Elementary Science Content Area Task (CAT) Instructions

Overview of Science CAT

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<th>Required Elements for a Science Planning Content Area Task</th>
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| **1. Context for Learning** (TPEs 7,8)                    | ✓ Provide relevant information about your instructional context and your students as learners of science. | □ Context Form  
□ Context Commentary |
| **2. Planning Instruction & Assessment** (TPEs 1,2,3,4,6,7,8,9,10,12) | ✓ Select a learning segment of 5-6 days of instruction (approximately 30-60 minutes per day; for a minimum 3 instructional hours) of instruction that is centered around a big scientific idea and scientific inquiry skills that underlie specific student academic content standards. The learning segment should also develop students’ scientific knowledge by correcting any misconceptions that students have regarding the content to be covered in the learning segment.  
✓ Create an instruction and assessment plan for the learning segment and write lesson plans.  
✓ Write a commentary that explains your thinking in writing the plans (see the commentary form). | □ Introduction  
□ Lesson Plans for Learning Segment  
□ Instructional Materials  
□ Summative Assessment  
□ Planning Commentary |

Use of PACT Scores

The scores from this Content Area Task will be combined with scores from the other Content Area Tasks and the Teaching Event in Literacy to determine whether or not candidates for a Multiple Subject Teaching Credential pass the PACT teaching performance assessment. Individual candidates’ PACT scores, like other licensing test scores and academic records, are confidential and should not be released to employers or induction programs without the prior consent of individual teachers.
Task 2. **Planning Instruction & Assessment**

**Curriculum Unit Design**

**Rationale**
As a teacher, you develop lessons and entire units to help support your students in learning science. The final project for this class will be to design a curricular unit that lasts 5-6 days and targets a specific science content area.

**Format**
You will develop an instructional sequence for 5-6 days of instruction (approximately 30-60 minutes per day; for a minimum 3 instructional hours). Your unit should provide the reader a sense of the instructional sequence over time and how it will help the students achieve the target learning goals.

Your final unit should include the following **six** components: (1) context for learning, (2) introduction, (3) lesson plans for 5-6 days, (4) summative assessment, and (5) a planning commentary (see the commentary form).

1. **Context for Learning**

2. **Introduction:**
   A. Unit Purpose
      - This should include (1) the target grade level (e.g. 3rd grade) and describe the unit purpose. What are the big science ideas that you want the elementary students to understand? What is the overall goal for your students in this unit?
   B. Justification of Lesson Sequence
      - Provide a justification for the lesson sequence. Why did you order your lessons in the way that you did?
   C. Science Background
      - *California Science Standards* - You should list the science content and investigation/experimentation standards your unit addresses.
      - *National Science Education Standards and/or AAAS Benchmarks*
      - *Possible Student Misconceptions* – What are the typical misconceptions that students have regarding the content to be covered in this unit?
3. Lesson Plans (*minimum of 3 hours of instruction, maximum of 5 hours*)

D. Lessons Plans (5 – 6 lesson plans)

- The lesson plans should include:

| Purpose | What is the specific science concept you want your students to learn from this lesson? How does it connect to what you did the day before and will do the day after? |
| Time required | |
| Materials needed and Materials Management | What materials will you need? How will you manage your materials? |
| Misconceptions | What prior ideas might your students have on this topic? |
| State & National Standards | For CA Standards, include both Content & Investigation/Experimentation Standards include ELD if relevant |
| Learning outcomes/objectives | What are the concepts and skills you want the students to gain from this lesson? |
| Assessment (formative) | How will you know if your students are achieving the learning objectives in the context of the lesson? What tasks during instruction will you also consider as assessment? How will you consider this assessment data in planning for the next day? |
| Instructional Activities | What activities/tasks will you and your students do to meet the learning objectives? Be sure to include multiple elements strategies that will support *your students* in the learning process, such as varied pedagogical strategies, instructional technology, student-centered learning activities, innovative resources and/or multicultural/culturally relevant activities. |
| Student Handouts/Visuals | Include any student handouts or visuals you would use such as PowerPoint slides or pictures. |
| References | What sources did you draw on to develop this lesson? Throughout the *unit* you should draw upon at least 3 different curricular resources (this can include written curriculum materials, websites, etc.) |

4. Summative Assessment

- You will develop an assessment to evaluate students’ understanding of the science content and inquiry targeted in this unit. This should be a culminating assessment you would use at the end of the unit. The student assessment can take a variety of forms such as a test, presentation, lab report, performance assessment or other written assignment. You should include both the student version of the assessment as well as a rubric or key that you would use to assess student learning.