6-8 Science Review Committee

Recommendation to the IMC

April 25th, 2017

Members of the committee

Kim Van Eaton (Curie STEM 6th Grade)

Salvador Bobadilla (Stevens 8th Grade)

Mark Pendleton (Ochoa 8th Grade)

Karri Britain (McLoughlin 7th Grade)

Galina York (McLoughlin 8th Grade)

Megan Rainl (Stevens 7th Grade)

Omar Madrigal (Stevens 8th Grade)

Laura Grant (Curie STEM 6th Grade)

Whitney Billman (McClintock 6th Grade)

Selection Process

1.) Team collaborated with high school and elementary to develop pre-screening tool

2.) Created and implemented parent and staff survey

3.) Initially screened eight curricula, narrowed to four

4.) Vendor presentations, narrowed to 4:
Discovery
McGraw Hill-Glencoe
Pearson
Stemscopes

5.) All members attended 6 hour Equip Rubric Training

6.) Evaluated all 4 with EQuIP rubric for earth, life, and physical science

7.) Used Bias screener to evaluate top four

Teacher Survey Results

- Many want online simulations and tutorials
- Some concern that there are not enough computers/network capabilities to use online tools adequately
- Staff wants PD regarding curriculum and NGSS
- Time to work together and support each other
- Some concern that NGSS aligned curriculum availability is limited
- Staff wants K-12 vertical alignment opportunities

Pre-Screener

- Collaboration between elementary, middle and high school resulted in a K-12 pre-screening tool
- Compression planning used to identify components of pre-screening tool

<u>Considerations included</u>

- NGSS Alignment
- Support of language development
- Differentiation

Pre-Screening Criteria

Pre-Screening Rubric

Title: Science Materials	Publisher: Copyright:	Grade Levels:

Our Values	Y/N/S	Criteria We Must Include	Y/N/S
Allows for Rigor and Remediation		Must include Technology Component that addresses the 21st Century Skills.	
Worldwide connections and local connections		Professional Development	
Language is accessible for all learners (ELL, SPED, Advanced), and language of instruction (Spanish and English and/or translation rights).		Must include support materials that address all language levels	
Technology Component that addresses the 21st Century Skills		Sustainability of the consumable resources/materials	
NGSS / 3-D (DCI, SEP, CC) Instruction and Assessment Aligned, including Performance Tasks		NGSS / 3-D (DCI, SEP, CC) Instruction and Assessment Aligned, including Performance Tasks	
Implementable Hands on inquiry based STEM/simulation centered on student learning		Differentiated learning materials and styles to address DOK	
Developmentally and Age appropriate			

Y = Yes N=No S=Somewhat

Vendor Presentations

STEMScopes/Accelerate Learning

- Developed with NGSS in mind
- Developed by teachers
- High degree of technology

Discovery

- Updated and revised with NGSS in mind
- Visually engaging
- High degree of technology

Pearson

- On-line component
- Straightforward
- Technology used

McGraw Hill

- A textbook option, rather than tech-based
- Similar to current adopted material
- Supplemental NGSS focused materials

Scoring Materials with EQuIP

Educators Evaluating the Quality of Instructional Products

Designed to identify high-quality materials aligned to the Common Core State Standards (CCSS) or Next Generation Science Standards (NGSS)

- Added two additional teachers for scoring
- All scorers attended a 3-hour training
- Additionally 6-hour unpacking training was provided

EQuIP Rubric

I. NGSS 3D Design
   a. Explaining Phenomena, Designing Solutions
   b. 3 Dimensions
   c. Integrating the 3 Dimensions
   d. Unit Coherence
   e. Multiple Science Domains
   f. Math & ELA

II. NGSS Instructional Supports
   a. Relevance and Authenticity
   b. Student Ideas
   c. Building progressions
   d. Scientific Accuracy
   e. Differentiated Instruction
   f. Teacher Support for unit coherence
   g. Scaffolded Differentiation over Time

III. Monitoring NGSS Student Progress
   a. Monitoring 3D student performance
   b. Formative
   c. Scoring Guidance
   d. Unbiased tasks/items
   e. Coherent Assessment System
   f. Opportunity to Learn

EQuIP

Evaluated one unit per component area:

Earth	Life	Physical
Plate Tectonics	Heredity	Waves

Why not Discovery?

If curriculum is not scored as "adequate" for criteria 1, then scoring does not continue.

Discovery did not meet criteria 1, which means it is not NGSS aligned.

Why not Pearson?

If curriculum is not scored as "adequate" for criteria 1, then scoring does not continue.

Pearson did not meet criteria 1, which means it is not NGSS aligned.

Why not McGraw-Hill?

- All three chapters had adequate phenomena and thus scored adequate in category
- Scored inadequate in both category 2 and 3
- Curriculum addresses phenomena, but the content and assessment are not 3-D aligned
- Curriculum did not meet changes in Common Core alignment

Why STEMScopes?

- All categories evaluated using the EQuIP rubric displayed adequate evidence of meeting rubric criteria
- Few exemplary pieces of evidence for some criteria
- Strengths of this unit included phenomena and accessing prior knowledge
- "Explore" components did a great job of having students build on their own knowledge without giving away answers
- Teacher support with videos, rubrics, student misconceptions, and strategies were all helpful in building a strong foundation

Why STEMScopes?

The weaknesses of this curriculum included that the intervention and acceleration tabs were not good representations of these strategies. Most intervention strategies were rather found in the lessons themselves. The overall score of the Earth and Space Science unit was a 7. When we attempted to score the Life and Physical science units, we found that Stem Scopes did not have adequate phenomena. Those units did not pass out of the first category as a result.

STEMScopes will provide an equitable educational experience for all students across the district.

Bias Screener

Guidelines for Identifying Bias

- prejudice in favor or against one thing, person, or group compared to another, usually in a way considered to be unfair

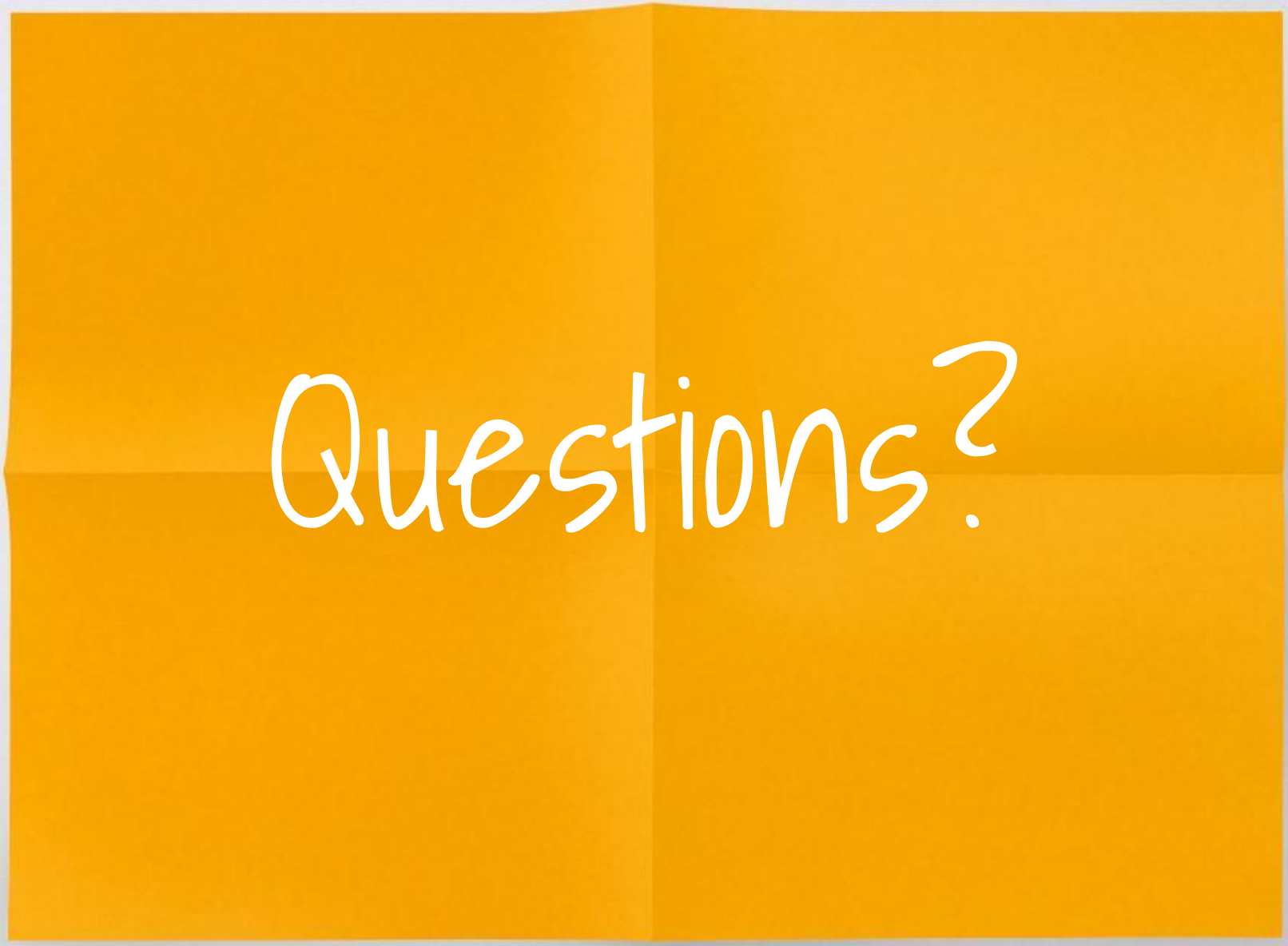
- Materials were screened with following criteria Gender, Multicultural, Persons with Disabilities, Socio-Economic Status, Family, and Appropriateness

Recommendation

Seeking a motion to recommend the adoption of "STEMscopes", published by Accelerate Learning, to the Pasco School Board for use in grades 6th, 7th, and 8th on a year to year basis.

Next Steps:

- Develop and provide phenomena for scopes that are missing the necessary component
- Developing a crosswalk document to ensure a seamless scope and sequence for science 6-7-8
- Ongoing professional development for science teachers
- Technology support; both computers and network
- Curriculum guides for all components and grade levels
- Middle School cross-building teaming
- K-12 vertical alignment
- Increase parent education/involvement regarding NGSS


Questions?