

FOSS Middle School Curricular Materials Alignment Cover Sheet

This document contains generalized comments that apply to the FOSS middle school science modules that are a part of this alignment project. They are designed to support teacher implementation of the modules in a manner that will best support student opportunity to learn the science standards.

- The alignment was completed with the expectation that teachers will teach the module as designed and with fidelity.
- Some lessons are introductory and are essential to the conceptual sequence of the entire module. These lessons provide the base for the rest of the module and allow the student to have the opportunity to reach the standards that the module addresses as a whole. Student understanding and conceptual development may well be hindered if these lessons are removed from the instructional sequence.
- To best teach this module, a teacher must avail themselves of the background information found in the teacher's guide. This resource will support the teacher to deeply understand the concepts and objectives outlined in each inquiry and lesson.
- To adequately address the Systems Standards, the following vocabulary needs to be addressed and emphasized throughout all investigations in the module: *systems, subsystems, inputs, outputs, boundaries, open system, closed system, flow of matter and energy, transfer of energy, transformation of energy, and matter.*
- The inquiry standards "INQH", and "INQI" which involve scientific or intellectual honesty, integrity and ethics should be taught and modeled throughout the unit, though it is not directly addressed in the investigations/lessons/activities.
- In order to fully meet the Application Standards, bring in the connections to and uses of technology found within each module. Include opportunities for students to recognize and evaluate how the improvements in technology change our views and understanding of the Big Ideas in science.
- Teachers must be intentional in naming aspects of a scientific investigation to address the Inquiry Standards. Science notebook techniques that include a series of progressive scaffolds greatly support students to learn and apply these concepts and skills.
- It is highly recommended that formative assessment is used throughout the instructional sequence. Although specific assessment materials are not a part of this alignment, see Alignment Comments in the alignment document for identification of those questions that best measure conceptual understanding.

- Implementation of student reflection, on a consistent basis should be on what was learned and how it was learned. This best supports student learning and retention and is therefore highly recommended.
- The use of teams, much like those used scientific practice, will provide improved student learning and is recommended.