Developed at:

FOSS

THE LAWRENCE HALL OF SCIENCE
UNIVERSITY OF CALIFORNIA, BERKELEY

We help you assess, you help them succeed.

The FOSS Assessment System:
Measures what they know so you can help them learn

Like every part of FOSS®, the integrated FOSS Assessment System is built to help students learn. Based on research by FOSS developers during the NSF-supported Assessing Science Knowledge (ASK) project, the FOSS Assessment System provides what you need to identify students' strengths and weaknesses, encouraging a growth mindset to help students meet the goals described in the NGSS performance expectations.

Embedded Assessment

Continuous monitoring of student thinking helps teachers know when more instruction is needed. Formative assessments are based on authentic student work, including science notebook entries and response sheets.

Performance Assessment

Teachers track students' progress on science and engineering practices and crosscutting concepts, by observing students' interactions as they investigate.

Benchmark Assessment

FOSS benchmark assessments include:

- Assessments to gauge students' knowledge before and after the course.
- I-Check assessments to monitor progress at the end of each investigation.
- Options to modify assessments for students with IEPs and those who need accommodations.

Interim Assessment

Interim assessment tasks are designed specifically around NGSS performance expectations to expose students to new ways of integrating and applying three dimensions to solve problems. For grades 3–5, these can be used at the end of a module or at year end as a grade-level summative assessment.

Meaningful assessment review in 10 minutes

Results of studies in FOSS classrooms have demonstrated that teachers can discover meaningful learning trends by spending just 10 minutes reviewing student work after the day's lesson. The FOSS Assessment System includes a teacher practice called **reflective assessment** that efficiently acquires useful learning data to inform instruction. This proven method takes little time, but makes a big impact on student learning.
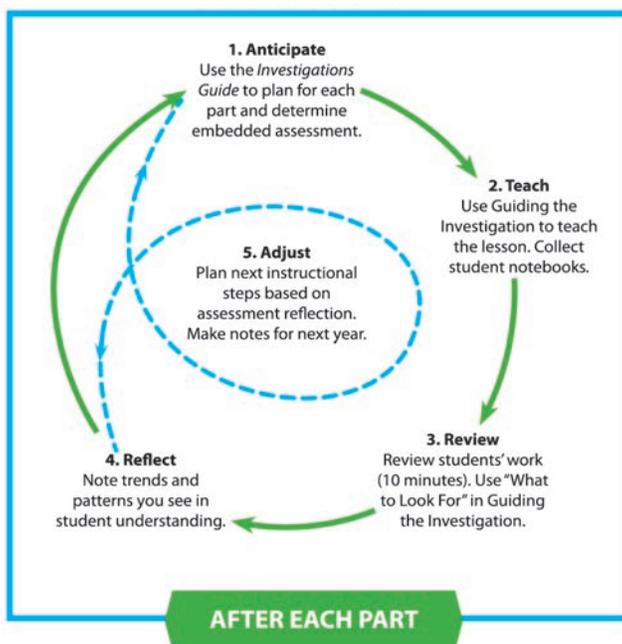
The Reflective Assessment Practice

The Investigations Guide provides support on what to look for in notebook entries.

> **"FOSS assessments allow more authentic learning experiences for my students."**
>
> Kathleen L.
> *Teacher, Kentucky*

"The richness and opportunity for science learning in FOSS is in harmony with both the intent and content of the NGSS. FOSS provides the resources necessary for effective student learning, including assessments that measure all three dimensions."

Craig Gabler, Ph.D.
Member, NGSS Writing Team

Online assessment and reporting with FOSSmap:

Advanced technology to track student progress

Student assessment takes a leap forward with computer-based FOSSmap, the online assessment solution for grades 3–8. FOSSmap makes it easy to assign, code, and analyze your students' performance on benchmark assessments. You can:

- Easily assign assessments to a class, group, or individual student

- Monitor online progress in real time

- Choose from assessments with narration in English and Spanish

FOSSmap's intuitive dashboard not only shows how many students answered each item correctly, its Rationale column (at center right) tells the teacher what those who answered wrong might have been thinking.

FOSSmap:
Online assessment that promotes a growth mindset

The assessment process and tools of FOSS teach students to identify and examine their thinking—what they know and what they still need to understand—while continuing to feel they can make progress. FOSSmap takes assessments for grades 3–8 online and generates a number of diagnostic and summary reports for quick and easy use in the classroom. Some of these reports deliver information about class progress. Others provide individual students and parents with information about what the students know, and what they still need to work on.

The FOSSmap platform provides streamlined student management, an updated interface, and new reporting capabilities. Its many available reports include:

The Embedded Assessment Report is a record you can run for each embedded assessment your students complete. It lists the names of students who "got it" as well as those who need some individual help. It is also a good place to record anything you might want to emphasize more or present a bit differently the next time you teach the module.

The Max Code Frequency Chart tells you at a glance which items were problems for the class. The red-bar items are the ones you want to bring back to students for self-assessment activities.
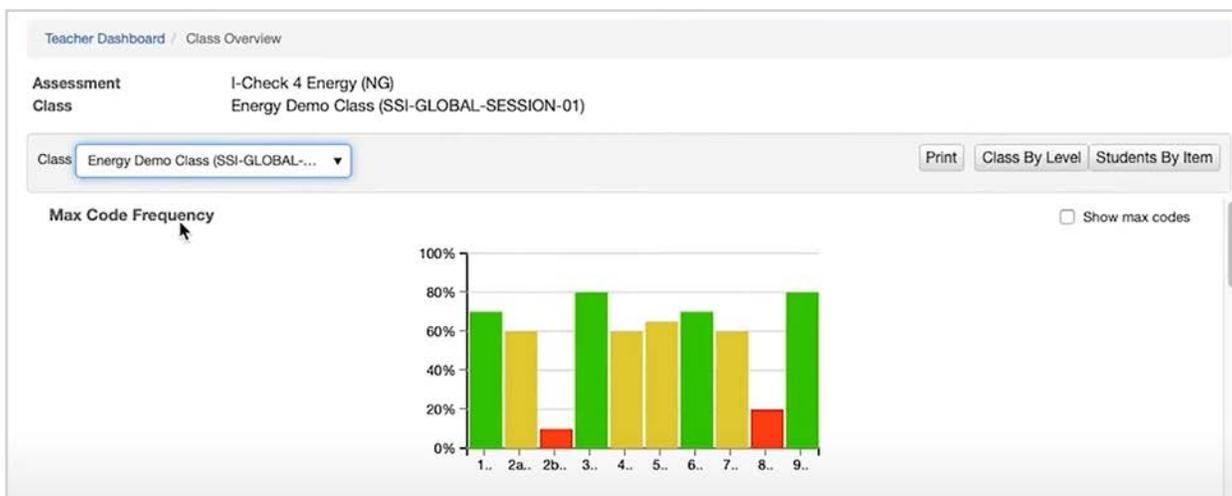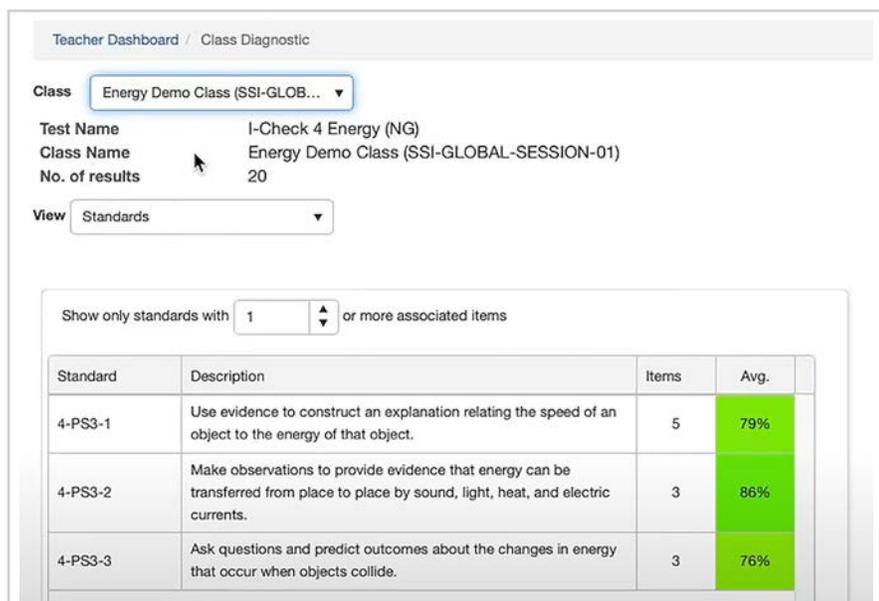

The Max Code Frequency Chart's green/yellow/red graphics signal the students' performance on each item.

The Class by Item Report shows the detail of each item and students' responses. You can go directly to the problem items (indicated by the Max Code Frequency Chart) to get more information and plan next steps. This report displays students' names for each response, with a brief description of what each code means in terms of full or partial credit.

The Student by Item Report is well suited as a report to send home to parents thanks to its informative summary nature. It lists all the items on a test and shows how the student responded to each item. It also provides the max code, code the student received, and a description of what the student knows or needs to work on, based on the evidence inferred from the item. After the test has been completed and coded by the teacher, students can go back into the FOSSmap system to view the answers they chose or wrote for each item.

The Class by Level Report groups students into the four progress levels described earlier in this chapter: notions, recognition, conceptual, and strategic. These groups are mathematically based both on the difficulty of the item and on the students' overall performance.

Class Diagnostic Reports are available by standard or by question (item). They provide the NGSS performance expectations, the number of questions that relate to that standard, and a percentage. For the percentage displayed, the codes are treated as points, and the percentage is based on total points possible compared to total points earned by all students. The specific items that relate to each standard can be found on the last page of the Assessment Coding Guides chapter for each module.

Teacher Dashboard / Class Diagnostic

Class | Energy Demo Class (SSI-GLOB... ▾

Test Name | I-Check 4 Energy (NG)
Class Name | Energy Demo Class (SSI-GLOBAL-SESSION-01)
No. of results | 20

View | Standards ▾

Show only standards with | 1 | or more associated items

Standard	Description	Items	Avg.
4-PS3-1	Use evidence to construct an explanation relating the speed of an object to the energy of that object.	5	79%
4-PS3-2	Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.	3	86%
4-PS3-3	Ask questions and predict outcomes about the changes in energy that occur when objects collide.	3	76%

Class Diagnostic Reports track your students' performance against specific NGSS expectations.

Sorting of items by NGSS standard helps ensure all standards are being met.

Viewing of assessment results lets administrators partner with teachers to view assessment results, enabling data-driven conversations about student and class progress.

FOSS: A vision fulfilled.
Science teaching transformed.

Every student deserves the benefits of science education—not just exposure to scientific phenomena, but the opportunity to understand and explain them. From its foundation, FOSS was built to afford that opportunity to all, regardless of background culture, language, or ability.

The FOSS developers at the Lawrence Hall of Science designed FOSS around the principle of collaborative, active investigation. FOSS effectively engages all students by inviting them to interact with observable phenomena, a teaching philosophy subsequently codified with the arrival of NGSS. FOSS makes science accessible and equitable for every student in every classroom. This active learning philosophy has turned two million students and 100,000 teachers into hands-on active investigators of scientific phenomena. FOSS is recognized today by experts and organizations across the country for its proven quality, rigor, support, and effectiveness.

Learn more.

Find your local FOSS/Delta Education
representative at **FOSSNextGeneration.com/Sales**

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