



Mountain View
Whisman
School District

K-8 Science Curriculum Update and Recommendation

July 2020





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Alignment to Strategic Plan 2021 and Local Control Accountability Plan

LCAP

Goal 1

- Ensure that all students have access to equitable conditions of learning by providing and investing in highly qualified teachers, leaders, and staff; well-maintained facilities and equipment; and standards-aligned instructional materials and resources in a fiscally responsible manner.

Goal 2

- Increase achievement for all students and accelerate learning outcomes for English Language Learners, low-income students, and other target groups to close the achievement gap.

Action 25

- Implement Science Plan.



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Current Adopted Materials

Current Instructional Materials

- **Elementary Science:** FOSS California 2007
 - Adopted: June 7, 2007
- **Middle School Science:** Prentice Hall California - Focus on Science
 - Adopted: June 7, 2007



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Process and Progress

Process and Progress

- Convened Advisory Committee
- Provided professional development
- Reviewed / refined rubrics for evaluating materials
- Evaluated materials
- Recommended programs to pilot
- Piloted
- Make recommendation for adoption

Process and Progress Timeline - Science

Meeting Date	Topic
December 2	Framework overview Rubric for materials review
December 11	Materials Review
December 17	Materials Review
December 18	Materials Review
January 27	Pilot 1 Training
March 9	Pilot 1 Review
March 9	Pilot 2 Training
March 13	Announced School Closure
March 25	Meeting to discuss pilot during flexible learning
May 7	Meeting to adjust pilot in distance learning
May 29	Pilot 2 Review and final Recommendation
June	BOT Recommendation and adoption

Process and Progress - Committee

Science Advisory Committee

Teachers	Laurel Shephard - BU Jaclyn Diaz - HU Karen Gordon - LA Jennifer DeGraaff - MI Allison Fassiotto - ML Theresa Lester - ST Angela Bisbee - VA Susan Papson - GR Michael Newman - CR Claire Weber - GR
Instructional Coach	Ranen Bhattacharya
Administrators	Tara Vikjord Heidi Galassi Cyndee Nguyen Swati Dagar Sonia Gomez Morales
Parents	Silja Paymer - BU Margaret Poor - CR

Process and Progress - Science Training

Middle School Science NGSS training began in 2015

Monthly training for elementary STEAM teachers in 2019-20

December 2019: Ranen Bhattacharya, District science coach, supported elementary and middle school teams to revisit shifts in NGSS and identify NGSS priorities in a new curriculum.

The team's priorities were as follows:

- Rich anchor phenomena to guide student process
- Integration of meaningful, authentic engineering practices
- Clear inquiry process with a quality storyline
- Several levels of scaffolding and differentiation
- Meaningful materials and hands on activities
- Engaging materials
- Integration of CCSS
- Clear instructional practices
- Preference for K-8 program for continuity and consistency in language, models, skills

Process and Progress - Review and Refine Evaluation Rubric

California County Superintendents Educational Services Association (CCSESA) History Social Science and Science Adoption Toolkits

- Reviewed components of rubric
- Clarified contents of rubric
- Refined format of rubric to evaluate materials
- Highlighted components of rubric based on identified priorities

Process and Progress - Science Review

Reviewed all available curricula at the Santa Clara County Office of Education (3 days)
Curriculum was reviewed and evaluated based on the following rubric criteria

Designed for NGSS Foundations

- **Presence and accuracy of high quality Phenomena/Problems**
- **Presence of Three Dimensions (including engineering)**
- Presence of Environmental principles and Concepts
- **Presence of Logical Sequence of Learning**

Designated for NGSS: Monitoring Student Progress

- Monitoring Three Dimensional Learning and Integration of Environmental Principles and Concepts (EP&Cs)
- Capturing Student Progress
- Variety of Measures
- **Equitable Access**
- Use of Assessment

Designed for NGSS Student Work

- **Phenomena/Problems**
- Three Dimensional Conceptual Framework
- Prior Knowledge
- Metacognitive Abilities
- **Equitable Learning Opportunities**

Designated for NGSS: Teacher Support

- **Phenomena/Problems Drive Three Dimensional Learning**
- Coherence
- Effective Teaching
- **Support for Students with Diverse Learning Needs (English Learners, Students with Disabilities, High performers)**
- Support to Monitor Student Progress

Process and Progress - Programs Reviewed

Science (K-8)
Amplify Education Amplify Science California
Discovery Education Discovery Education Science Techbook
Houghton Mifflin Harcourt California HMH Science Dimensions
Teachers' Curriculum Institute (TCI) Bring Science Alive!
Delta Education: FOSS
Accelerate Learning: STEMscopes
McGraw Hill : California Inspire Science
Pearson : California Elevate Science

Process and Progress - Science Program Pilots

After reviewing all K-8 programs, two were selected to pilot

McGraw Hill (January 27 - March 6)

TCI (March 9 - April 17)

- Received training and materials from publishers
- Used same components of programs
- Used curriculum evaluation tool to rate each program
 - Rigor
 - Content/Standards
 - Text Accessibility
 - Universal Access
 - Assessment
 - Online Tools and Resources
 - Teacher friendliness
 - Student accessibility



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Where are we Now?

Science Pilot

Schools closed at the beginning of the second science pilot

- In March, at the start of flexible learning, the committee felt that the pilot would need to continue in the fall in order to effectively evaluate its effectiveness for our most at risk students.
 - Participation at that point was optional
- When we adjusted to Distance Learning and realized the longer term impact of closure, the team re-convened and decided that it was in the best interest of students to continue the pilot

Average Program Ratings

	McGraw Hill - Inspire	TCI - Bring Science Alive!
Content/ Standards	2.2	3.4
Rigor	2	3.25
Universal Access	1.7	2.8
Online Tools	2	3
Student Accessibility	2	3
Teacher Accessibility	1.85	2.9
Student Text	2.1	3.2

Program Strengths and Challenges

McGraw Hill Strengths	McGraw Hill Challenges
<p>Phenomena and Investigations Visuals Great Local and relevant Good videos Flow of lesson and common language Teacher Edition easy to follow</p>	<p>Workbook based Not rigorous Traditional Text heavy Predictable and not engaging Deep misconception of CER (Claim, Evidence, Reasoning) Prescriptive notebook,s No student driven discussion</p>
TCI Strengths	TCI Challenges
<p>Rigorous Workbook usable Lends itself well to Distance Learning if needed Provides leveled text that can be read aloud in English or Spanish Opportunities for differentiation identified Offers a lot of flexibility Easy to provide feedback to students within the online program Alignment to DCIs and SEPs very strong</p> <p>Mountain View Whisman School District</p>	<p>Not all investigations go in depth Lacks a visual unit representation for teachers Need clarity about how to fit in all of the resources</p>



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K-8 Science Recommendation

K-8 Science Recommendation

- On May 29, 2020, the Science Curriculum Adoption Committee unanimously recommended adopting TCI, Bring Science Alive as the K-8 science curriculum
- Tonight, the District is asking the board to adopt TCI, Bring Science Alive as the K-8 science curriculum



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Next Steps

Next Steps

Pending Board approval tonight

- Purchase TK-8 materials (Approximate cost: \$725,000)
- Provide training to all elementary STEAM teachers and all middle school science teachers in August 2020 in the areas of
 - phenomena based instruction with the 5E Model
 - using the digital curriculum and resources
 - providing supports for all learners, live and virtually
- Provide pacing guides that include the units of study to be covered in each trimester
 - elementary units will be aligned to the Benchmark

Advance ELA curriculum pacing

Questions

