

The background is a blue gradient. In the corners, there are decorative white line art elements resembling circuit boards or neural networks, with lines and small circles.

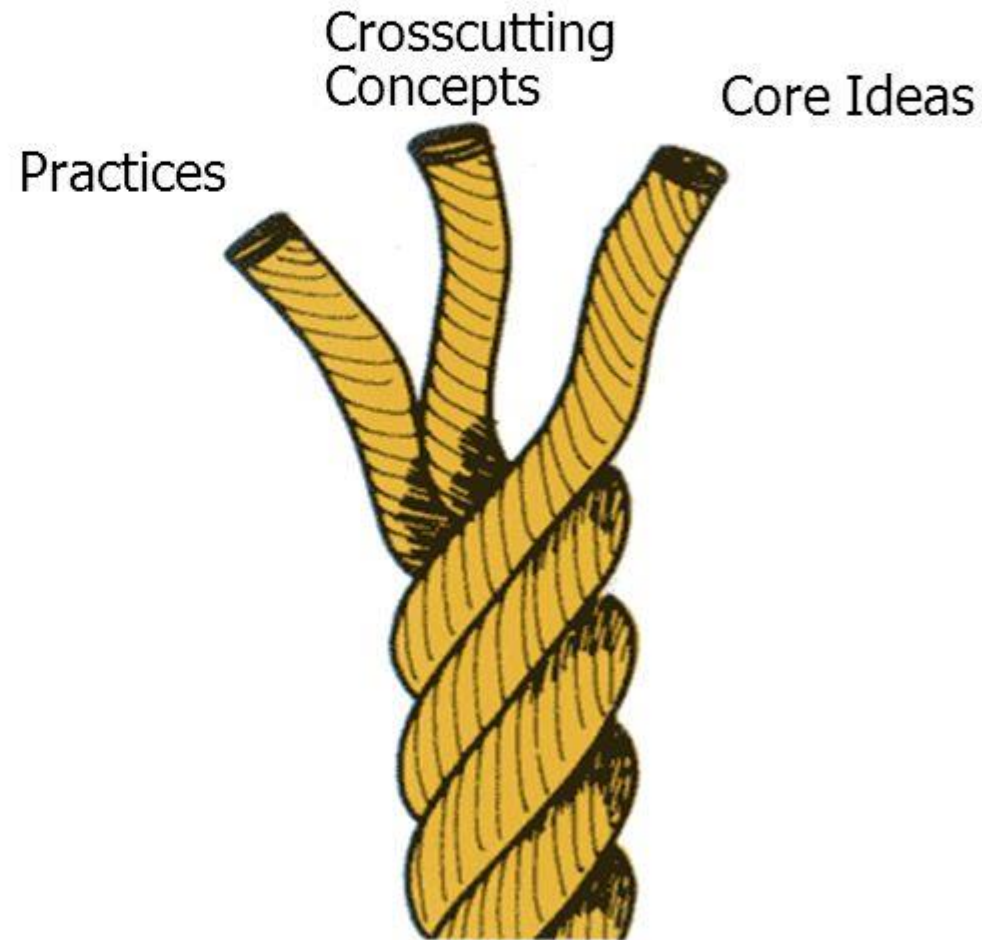
NEXT GENERATION SCIENCE STANDARDS

SVUSD NGSS Update

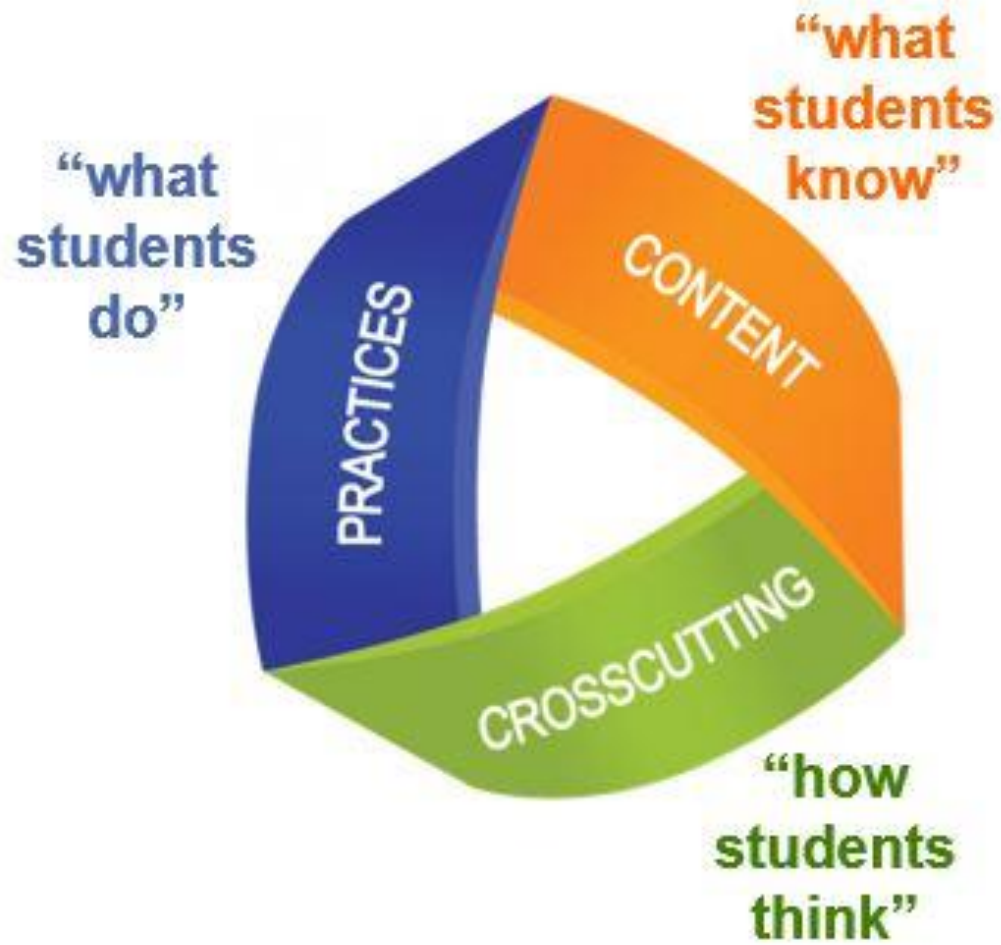
December 12, 2017

Integration of the Three Dimensions

The **practices** are the processes of building and using the **core ideas** to make sense of the natural and designed world, and the **cross cutting concepts** hold the discipline together.



NGSS



Quoted text from Peter A'Hearn

SCOTTS VALLEY'S CURRENT IMPLEMENTATION

LCAP (Goal 1) Provide opportunities for Professional Development to support all levels of learners **NGSS Trainings**

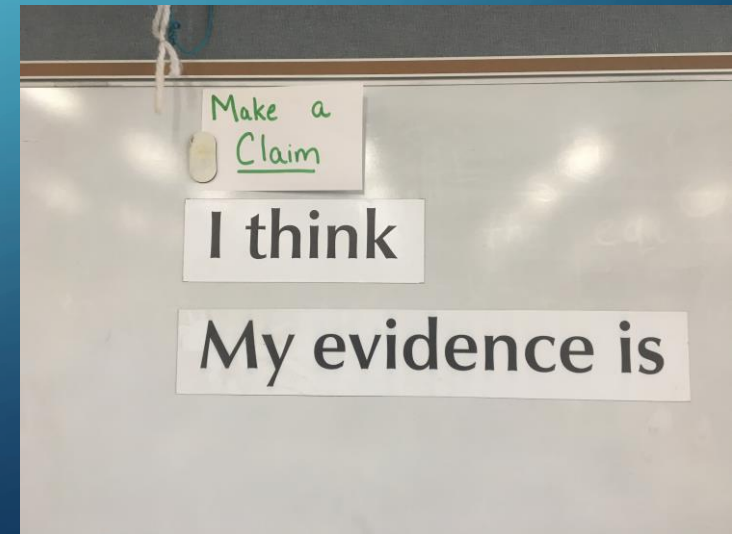
- Code Naturally in 4th and 5th grades 6 weeks
- Mystery Science purchased for 2017-18 for both elementary sites
- All Middle School Teachers participated in NSTA (National Science Teachers Association) training for a week during the summer
- 9 teachers (from both sites) participated in the California Invention Convention, which brings engineering standards to the schools
- Additional workshops (2 HS teachers, All MS teachers, 5 elementary)
- Reps from Monterey Bay Aquarium presented at the Technology Symposium
- STEAM Symposium December 10 and 11 (Sponsored by Northrop Grumman)

ELEMENTARY TEACHERS

- Teachers are just beginning to implement NGSS
 - Using standards in teaching
 - Mystery Science used across the grade levels
 - Teacher rotations
 - Working as teams to align units and create materials
 - Science Fairs at both sites

ELEMENTARY CLASSROOMS

- Concepts are presented across the curriculum (reading, writing, science, art)
- Students make claims, support thinking with evidence
- Students continually revisit NGSS practices



ELEMENTARY STUDENTS: COLLABORATION

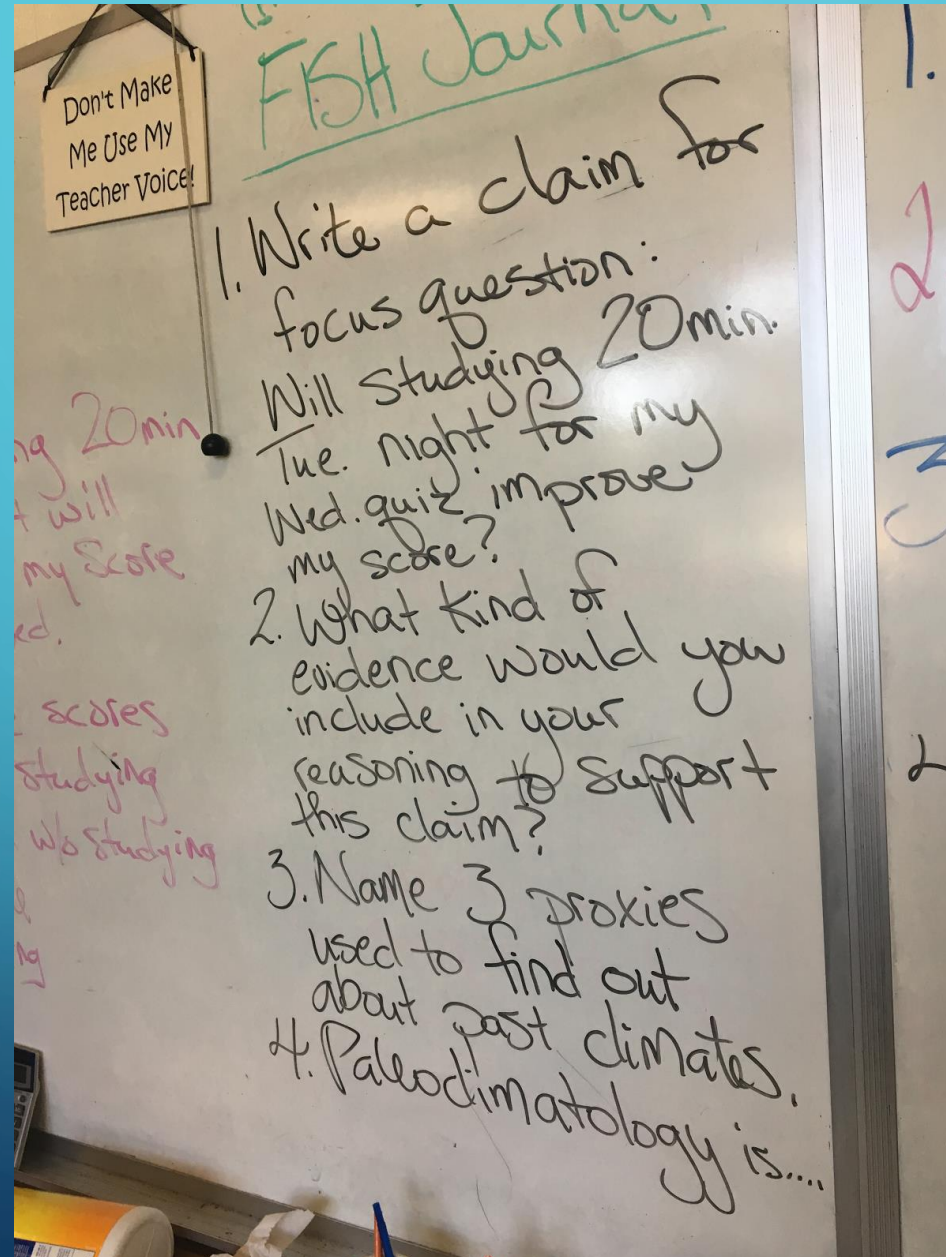


MIDDLE SCHOOL

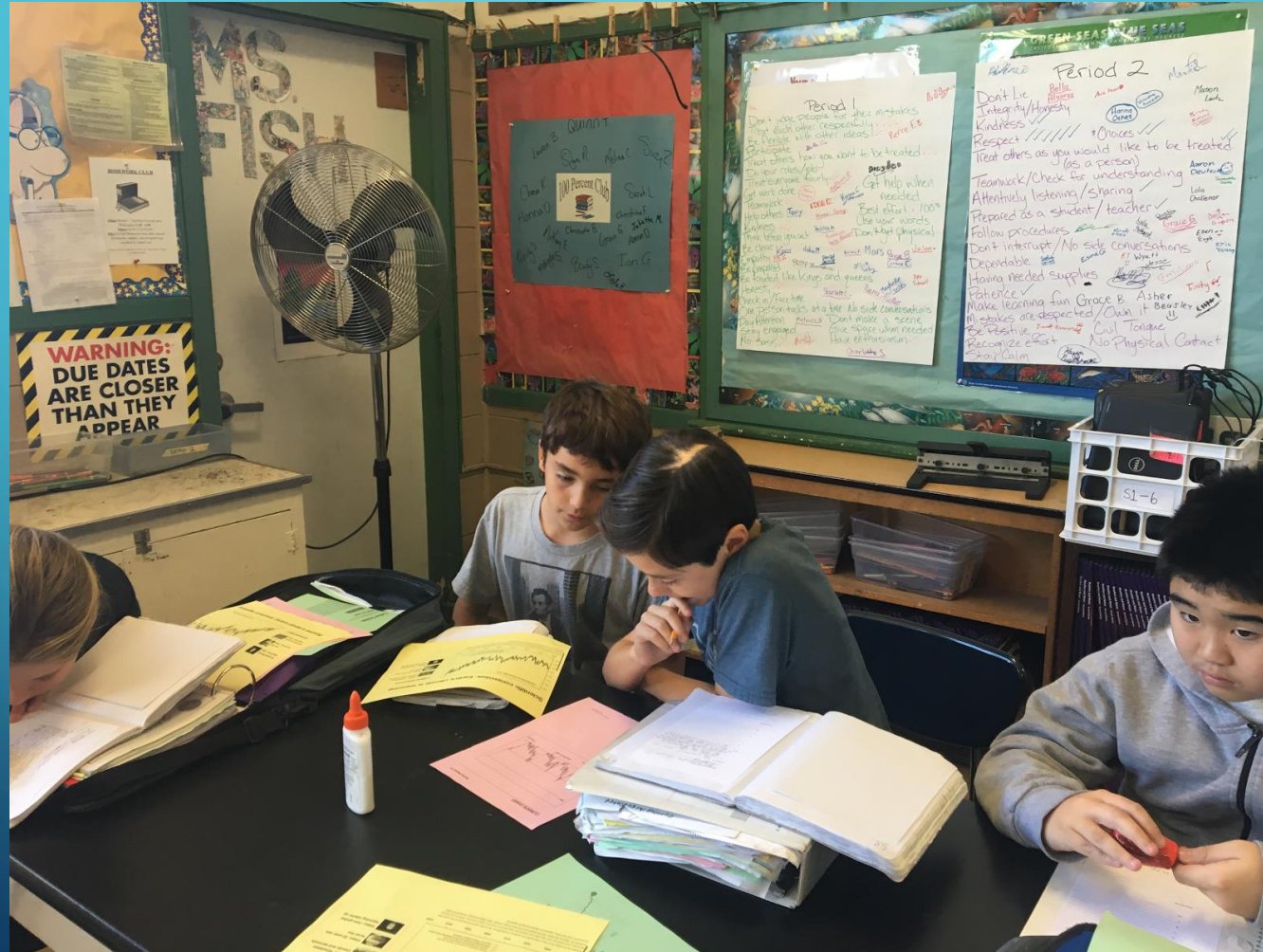
- All the teachers are implementing NGSS
- There are new units that are NGSS oriented
- Teachers use supplemental Foss kits

RENAE FISH

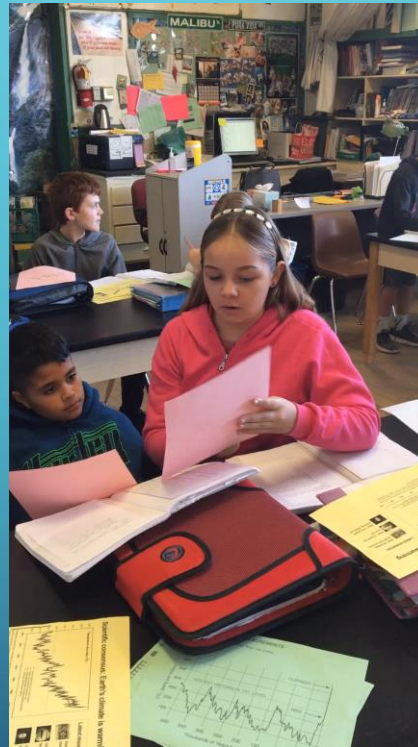
- Climate Change



GROUP WORK

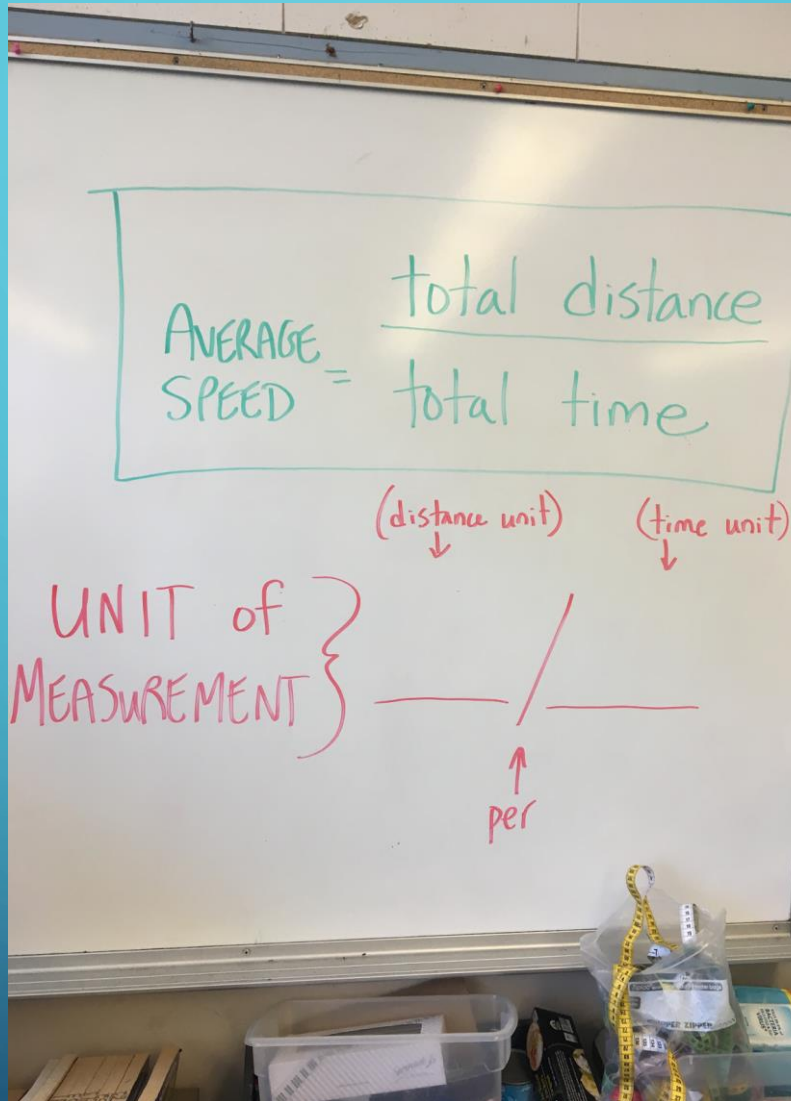


VIDEO OF STUDENTS WORKING TOGETHER



JULIE MAXWELL

- Slow Marble Lab



VIDEO



HIGH SCHOOL

- Almost complete implementation
- IB Science and NGSS are nearly identical in their approach to standards. All science classes use the IB/NGSS-oriented conclusion-writing methods
- More engineering activities have been added to all courses
- There is a garden through the Environmental Science Classes. All water is collected in tanks. The art classes are painting the tanks as a cross-curricular project. A solar array powers the pumps.

CLAIRE SPITZER

- Nomenclature



LAB (VIDEO)



MATRIX OF NGSS STANDARDS BY COURSE AT SVHS (JOHN POSTOVIT)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	NGSS Coverage by Topic and Course													Note: Covered G10 L means covered by 10th grade, low end students					
2														G11 H makes not assumption about WHICH IB courses they take					
3														Low assumes Bio, then Conceptual, then Environmental/Marine					
4																			
5			Bio	Marine Bio	Env. Sci	H Bio/SL1	Bio SL2/HL2	Chem	H Chem/SL1	Chem S2/HL2	Con Physics	H Physics	Physics SL		Covered	Covered G10 L	Covered G10 H	Covered G11 L	Covered G11H
6	Properties of Matter	HS-PS1-1						X	X	X				x			X		X
7		HS-PS1-3						X	X	X	X	X	X	x	X		X	X	X
8		HS-PS1-8						X	X	X			X	x					X
9		HS-PS2-6						X	X	X	X	X	X	x	X			X	
10			Bio	Marine Bio	Env. Sci	H Bio/SL1	Bio SL2/HL2	Chem	H Chem/SL1	Chem S2/HL2	Con Physics	H Physics	Physics SL		Covered	Covered G10 L	Covered G10 H	Covered G11 L	Covered G11H
11	Chemical Reactions	HS-PS1-2		X				X	X	X				X			X		X
12		HS-PS1-4						X	X	X				X			X		X
13		HS-PS1-5			X	X		X	X	X				X			X		X
14		HS-PS1-6						X	X	X				X			X		X
15		HS-PS1-7						X	X	X	X	X	X	X	X	X	X	X	X
16			Bio	Marine Bio	Env. Sci	H Bio/SL1	Bio SL2/HL2	Chem	H Chem/SL1	Chem S2/HL2	Con Physics	H Physics	Physics SL		Covered	Covered G10 L	Covered G10 H	Covered G11 L	Covered G11H
17	Force and Interaction	HS-PS2-1									X	X	X	X	X	X		X	
18		HS-PS2-2									X	X	X	X	X			X	
19		HS-PS2-3									X	X		X	X			X	
20		HS-PS2-4									X	X	X	X	X			X	
21		HS-PS2-5									X	X	X	X	X			X	
22			Bio	Marine Bio	Env. Sci	H Bio/SL1	Bio SL2/HL2	Chem	H Chem/SL1	Chem S2/HL2	Con Physics	H Physics	Physics SL		Covered	Covered G10 L	Covered G10 H	Covered G11 L	Covered G11H
23	Energy	HS-PS3-1						X	X	X	X	X	X	X	X	X	X	X	X
24		HS-PS3-2						X	X	X	X	X	X	X	X	X	X	X	X
25		HS-PS3-3									X		X	X	X	X	X	X	X
26		HS-PS3-4						X	X	X	X	X	X	X	X	X	X	X	X
27		HS-PS3-5						X	X	X	X	X	X	X	X	X	X	X	X
28			Bio	Marine Bio	Env. Sci	H Bio/SL1	Bio SL2/HL2	Chem	H Chem/SL1	Chem S2/HL2	Con Physics	H Physics	Physics SL		Covered	Covered G10 L	Covered G10 H	Covered G11 L	Covered G11H
29	Waves/ E&M	HS-PS4-1						X	X	X	X	X	X	X	X	X		X	X
30		HS-PS4-2									X	X	X	X	X			X	X
31		HS-PS4-1									X	X		X	X			X	X
32		HS-PS4-3						X	X	X	X	X	X	X	X			X	X
33		HS-PS4-5						X	X	X	X	X	X	X	X			X	X
34			Bio	Marine Bio	Env. Sci	H Bio/SL1	Bio SL2/HL2	Chem	H Chem/SL1	Chem S2/HL2	Con Physics	H Physics	Physics SL		Covered	Covered G10 L	Covered G10 H	Covered G11 L	Covered G11H
35	Cell Structure	HS-LS1-1	X			X	X							X	X		X	X	X
36		HS-LS1-2	X	X		X	X							X	X		X	X	X
37		HS-LS1-3	X			X	X							X	X		X	X	X
38			Bio	Marine Bio	Env. Sci	H Bio/SL1	Bio SL2/HL2	Chem	H Chem/SL1	Chem S2/HL2	Con Physics	H Physics	Physics SL		Covered	Covered G10 L	Covered G10 H	Covered G11 L	Covered G11H
39	Energy in Oranisms	HS-LS1-5	X	X		X	X		X	X				X	X		X	X	X
40		HS-LS1-6	X			X	X		X	X				X	X		X	X	X
41		HS-LS1-7	X	X		X	X							X	X		X	X	X

Next Steps

next
steps



- Introduction to Computers Pathway
- Integration of STEAM activities across the district
- Continued training and collaboration