

May 3, 2016

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MS Science Adoption Committee

Our mission is to provide all students with an exemplary college preparatory education so they can succeed in college, career, and life.



Agenda



- Get to know each other
- Understanding the new standards – Next Generation Science Standards
- Review process and timeline
- First look at the potential materials
- Evaluations
- Check-out and next steps



Get to Know Each Other

- Please share
 - Your Name
 - Your school/role
 - Why you chose to be on this committee



Norms

- Please share ideas for the way that we would like our group to operate together
 - Using the cards when you want to speak
 - Keep an open mind
 - Time for technology breaks
 - Be honest
 - Assume positive intentions
 - Listen for understanding
 - Ask questions



Consensus

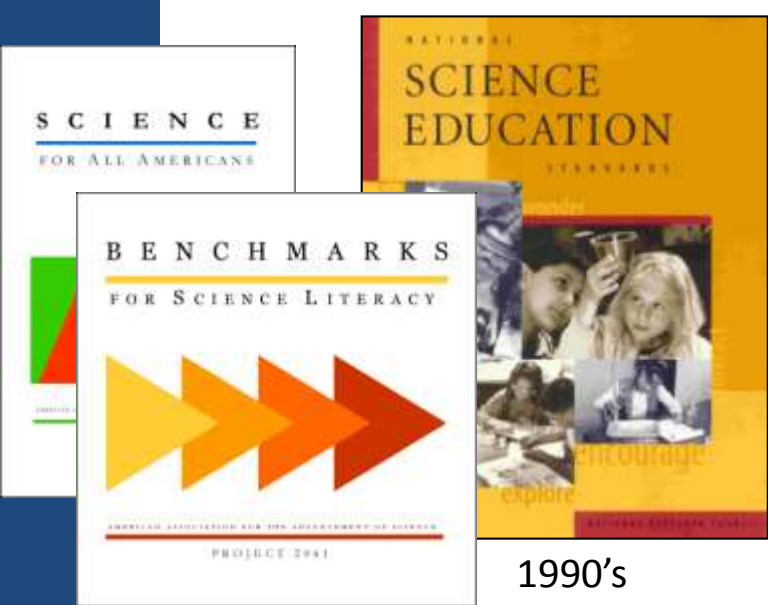
Consensus for Establishing the Decision-Making Process

- Thumbs Up: I think it's a good decision and will advocate for it.
- Thumbs Sideways: I am comfortable with the proposal but might want to discuss some minor issues.
- Thumbs Down: I still need to discuss certain issues and suggest changes that should be made.

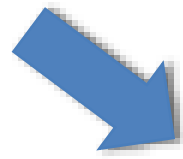


Why new materials now?

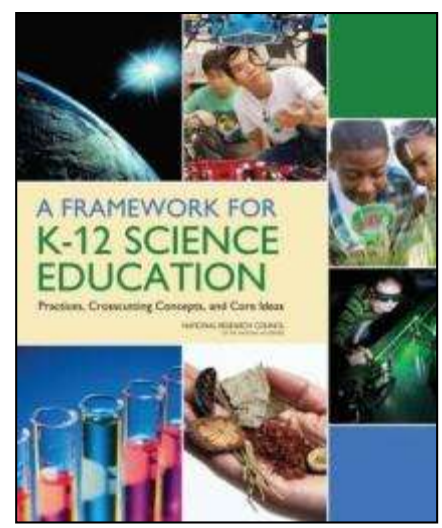
- Next Generation Science Standards are WA state's standards – adopted in 2013
- Current materials are loosely aligned to Washington State 2003 Standards
- Gradually adopted materials from 2000-2009
- First NGSS assessment – spring 2018



1990's

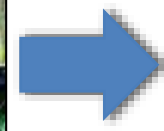


Step 1
 "Getting the science right"



July 2011

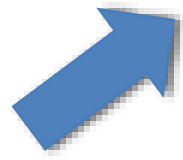
Step 2
 "States developing NGSS"



April 2013



1999-2009



The Framework & Standards were reviewed and refined by over 40,000 teachers, scientists, engineers, educational researchers, youth and other stakeholders in K-12 science ed.



Pre-Meeting Assignment - Clarify

5 Innovations of NGSS:

1. Reflects three dimensional learning (and assessment)
2. Students engage in explaining phenomena and designing solutions
3. Incorporates engineering design and the nature of science as practices and cross cutting concepts
4. Coherent learning progressions from K-12
5. Connects to English language arts and mathematics

Clarifying questions?



Pre-Meeting Assignment - Reflect

5 Innovations of NGSS:

1. Reflects three dimensional learning (and assessment)
2. Students engage in explaining phenomena and designing solutions
3. Incorporates engineering design and the nature of science as practices and cross cutting concepts
4. Coherent learning progressions from K-12
5. Connects to English language arts and mathematics

Personal Reflection: consider your own science learning...

- How similar or different is it from the innovations?
- How will that affect your lens?
- Take a moment to write a note to yourself on this topic
 - I learned science _____, in NGSS I need to remember _____



Overview Adoption Process

- 1. Selection process**
 - Adapt criteria for evaluation
 - Use given criteria to select instructional materials to pilot
- 2. Pilot** follows selection of at least two materials to collect data while using the materials with students
- 3. Adoption recommendation** to the Instructional Materials Committee (IMC)
- 4. Implementation** following School Board approval to begin district-wide use



Timeline *Draft*

- May 3, 2016, 4:00-6:00 pm – Tye Middle School
 - Intro to NGSS
 - Intro to process
- May 17, 2016, 4:00-6:00 pm – Tye Middle School
 - Materials review
 - Decide which materials to pilot
 - Decide pilot structure
- May 25, 2016, 2:30-4:30 – Tillicum Middle School
 - Meet with pilot teachers to share pilot structure and give a first look at the materials
- Week of August 24-26 – 3.5 hour training on first pilot material
- October or November – 3.5 hour training on second pilot material
- ?? Training on third pilot material
- March 2017 – review all collected feedback and come to consensus around a material to recommend to the IMC
- May 2017 – IMC presents before the School Board



Screening Tool

Description	Source
Capacity for integrated (or modular) science at each grade level	NGSS Implementation Planning Team NGSS – Appendix K Model 1 California Preferred Integrated Model
Innovations 1-5: 1: Evidence for 3-D learning and assessment 2: Focus on engaging phenomena 3: Inclusion of engineering design 4: Coherent learning progressions - across and through grades 5: Connected to appropriate CCSS-ELA and CCSS-M	PEEC Document – Publisher’s Criteria Guide to Implementing the Next Generation Science Standards,
Learning approach supported by research	District value, How People Learn (and other consensus documents)
Teacher materials are educative	District value, Davis and Krajcik
Materials provide differentiation resources	District value – all means all
Materials are available electronically	District value – district is moving 1:1
Materials offer opportunities for explicit CS/Comp Thinking connections	District value – integrating CS into core content for equitable experiences for all students



Screening and Recommendation

Based on:

- Scores
- NSTA sessions
- Conversations with authors and reps

Recommendation to pilot 2-3 curriculum materials:

- ❖ Amplify Science (Lawrence Hall of Science)
- ❖ IQWST (Activate Learning)
- ❖ Project Based Inquiry Science (It's About Time)



Your Task – 5 minutes

- Look at the screening document:
 - Have questions about the criteria? use the links located in the PowerPoint
 - Have questions about the materials? Ask Angie, Jake or Tracey
 - Still have questions? Write them down
- Middle school science teachers had a look at this document last Wednesday



How will we evaluate?

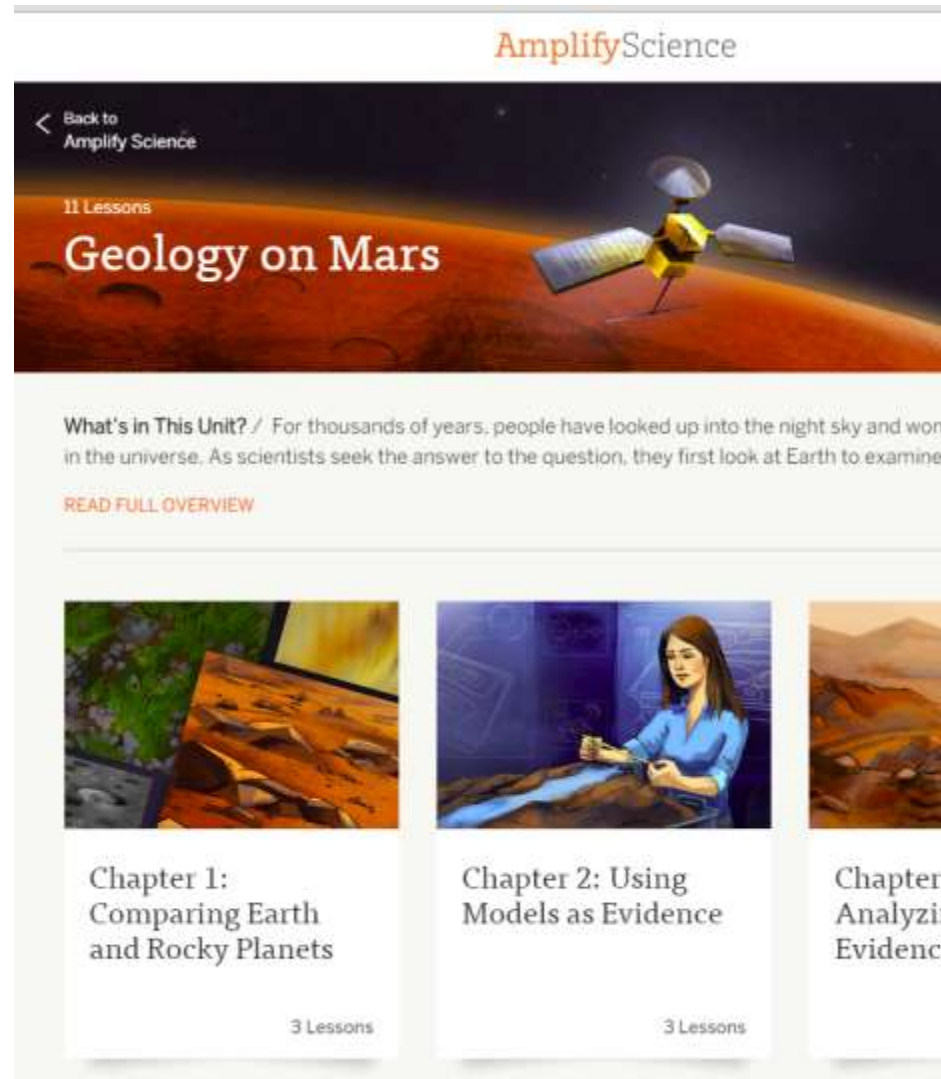
- Committee Scoring Rubric
 - Each topic, materials from each publisher
- Pilot teacher surveys (after each instructional material)
- Pilot student surveys (after each instructional material)
- Pilot parent surveys (after each instructional material)

Review the data and come to consensus around a material
Recommend a material to the IMC with supporting data

Intro to Materials - Amplify

Amplify Science

- Developed for NGSS by Lawrence Hall of Science (UC Berkeley) in partnership with a publisher Amplify



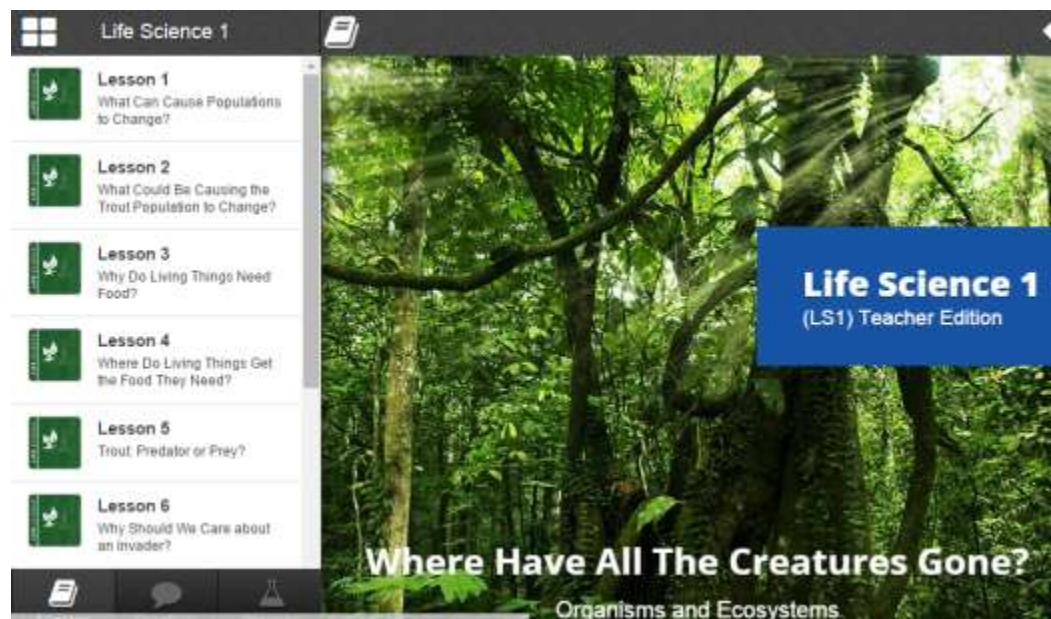
The screenshot shows the Amplify Science interface for the 'Geology on Mars' unit. At the top right, the 'AmplifyScience' logo is visible. Below it, a navigation link says '< Back to Amplify Science'. The main title '11 Lessons Geology on Mars' is displayed over a background image of a Mars rover on the red planet. Below the title, a text block reads: 'What's in This Unit? / For thousands of years, people have looked up into the night sky and won in the universe. As scientists seek the answer to the question, they first look at Earth to examine'. A red link 'READ FULL OVERVIEW' is positioned below the text. At the bottom, three chapter cards are shown: 'Chapter 1: Comparing Earth and Rocky Planets' (3 Lessons), 'Chapter 2: Using Models as Evidence' (3 Lessons), and 'Chapter Analyzi: Evidence'.



Intro to Materials - IQWST

IQWST (Investigating and **Q**uestioning our **W**orld through **S**cience and **T**echnology)

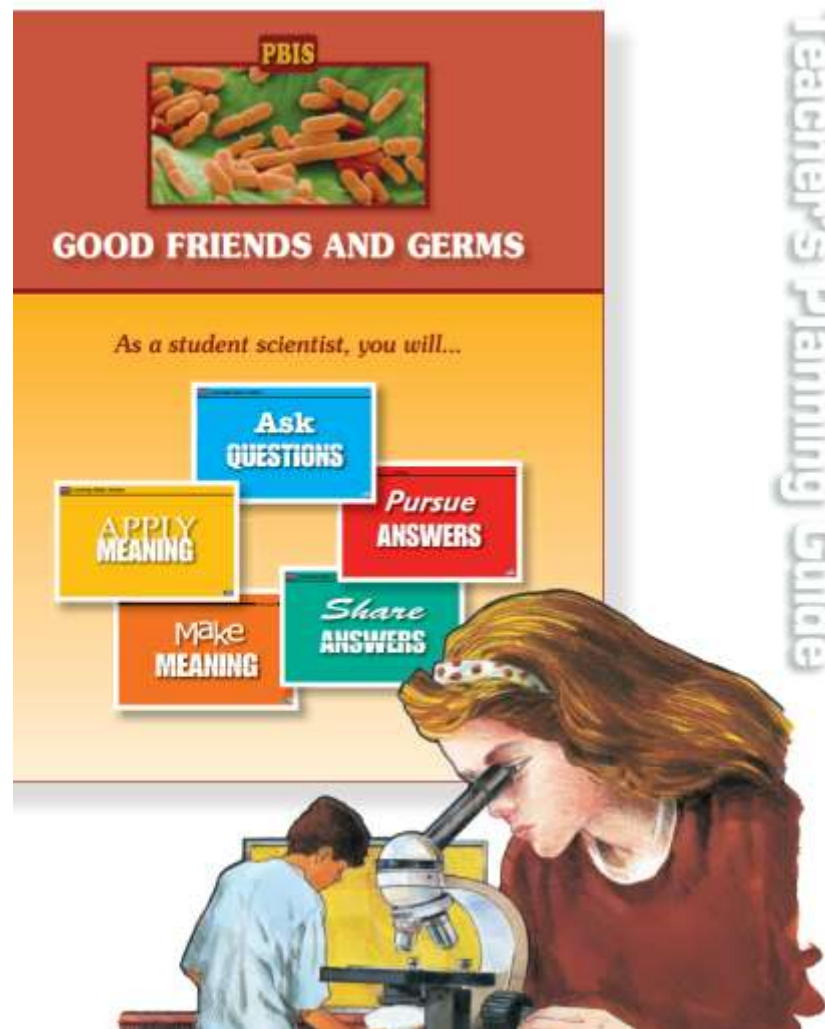
- Originally developed as a 10 year NSF funded grant by a team of researchers and educators out of MSU– Joe Krajcik was a lead in this project – simultaneous to Framework development
- Published by Activate Learning, some original researchers still on the project



Intro to Materials - PBIS

Project Based Inquiry Science (PBIS)

- Originally developed as a long term NSF funded grant prior to the Frameworks development – Joe Krajcik was a lead in this project
- Published by It's About Time





Middle School Science Adoption Committee Website

[http://www.bsd405.org/get-involved/advisory-
committees/imc/middle-school-science-adoption/](http://www.bsd405.org/get-involved/advisory-committees/imc/middle-school-science-adoption/)

Next Steps

- May 17, 2016: 4:00-6:00 at Tye Middle School



Check-out - plus/delta

+ _____ worked well for me today

Δ _____ is something I would suggest for next time