NGSS/NGSX Resources

Bookmarks

Elementary Resources
Middle School Resources
High School Resources
General Random High Quality Units

Twitter
Lab Safety: @drroysafersci

Facebook to Follow
https://www.facebook.com/groups/NGSSeducators
If teaching Bio iHUB: https://www.facebook.com/groups/inquiryhubbiology
OpenSciEd
MiSTAR

Standards, Appendices, Resources

- https://www.nextgenscience.org/
    - Appendices
- Framework for K-12 Science Education
- NGSS: High School Topics and Where are they now?

Michigan Resources

- MDE FAQ Regarding MMC
- MDE High School Course Credit MMC Document

Assessment Resources

- MSTEP Released Items (practice test for students): https://wbte.drcedirect.com/MI/portals/mi/
    - MSTEP Annotated Tests
- NGSS Assessment Portal - Middle School
- NGSS/WestEd TAPS Resources (Samples and Critiques and White Papers)
- SNAP Ed Sample Assessments

Phenomenon
https://www.nextgenscience.org/resources/phenomena

Student Discourse Support

- Norms - Classroom Handout from OpenSciEd

- Talk Moves
- Talk Science Primer
- Student Talk Moves
- Talk Moves Bookmark
- Inquiry Project (Productive Talk Videos)
- Doing and Talking Science/Math: EL Resource
- OpenSciEd Discussion Planning Tool
- NGSX Discussion Planning Tool
- White Board Strategies

GENERAL RESOURCES

Unpacking Document Resources

Lite Version

Folder with DCI, CCC, and SEP Unpacking Documents, and MDE Assessment Slide Deck

Folder with the High School PEs linked in chart form

SEP Printouts

Science Literacy Maps (researched based student misconceptions in science)

QFT Rules

Summary Tables

- KLEWS Chart, Data Summary Table (KWL)
- NSTA Sample KLEWS (upper elementary, secondary)

Equitable Sensemaking - Observational Tool

STEM Teaching Tools

http://stemteachingtools.org/

Head Start Framework: Science, pp. 66

Ambitious Science Teaching

Classroom Resources at NSTA

Teaching Tolerance and Science

High School Article on College Science

Supporting Growth in Science Classrooms by Linking to Evaluation Models

Science and Early Literacy Practices
Pre-K
K-3
4-5

Books to Help with Understanding

- Ready, Set, Science! K-8
- Disciplinary Core Ideas, Reshaping Teaching and Learning
- Helping Students Make Sense of the World Using Next Generation Science and Engineering Practices2
- Ambitious Science

Curricular Resources or Lesson Sets (open or almost open)
EdReports: https://www.edreports.org/reports/science

General/Random High Quality Units

- NGSS Storylines
- Ambitious Science Teaching Elementary
- Ambitious Science Teaching (Search Under Tools, check by grade or content to search)
- NGSS Quality Examples of Science Lessons
- Going 3D with GRC (Lessons set at all levels, not complete units)

High School Resources

- OpenSciEd - BIO/CHEM/PHYS - one year each - would use in place of iHUB (same thing, but with more funding)
- iHUB Year of **Biology** Facebook page for educator collaboration: https://www.facebook.com/groups/inquiryhubbiology
- iHUB Year of **Chemistry** with some integrated Earth
- Interactions (**Physical Science** for High School, leans **CHEMISTRY**)
- New Visions out of NY, **Earth and Physics** are designed for use without a textbook - all subjects
- Model Based **Biology** (Cindy Passmore's Bio Curriculum, THEY WILL BUILD OUT CA INTEGRATED EARTH)
- Carbon Time (**Life Science/Earth Science/little Chem**, 6-12)
- CREATE for STEM has 3 mini units Chemistry, Physics, professional learning required and costly; there is a physics project next year too (just email me if interested)
- AMTA: Modeling Teachers' Association and Curriculum
    - Michigan Modeling Instruction http://www.mimodelinginstruction.org/ - not sustainable
- BCSC Biology: https://bscs.org/educator_resource/bscs-biology-understanding-for-life/ (Costs, but high quality)
- Patterns - bio, chem, physics, no Earth

Middle School Resources

- MiSTAR, off the shelf and some PL is OER, or $350 per teacher subscription, some scholarships available in certain regions care of MiSTEM Regions
- OpenSciEd Middle School, Green on EdReports
- Discovery Education - Yellow on EdReports
- HMH - Yellow on EdReports
- SEPUP - Yellow on EdReports
- Amplify - Green on EdReports
- IQWST - Red, but research based (built prior to phenomenon based)
- AMTA: Modeling Teachers' Association and Curriculum
    - Michigan Modeling Instruction http://www.mimodelinginstruction.org/

Elementary Resources

- Phenomenal Science, GoOpen Site
- Phenomenal Science, Oakland Updates
- ML-PBL (currently 3-5, more built out;, including ELA, math, and EL language development with equity standards built in; K-2 available in Feb. 2023); *STEM Scopes has student journals for this resource K-5*
- ML-PBL K-2
- SOLIDStart: K-2 OER with intentional oral language development built into units; **soon to be OpenSciEd**
- NGSS Badged Units
- Ambitious Science Units
- OpenSciEd
- Cereal City - paid
- Amplify - paid Yellow on EdReports

Earth Resource, but be careful with the design:

- Evo-Ed: Cases for Effective Evolution Education

Standing Whiteboard Construction
https://files.acrobat.com/a/preview/c3053218-ed9b-45a8-83ef-ea1768a3b77e

Assessment	**STEM Teaching Tools**	**Ambitious Science Teaching**	**Vocabulary and Sci Inst**	**Phenomenon**
NGSS TAPS	STT - Open PDF - Categories	Evidence Based Expl	Blog STT #66	NGSS STT #28

STT #34 #41 - CCCs #30 - SEPs	- Links to other research	Engagement Video Series		AST
Even more: - Edulastic - Innerorbit - Stanford SNAP - NGSA tasks	Even more: - Beyond the Written CER - PD modules - Learn.teachingchannel.com...	Even more:	Even more:	Even more: http://stemteachingtools.org/brief/28 https://static.nsta.org/ngss/docs/Criteria%20for%20Evaluating%20a%20Phenomenon.pdf Wonder of Science Master List NGSS Phenom