A Sample Assessment System
Using the 2004 Standards and Assessments

NSTA does not prescribe the nature of the assessments used by programs to address its standards. The assessments presented in this document are only provided to show what such an assessment system might look like.

I. Assessment #1
   A. PRAXIS II or scores from other required state examinations, or scores from other standardized examinations over science content required by the program. PRAXIS II examinations are generally aligned with NSTA recommendations. Other exams must be shown to be reasonably aligned.

II. Assessment #2
   A. GPAs and grade distributions for science courses taken by candidates, and accepted by the program, in the discipline. Only grades being counted by the program to meet its requirements are necessary.
   B. Must demonstrate science courses required are aligned with NSTA recommendations by completing the content analysis forms provided by NSTA and including them in the context section of the report.

III. Assessment #3
   A. Results on a science-specific unit planning assignment (not individual lesson-planning assignments, although these can and should be part of the unit assignment).
   B. Candidates must include activities to show they are able to address standards 1a-c, 2, 3, 4, and 7.
      1. Generic instructions to develop a unit “in accordance with SPA or national standards” or similar language is not sufficient to ensure that candidates will develop units aligned with all standards.
      2. Instructions and criteria for assessment should specifically refer to personal and technological applications, nature of science, inquiry, etc.

IV. Assessment #4
   A. Generally this is a science-specific student teaching assessment instrument
   B. Must be at least partially aligned with SPA standards, often done by including an addendum to a more generic format that addresses NSTA concerns.
   C. Should assess degree to which science-specific types of instruction (inquiry, applications, nature of science, etc.) are provided AND the applied dimensions of standards 5, 8, 9 and 10.

V. Assessment #5
   A. Teacher Work Sample requirements are most common, that require using student data to demonstrate candidate ability to foster learning in science aligned with the standards.
   B. Must be aligned in some manner with NSTA standards calling for demonstration of effective teaching (1a-c, 2c, 3b, 4b and 7b).

VI. Assessment #6
   A. Safety and ethics module or other form of comprehensive safety assessment
   B. Includes sub-assessments addressing each of the dimensions of standard 9
   C. Safety in classroom may be addressed by assessment #4 or this assessment
   D. Knowledge of rules and ethics on keeping and collecting living things is required of all candidates, regardless of discipline, but practical assessment of care, treatment, and collection is only required where such experiences can be observed.

VII. Assessment #7
   A. Research design and inquiry module or any set of experiences/assessment where candidates are required to understand and apply research design.
B. Includes sub-assignments demonstrating knowledge of research and pedagogical inquiry design; ability to design, conduct and report research at least at the grade level; and ability to use mathematics to process and interpret data.
C. Should be sufficient to enable candidates to work with advanced students in designing research at their teaching level (elementary/middle/secondary) and to teach research design accurately.

VIII. Assessment #8
A. A resource capstone course addressing preparation in relation to standards 1b-c, 2a-b, 3a, 4a, and 7a or a well designed composite modular assessment of activities addressing these dimensions, such as a mini-portfolio with well-developed criteria.
B. A resource unit including an assessment showing that candidates understand these dimensions in relation to the National Science Education Standards and can collect and use a variety of suitable materials in instruction related to each standard is the minimum requirement. Criteria must include an assessment of knowledge in each area.