We Are Sweet Home

Instructional Resources Recommendations: Math & Science











Mathematics



As we emerged from the pandemic...





Based on a 5 year curriculum review cycle, math instructional core, practices and resources were examined.

 Elementary math coaches and MS teachers, and principals reviewed of student achievement data, discussed math vision and curricular needs.

The team recognized the need to create better alignment K-8, to support the implementation of the NYS Next Generation Standards

• Clear need to bridging gaps as students transition between elementary and middle level and create better coherence.





Instructional Materials Look Fors:

- Coherence and alignment as student progress from kindergarten through grade 8.
- Lessons that support student mastery in mathematical practices and standards as outlined in the NYS Next Generation standards.
- Resources that match our instructional vision for mathematics:
 - cultivates student problem-solving through an inquiry based-open ended, constructivist approach;
 - develops number sense and fluency (both computational fluency and fact fluency)
 - utilizes an approach to mathematical instruction that moves *conceptual math* → *to procedural math*, encouraging thinking as mathematicians;
 - has a consistent, *aligned progression* offering specific language and other supports for a diverse group of students (ie, ELLs, SPED, Enrichment, Tier II etc.);
 - encourages students to express their math journey reinforcing the math practices through balance experience that leads to independence;
 - is supported through organized teacher materials and ongoing professional development.





Illustrative Mathematics



- Open Source Curriculum
- Imagine Learning is a certified Illustrative Math Partners, K-12
- Strongly supports our instructional vision for mathematics





Science



New York State P-12 Science Standards Development, Adoption, and Implementation

Revised April 2021



State Level Science Assessment Development & Implementation

Instructional Materials Look Fors:

Supports today's shift in science education by:

- Developing the habits and skills that scientists and engineers use in day-to-day life.
- Aligning to national and state standards that help students learn how to think rather than telling them what to think.
- Providing instructional resources that supports this transformation for both students and teachers as they utilize three dimensional learning. Investigations that:
 - enable students to build new understanding and abilities through the processes of **explaining phenomena and designing solutions to problems**.
 - are active and engaging allowing students to *constructs understanding in collaboration with peers.*
 - support the teacher's role to create a context for learning and facilitate productive social interactions (ie, discussions, posing questions, plan investigations, share predictions and observations, collect evidence, build models, etc.).
 - create an *equitable learning environment that supports learning for all* students by taking advantage of knowledge that students from different backgrounds bring to the classroom.





A. 2018 Amplify Science	OpenSciEd ²⁰²² OpenSciEd
PUBLISHER Amplify	PUBLISHER OpenSciEd
SUBJECT GRADES REPORT RELEASE	SUBJECT GRADES REPORT RELEASE
Science K-8 10/8/2020	Science 6-8 2/7/2023
ALIGNMENT USABILITY Meets Expectations VSABILITY Partially Meets	ALIGNMENT ⁽¹⁾ USABILITY ⁽¹⁾ Meets Expectations

Criteria for Review:

- Three-Dimensional Learning
- Phenomena and Problems Drive Learning
- Coherence and Full Scope of the Three Dimensions
- Design to Facilitate Teacher Learning
- Instructional Supports and Usability







Why OpenSciEd?

- Rigorous design and development framework, which has resulted in instructional materials with engaging storylines for a diverse range of learners.
- Units strategically explore science phenomena using three-dimensional learning to assist teachers in transforming their science practice, which is at the heart of the nationally adopted science framework and NGSS standards.





Instructional Model









2022-23

- Engaged in one day of professional development
- Grade levels piloted at least two units
- Two teachers attended 4-day facilitator training to provide in house support of open source instructional resources.

Summer 2023

- One day of professional development (ongoing support through virtual office hours during 2023-24)
- Identify at least four unit to complete for 2023-24 school year.



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Questions?

