

Reflections

Best preparation for Bio EOC for 9th grade students.

I do not have any experience with NGSS so I look forward to learning more today.

I love how components of science are divided into categories and clearly integrated together.

Small "list" to go over more specific standards allows more depth into content.

Trying to understand how it all fits together.

I enjoy the fact that the discovery aspect allows students to ask questions to inspire further learning.

Hands on opportunities to ask questions, investigate, analyze data and communicate results.

Due to being a multi subject teacher I like how the cross cutting concepts from 3-D NGSS overlap through subjects.

Standards are written concisely in a way that is applicable to any location.

Appreciate NGSS is focused not only on the content but also the learning skills.

I love that phenomena is so powerful in engaging student minds.

Science integration across content is the most meaningful way to incorporate standards.

NGSS focuses on the process of science and skills. Content is used to explain phenomena.

Humans do science. Love focuses on practices and cross cutting concepts.

Everything is new to me but I love the idea that ideas can be shared by all.

Able to have the skills and content separate in the 3Ds.

Overall, positive having students experience science with connections to engineering.

Starting with a phenomenon is generally very effective and fun.

Looking forward to learning about hawaii based phenomenon and NGSS assessment.

I appreciate the scientific practices and how they help support the content standards.

Questions

More ideas for engagement for fully asynchronous learning.

Use authentic datasets where possible. Try to use technology (e.g. slides, jamboard, etc.) to do discourse. The [graphic organizers](#) for the practices should be helpful.

I'd like to grow in my ability to integrate NGSS in all my classes.

Use the crosscutting concepts to connect all of your individual classes (i.e. systems, patterns, etc.). Having a uniform cycle of inquiry is helpful. The only thing that changes are the phenomenon.

How can I use NGSS to guide my teaching?

Use the standards and performance assessments to backward design your lessons. Use mini-lessons to teach the CCC and SEP.

How can we better align what we already do to NGSS?

The biggest shift is always exploring before explaining. If the students are actively using the CCC and SEP they are doing NGSS. Use the performance assessments to make sure you aren't covering content outside the standards.

Is it possible to keep the same unit/project and use different kinds of phenomena?

It's important to use various phenomena to build transfer in your students. The overall unit or project may not change massively but you may have to add new supporting phenomena to help students with specific new content.

What sources do you recommend for the most clear-cut 3-D unit planning?

OpenSciEd and InquiryHub units are the most clear cut resources available. If you are doing planning on your own try to select a SEP and CCC for each lesson. You and the students should know that this is the focus for the lesson.

What is the best way to integrate the cross-cutting concepts and planning across disciplines?

Always include a CCC in your unit names. For example, Stability in Earth Systems vs. Earth Science Unit or Patterns in the Sky vs. Astronomy are already integrated with the CCC. Try to build individual CCCs into each lesson.

How to incorporate more Hawaii based phenomena?

I tried to give you examples during the workshop. Don't over think the "phenomenal" part. As long as the students don't know the answer they will engage.

How do you push students to investigate and think critically when their "default" answer is "IDK".

Give students individual time to question and model before they share their thinking. Use whiteboards. Give them time to quietly gallery walk other student explanations. Oftentimes they default to IDK because they aren't sure what is the task at hand. Also be specific in why you are having them construct knowledge. It is how we learn best and they will have to do explanations on the summative assessments. Class is practice.

How can I more effectively support students to plan and carry out investigations?

Mini-lessons around planning and conducting investigations. Use a simple example (e.g. What affects plant growth?) and show them your process. List all the things that could affect plant growth (i.e. light (hours/day), CO2 (ppm), plant type (corn), water (ml/day), etc.) Tell them that they can only select one and that all the others are constants in the experiment. Try to be as explicit as possible.

How do we prioritize which standards we teach if we can't teach them all?

Priority Standards come from a time before the NGSS when we had to cover too much content. All standards should be priority standards. The HSA will cover all the standards. That being said many students don't come

with enough background and so it may take years before all standards are hit with fidelity. Focus on the SEP and CCCs that connect all standards (i.e. modeling, investigating, and argumentation)

How can the performance assessment be scaled up or down to apply to multiple grades?

Take a look at the vertical assessments on the Wonder of Science. The practices may change at each vertical and so this will change your focus as a teacher.

How can I have students self assess themselves with the way the standard is written?

Use the single-point rubrics for the practices as a checklist. I like the idea suggested at the workshop for using these as a starting point for building classroom expectations.

What are the different ways to assess students?

Assessments should be “any evidence of learning”. Use formative assessments each day to build student capacity in the SEPs over time.

How to plan performance based assessments?

The 3D screening tool and the Wonder of Science Assessments are a great place to start. Modify assessments by simply changing the phenomenon while keeping the prompts the same.

How do we assess CCCs growth as well?

The mini-lessons for the CCC on the Wonder of Science will be helpful. Each standard has an associated CCC at varying levels depending on grade level. Also be specific. “We will learn two types of concepts in this class. Science Concepts (like gravity) and Crosscutting Concepts (like cause and effect).” Give the CCC and DCI equal footing in your class.

Skills vs Grading; DFAs across different content/programs/islands? Focus Points? Separate or Together?

Not sure what DFAs are. Sorry about that. Most schools are moving away from letter grades to standards-based reporting. They will all eventually transition to Competency-Based Reporting. The competencies in the NGSS are the SEP. Students should get feedback on the “doing” of science.

What happened to “writing” not keyboarding?

Not sure what this means. Sorry about that.