

STEM Smart: Lessons Learned from Successful Schools

What Are the “Look Fors” to Assess the Quality of Instructional Materials in Light of the NGSS?

Daniel Edelson
Executive Director, BSCS

Jody Bintz
Director of Professional Learning, BSCS

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Welcome & Introductions



Session Overview

- Background
- What are the “look fors” in instructional materials?
- A look at instructional materials



Project Background

- Purpose
- Progress



Categories of Evaluative Criteria

- NGSS-based Learning Goals
- Coherence
- Science Learning Experiences
- Monitoring of Learning Across the Dimensions



Science Learning Experiences

*When evaluating **student materials**, consider the extent to which....*

11. Materials provide substantive opportunities for students to express and negotiate their ideas, prior knowledge, and experiences across all three dimensions.

*When evaluating **teacher materials**, consider the extent to which....*

15. Materials support teachers in anticipating students' ideas and include guidance for exploring student ideas across all three dimensions.



Pre-think the Evaluative Criteria

- Why are these criteria important?
- What would be the “look fors” in high quality, NGSS-aligned materials?
 - Student
 - Teacher



Evaluative Criteria 11 & 15

- Read the narrative descriptions for Evaluative Criteria 11 and 15. Keep the following questions in mind.
 - According to the authors,
 - why are these criteria important?
 - what are the “look fors” in instructional materials?
- How do these ideas compare to yours?



Student and Teacher Materials

- Selection 1 (post-NGSS; middle school)
Disruptions in Ecosystems: Ecosystem Interactions, Energy, & Dynamics, Chapter 2
Activity 2.1
American Museum of Natural History & Lawrence Hall of Science
- Selection 2 (pre-NGSS; high school)
BSCS Science: An Inquiry Approach (Level 2), Chapter 3 Engage
BSCS
- Selection 3 (pre-NGSS; high school)
BSCS Biology: A Molecular Approach, Chapter 5 excerpt
BSCS
- Selection 4 (post-NGSS; high school)
Interactions, Investigation 2 excerpt
CREATE for STEM Institute, Michigan State University, & Concord Consortium



A look at instructional materials...

- Scan your selection for relevant features
- What are the strengths and limitations of the materials in light of Evaluative Criteria 11 (student materials) and 15 (teacher materials)?

Selection & Criteria	Strengths (description and evidence)	Limitations (description & evidence)	Recommendations
#11 Student			
#15 Teacher			



A look at instructional materials...

- Scan your selection for relevant features
- What are the strengths and limitations of the materials in light of Evaluative Criteria 11 (student materials) and 15 (teacher materials)?

Selection & Criteria	Strengths (description and evidence)	Limitations (description & evidence)	Recommendations
#11 Student			
#15 Teacher	Misconceptions in TE; p. 113a.		Link to activities

- Be prepared to share your ideas