

Methods Science Project Rubric

Attributes: K (Knowledge); S (Skills); (D) Dispositions; (I) Impact on Student Learning

	Needs Improvement (1)	Meets Expectations (2)	Exceptional (3)	Attributes & Standards
<u>STEP I. PLANNING AND PREPARATION</u> A. Select the topic. Points earned: _____	Explanation of topic and description of project is minimal. Limited discussion of meeting with cooperating teacher and/or use of curriculum standards.	Explanation of topic and description of project included. Plans align with state and local curriculum standards and are based on discussion with cooperating teacher.	Explanation of topic and description of project is clear, thorough and purposeful. Includes review of meeting with cooperating teacher and aligns with state and local curriculum standards.	K, S, D Standards: 1, 2.2, 3.1, 3.5, 5.1, 5.4
B. Research the topic. Points earned: _____	Resources do not meet project requirements. Summary of research is minimal and does not reflect consideration of the development and/or learning needs of the students. Little attention is given to how the topic influences every day life: health, changes in population and/or environments. Annotated bibliography has numerous errors in APA style.	Used 3 teacher resources (not from the Internet), 1 children's book, 3 web sites. Summary articulates basic understanding of the science topic and takes into consideration both the developmental needs and the individual learning needs of the students. Some attention is given to how the topic influences every day life: health, changes in population and/or environments. Includes annotated bibliography with few errors in APA style.	Used a wide variety of resources to enhance understanding of the science topic, including 3 teacher resources (not from the Internet), 1 children's book, 3 web sites. Summary articulates in depth understanding of the science topic and addresses developmental needs and individual learning needs of the students. Detailed attention is given to how the topic influences every day life: health, changes in population and/or environments. Thorough bibliography in correct APA style.	K, S, D, I Standards: 1, 2.1, 2.2, 2.8, 3.1, 3.2, 3.5, 5.1, 5.3
C. Define learning outcomes and construct appropriate assessments. Points earned: _____	Learning outcomes are not clearly defined and reflect minimal knowledge of the learning and developmental needs of the students. Assessment tools offer inadequate means of measuring intended outcomes.	Learning outcomes articulated. Reflect knowledge of the learning and developmental needs of all class members. Formative and summative assessment tools align with intended outcomes and are realistic means of measuring levels of student proficiency.	Learning outcomes thoroughly articulated and reflect knowledge of learning and developmental needs of all class members. Formative and summative assessment tools reflect understanding of Multiple Intelligence theory, align with intended outcomes and are realistic means of measuring levels of student proficiency.	K, S, D, I Standards: 1, 2.2, 2.8, 3.1, 3.2, 3.3, 3.4, 4, 5.1
D. Develop a lesson plan. Points earned: _____	Some components of the Lesson Plan format missing and little detail included. Little attention paid to students' prior knowledge.	All Lesson Plan components addressed in a basic manner. Some components addressed at a deeper level. Prior knowledge activation and examination of possible student misconceptions are key elements within the lesson plan.	All components of the Lesson Plan format addressed in a detailed and thoughtful manner. Emphasis is put on determining students' prior knowledge and exploring possible misconceptions and naïve theories held by students.	K, S, D, I Standards: 1, 2.2, 2.8, 4, 5.1, 5.2

STEP II: INSTRUCTION A. Micro-teach your lesson. Points earned: _____	Micro-taught a lesson to peers and met with Methods supervisor. Several elements of lesson were incomplete and/or underdeveloped. Review of micro-teaching showed little analysis and few modifications.	Micro-taught lesson to peers, met with Methods supervisor. Many elements of lesson thoroughly thought out; some needed further development. Review of micro-teaching included modifications made based on feedback.	Micro-taught a thoroughly-prepared lesson to peers and met with Methods supervisor. Wrote a thoughtful, in depth review of these experiences featuring modifications made based on feedback.	K, S, D, I Standards: 3.1, 3.5, 4, 5.1, 5.2, 5.4
B. Teach your lesson and collect work samples. Points earned: _____	Lesson Plan format is incomplete. Response to student work samples & rubrics are minimal and show little analysis regarding appropriate next steps.	All components of Lesson Plan format addressed. Response to student work samples & rubrics demonstrates ability to analyze effectiveness of the lesson in terms of students' learning of science concepts and includes discussion of appropriate next steps.	All components of Lesson Plan format addressed in a detailed and thoughtful manner. Response to student work samples & rubrics demonstrates ability to analyze effectiveness of the lesson in terms of students' learning of science concepts and includes in depth analysis of appropriate next steps.	K, S, D, I Standards: 2.2, 2.3, 3.1, 3.2, 3.4, 4, 5.1, 5.2
STEP III. PROFESSIONAL CONSIDERATIONS A. Presentation and self-assessment rubric completed. Points earned: _____	Did not meet project expectations and requirements. Project needed editorial work and did not reflect full understanding of the teaching of science. Scoring rubric not completed.	Met project expectations and requirements. Work presented neatly with few editorial issues. Demonstrated basic understanding of the teaching of science. Scoring rubric completed.	Met and/or exceeded project expectations and requirements. No editorial issues. Demonstrated in depth understanding of the teaching of science. Scoring rubric completed.	K, S, Standards: 5.1, 5.2
B. Final Reflection Points earned: _____	Discussion of the value of the Science Project experience is minimal and does not include comments on the effect of the lessons on student and/or candidate growth.	Includes analysis of effectiveness of the development and teaching of the lessons in light of student learning. Analysis of candidate's own growth as a science educator examined.	Includes in depth analysis of the development and teaching of the science lessons in light of student learning. Reflection of candidate's own growth as a science educator fully explored.	K, S, D, I Standards: 1, 2.2, 3.3, 5.1, 5.2

Grading: A=(24); AB=(22, 23); B=(18-20); BC=(14-16); C=(11-12) CD=(10); D=(9)

Total Score:

Comments:

ALIGNMENT WITH PROFESSIONAL STANDARDS

This project was designed to develop your knowledge, skills and dispositions as a future teacher, with emphasis on your ability to positively impact student learning. The project aligns with the following Association for Childhood Education International (ACEI) Standards:

1. Development, Learning, and Motivation—Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students' development, acquisition of knowledge, and motivation.

Content/Curriculum

2.1 English language arts—Candidates demonstrate a high level of competence in use of English language arts and they know, understand, and use concepts from reading, language and child development, to teach reading, writing, speaking, viewing, listening, and thinking skills and to help students successfully apply their developing skills to many different situations, materials, and ideas.

2.2 Science—Candidates know, understand, and use the fundamental concepts in the subject matter of science—including physical, life and earth and space sciences—as well as concepts in science and technology, science in personal and social perspectives, the history and nature of science, the unifying concepts of science and the inquiry processes scientists use in discovery of new knowledge to build a base for scientific and technological literacy.

2.8 Connections across the curriculum—Candidates know, understand, and use the connections among concepts, procedures, and applications from content areas to motivate elementary students, build understanding, and encourage the application of knowledge, skills, and ideas to real world issues.

Instruction

3.1 Integrating and applying knowledge for instruction—Candidates plan and implement instruction based on knowledge of students, learning theory, subject matter, curricular goals, and community.

3.2 Adaptation to diverse students—Candidates understand how elementary students differ in their development and approaches to learning, and create instructional opportunities that are adapted to diverse students.

3.3 Development of critical thinking, problem solving, performance skills—Candidates understand and use a variety of teaching strategies that encourage elementary students' development of critical thinking, problem solving, and performance skills.

3.4 Active engagement in learning—Candidates use their knowledge and understanding of individual and group motivation and behavior among students at the K-6 level to foster active engagement in learning, self motivation, and positive social interaction and to create supportive learning environments.

3.5 Communication to foster collaboration—Candidates use their knowledge and understanding of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the elementary classroom.

4. Assessment for instruction—Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.

Professional Considerations

5.1 Practices and behaviors of developing career teachers—Candidates understand and apply practices and behaviors that are characteristic of developing career teachers.

5.2 Reflection and evaluation—Candidates are aware of and reflect on their practice in light of research on teaching and resources available for professional learning; they continually evaluate the effects of their professional decisions and actions on students, parents, and other professionals in the learning community and actively seek out opportunities to grow professionally.

5.3 Collaboration with families—Candidates know the importance of establishing and maintaining a positive collaborative relationship with families to promote the academic, social and emotional growth of children.

5.4 Collaboration with colleagues and the community—Candidates foster relationships with school colleagues and agencies in the larger community to support students' learning and well-being.