You will teach a lesson during your clinical on measurement concepts, geometric/spatial reasoning, or algebraic reasoning. You will also evaluate your lesson.

Purpose: The purpose of this assignment is to develop a mathematics lesson in the spirit of the expectations and ideas presented in the NCTM *Principles and Standards for School Mathematics* (2000) for a particular content strand and grade level and to evaluate the effectiveness of the lesson. The experience should include (1) conceptualizing an appropriate lesson for your students (2) organizing a coherent sequence of tasks that will integrate problem solving, concepts, and skills, (3) identifying key questions you will ask the student during the lesson, and (4) reflecting on the lesson.

(A) Planning the Lesson:

You will be assigned a topic that is appropriate for your students. Potential areas for your lesson will be measurement concepts, geometric/spatial reasoning, or algebraic reasoning. Read about your lesson area in your mathematics methods textbook (van de Walle) and in the NCTM Principles and Standards at the appropriate grade level. You may also use ideas from *Teaching Children Mathematics, Arithmetic Teacher, Mathematics Teaching in the Middle School*, media materials, and any other resources that you find helpful.

Writing the Lesson Plan

Develop a lesson plan to introduce one or more concepts from the assigned lesson area using a problem-solving approach.

1. Give grade level.
2. Include a statement of the learning objective(s).
3. Discuss what materials you will use.
4. Choose the activity/activities that meet your objectives. Sequence the activities. Explain how the activities meet the objectives. Explain how you will open the lesson. Explain how you will develop the concept(s) and procedure(s) to be learned.
5. Plan and discuss the key questions you will ask during the lesson to help students understand the concepts. What questions will you pose to elicit discussion? Plan and discuss the assessment questions you will ask during the lesson to help you understand the children’s thinking. Explain what you will be specifically looking for when students are working? What specifically will you listen for?
6. Discuss how you will end the lesson. How will you ask students to summarize the important points in the lesson?
7. Discuss possible adaptations you might find necessary while you are teaching the lesson. Why might they be necessary? In what parts of the lesson do you anticipate student difficulties? Explain how you will address these difficulties?
8. List any resources you used to develop this lesson (e.g., author & title of books, journal articles, people, etc.).
(9) Discuss how your lesson will address the content and process standards from the *Principles and Standards*. In what ways does the lesson meet each of the process standards: Problem Solving; Reasoning and Proof; Communication; Connections; and Representations? In what ways will it meet the appropriate content standard: Measurement, Geometry, or Algebra?

(10) Identify one type of student with special needs (e.g., LD, gifted, physically impaired, non-English speaker) and discuss ways to include that student in the lesson in order to meet the learning objectives.

**(B) Teaching the Lesson:**

Teach the lesson. Try to audiotape the lesson so that you can pay attention to the student during the lesson.

**(C) Reflecting and Reporting:**

Evaluate the lesson. Describe strengths and weaknesses of the lesson.

How effectively did the lesson involve students in reasoning and problem solving? Explain. What changes could you make to encourage more student reasoning and problem solving?

Describe what you learned about the students’ mathematical thinking during the lesson. Be as specific as you can and support your statements with examples. Were the problems easy or difficult for the students? Explain.

What signs of active engagement did you notice in your students? Explain. What changes could you make to encourage more active engagement?

How effective were you in allowing students to figure out their solutions? Explain. Give examples.

How effective were you in allowing students to demonstrate their knowledge or explain their reasoning? Explain. Give examples.

Did the instructional materials support the learning objective(s)? Explain. What changes in materials or in their usage might encourage deeper student understanding?

What parts of the lesson were challenging to students? What was the source of students’ difficulties? How did you handle these situations? How might you more effectively handle these challenges if you taught the lesson again?

Was your lesson effective in handling students with special needs? How might you more effectively address special needs if you taught the lesson again?
Did the ending of the lesson help students to consolidate their knowledge? Explain. What changes in the ending might be indicated if you were to teach the lesson again?

Were you able to teach the lesson as you had planned it? Did you use any adaptations to the lesson? Why? What other adaptations might you make if you taught the lesson again?

You are not limited to these questions alone in writing the lesson reflection. You are encouraged to consider other aspects of the lesson or of students’ understanding of the lesson in your reflection.

**Your lesson report should include the following:**

- Describe the students you taught (e.g., grade, any special characteristics, etc.).

- Include a copy of the lesson and handouts. Include copies of any directions or papers that were given to students. You may include a few of your students’ work.

- Include your lesson reflection

- Suggest what you might do next with these students? How might you extend this lesson based on what you learned about their understanding from teaching the lesson?