

Mathematics CFA Template

Pre-Instruction

1. List the Standard. Underline the nouns (what students will know) and highlight the verbs (what student will do):

8.EE.4 **Perform** operations with numbers **expressed** in scientific notation, including problems where both decimal and scientific notation are used. **Use** scientific notation and **choose** units of appropriate size for measurements of very large or very small quantities. **Interpret** scientific notation that has been **generated** by technology.

2. Mathematical Practices

SMP 1. Make sense of problems and persevere in solving them.
SMP 4. Model with mathematics.
SMP 5. Use appropriate tools strategically.
SMP 6. Attend to precision.

3. I Can Statements – Put learning targets in student friendly terms.

I can convert standard numbers to scientific notation.
I can convert scientific notation to standard form.
I can choose an appropriate unit of measurement.
I can interpret scientific notation on a graphing calculator.

Depth of Knowledge of the standard (Highlight the Level of the Learning Target):

Level 1 Recall; **Level 2 – Skill/Concept**; Level 3 – Strategic Thinking; Level 4 – Extended Thinking

4. List the skills students need to know in order to begin this standard:

Understand place value.
Powers of ten.

5. What type of assessment am I going to write? [selected response (m/c, t/f, y/n, matching, fill in ___) **or** constructed response (**short**: word, phrase, sentence, single problem; **extended**: multi-step operations in math, problem solving)] List the assessment questions.

Constructed Response

1. Convert 8109 to scientific notation.
2. Convert -.000703 to standard form.
3. Write 2.6E5 in scientific notation.
4. Would 3.4×10^{-2} most appropriately be measured using mm or km?

6. Scoring Guide

Exceeds Expectations:

Proficient: Correctly responds to all four problems.

Approaching Proficiency: Correctly work numbers 1 and 2.

Not Proficient: Completes one or less correctly.