

## INDICATORS OF CURRICULUM ALIGNMENT WITH STANDARDS

“Some ask if a certain curriculum *meets* the standards. This reveals a lack of understanding about the role of standards as outcomes. ‘Meeting the standards’ is correctly interpreted as students achieving the knowledge, abilities, and understandings defined in the standards.”

--Rodger W. Bybee, 1997, p. 154

### Indicators

### Levels of Analysis

Identification of science content

Do topics of curriculum match the conceptual organizers of the standards? Are standards explicitly represented in the curriculum framework?

Explicit connections with fundamental abilities and understandings

Do activities include the fundamental understandings and abilities of the standards?  
Do activities include all the fundamental understandings and abilities made explicit?  
Are foreground and background emphasis of concepts and abilities made explicit?  
Are connections made with other topics, concepts, and procedures?

Time and opportunities to learn

Does instruction include several activities on a topic?  
Do students experience concepts before terms are introduced?  
Do students apply concepts and procedures in different contexts?

Appropriate and varied instruction

Are different methods of instruction used?  
Are students engaged in investigations with an inquiry orientation?  
Are teachers informed of possible misconceptions and how to encourage conceptual change?

Appropriate and varied assessment

Are opportunities provided for teachers to identify what students know and can do?  
Are assessment strategies consistent with philosophy or pedagogy?  
Are assessments comprehensive, coherent, and focused on the understandings of science content and abilities to use procedures?

Clarification of achievement

Are there examples of acceptable and unacceptable levels of achievement?

SOURCE: Rodger W. Bybee. 1997. *Achieving Scientific Literacy: From Purposes to Practices*. Heinemann, Portsmouth, NH (p. 156)