5 through 8 in any school organizational pattern.

Subp. 2. **Licensure requirements.** A candidate for licensure as a middle level teacher of science shall:

A. hold one or more of the following classroom teaching licenses granted by the Board of Teaching: a life license; a current nonvocational entrance, nonrenewable, or professional license; or a current entrance or continuing secondary vocational license based on a degree program in agriculture education, business education, consumer homemaking and family life education, industrial education, or marketing education;

B. show verification of completing a preparation program approved under part 8700.7600 leading to licensure in middle level teaching of science for grades 5 through 8 in subpart 3; and

C. demonstrate completion of the equivalent of a college minor in science.

Subp. 3. **Subject matter standard.** A candidate for licensure as a middle level teacher of science must complete a preparation program under subpart 2, items B and C, that includes the candidate's demonstration of the knowledge and skills in items A to D.

A. A teacher of middle level students understands the nature of early adolescence and the needs of young adolescents. The teacher must understand and apply:

(1) the research base for and best practices of middle level education;

(2) the educational principles relevant to the physical, social, emotional, moral, and cognitive development of young adolescents;

(3) the concepts of "belonging" and "family connectedness" as crucial to the development of young adolescents; and

(4) the process and necessity of collaboration with families and other adults in support of the learning of young adolescents.

B. A teacher of middle level students understands the teaching of an academic subject area that integrates understanding of the academic content with the teacher's understanding of pedagogy, students, learning, classroom management, and professional development. The teacher of middle level students in grades 5 through 8 must:

(1) develop curriculum goals and purposes based on the central concepts of the academic specialty and know how to apply instructional strategies and materials that are appropriate for middle level students and are specific to the academic content area;

(2) understand how to integrate curriculum across subject areas in developmentally appropriate ways;

(3) understand the role and alignment of district, school, and department mission and goals in program planning;

(4) understand the need for and how to connect schooling experiences with everyday life, the workplace, and further educational opportunities;

(5) know how to involve representatives of business, industry, and community organizations as active partners in creating educational opportunities;

(6) understand the role and purpose of cocurricular and extracurricular activities in the teaching and learning process;

(7) understand the impact of reading ability on achievement in the academic specialty, recognize the varying reading comprehension and fluency levels represented by students, and possess the strategies to assist students to read the academic specialty content more effectively; and

(8) apply the standards of effective practice in teaching general science through a variety of early and ongoing clinical experiences with middle level students within a range of educational programming models and by completing a minimum of a four-week student teaching experience. Candidates for licensure who hold a license at the elementary level must complete the student teaching experience with students in grade 7 or 8. Candidates for licensure who hold a license at the secondary level must complete the student teaching experience with students in grade 5 or 6.

C. A teacher with a middle level endorsement for teaching science in grades 5 through 8 must meet the standards in part 8710.4750, subpart 3, items A to F.

D. A teacher with a middle level endorsement for teaching science in grades 5 through 8 must understand the content and methods for teaching reading, including:

(1) knowledge of reading processes and instruction, including:

(a) orthographic knowledge and morphological relationships within words;

(b) the relation between word recognition and vocabulary knowledge, fluency, and comprehension in understanding text and content materials;

(c) the importance of direct and indirect vocabulary instruction that leads to enhanced general and domain-specific word knowledge;

(d) the relationships between and among comprehension processes related to print processing abilities, motivation, reader's interest, background knowledge, cognitive abilities, knowledge of academic discourse, and print and digital text; and

(e) the development of academic language and its impact on learning and school success; and

(2) ability to use a wide range of instructional practices, approaches, methods, and curriculum materials to support reading instruction, including:

(a) the appropriate applications of a variety of instructional frameworks that are effective in meeting the needs of readers of varying proficiency levels and linguistic backgrounds in secondary settings;

(b) the ability to scaffold instruction for students who experience comprehension difficulties;

(c) selection and implementation of a wide variety of before, during, and after reading comprehension strategies that develop reading and metacognitive abilities;

(d) the ability to develop and implement effective vocabulary strategies that help students understand words including domain-specific content words;

(e) the ability to develop critical literacy skills by encouraging students to question texts and analyze texts from multiple viewpoints or perspectives; and

(f) the ability to identify instructional practices, approaches, and methods to match materials, print and digital, to the cognitive levels of all readers, guided by an evidence-based rationale, which support the developmental, cultural, and linguistic differences of readers; and

(g) the ability to plan instruction and select strategies that help students read and understand science texts, including the ability to:

i. distinguish between facts based on empirical/scientific findings from opinion;

ii. relate what is read to relevant prior knowledge;

iii. use scientific knowledge to draw inferences or conclusions from facts, discern cause and effect relationships, detect fallacies in author's evidence, and support own claims with evidence;

iv. follow instructions to perform laboratory activities step-by-step in a disciplined fashion;

v. explain diagrams and graphs in terms of scientific content and meaning; and

vi. explain meaning of abbreviations and symbols.

Subp. 4. **Professional license.** A professional license shall be issued and renewed according to this chapter.

Subp. 5. **Effective date.** The requirements of this part for licensure as a teacher of science to middle level students in grades 5 through 8 are effective on September 1, 2010, and thereafter.

Statutory Authority: *MS s 122A.09*

History: *34 SR 595*

Published Electronically: *November 19, 2009*