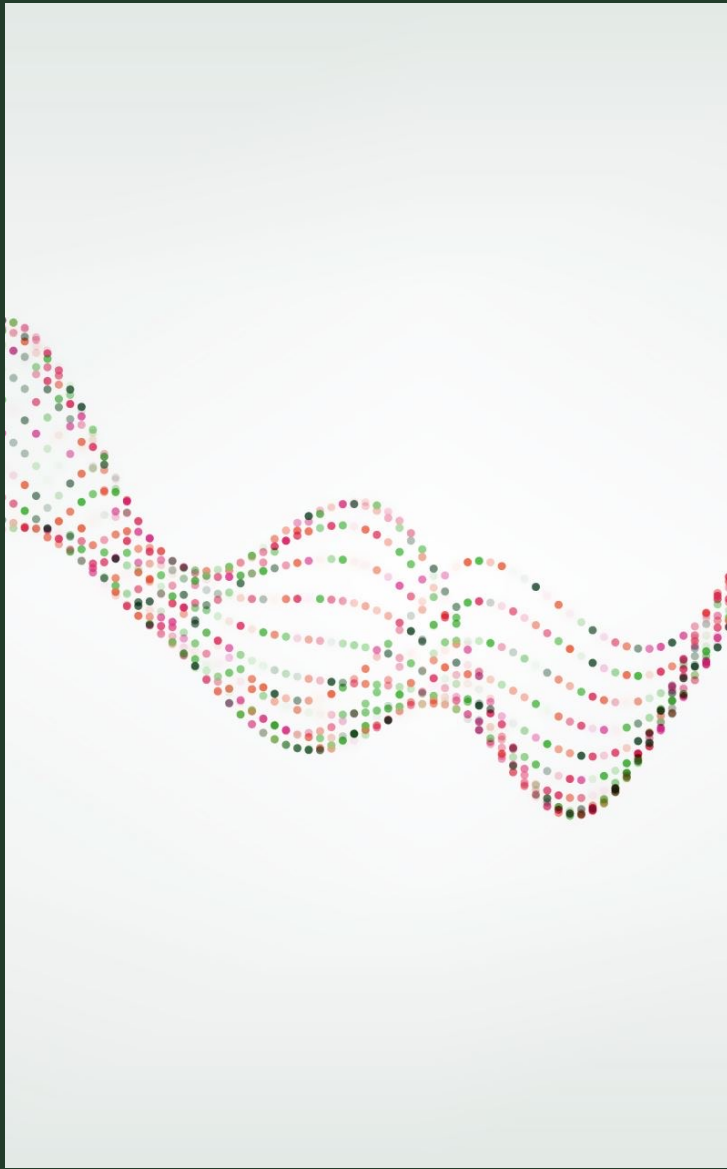




K-8 Science/STEM Curriculum Review Process

Committee of the Whole Meeting

March 1, 2022

K-8 Science/STEM Committee Members

Participant	School	Position
Lauren Baiocchi	Lincoln Elementary School	Grade 4
Roxanne Bajo	Lincoln Elementary School	Grade 4
Maggie Berg	Lincoln Elementary School	Grade 2
Katie Brennan	Roosevelt Middle School	STEM
Aimee Conrad	Willard Elementary School	Grade 1
Andrea Costin	Willard Elementary School	Grade 3
Cindy Crannell	Willard Elementary School	STEM
Jasmine Davis	Willard Elementary School	Grade 4
Kathleen Fleming	Willard Elementary School	Instructional Specialist
Alison Hawley	District Office	Director of C & I
Anne Hufnus	Roosevelt Middle School	Instructional Specialist
Shana Joyce	Willard Elementary School	Grade 4
Charlie Juister	Roosevelt Middle School	Grade 6

K-8 Science/STEM Committee Members (continued)

Participant	School	Position
Cory Kadlec	Roosevelt Middle School	Grade 7
Jill Kruger	Lincoln Elementary School	Grade 2
Meg Loughran	Lincoln Elementary School	Special Education
Alex Mendralla	Roosevelt Middle School	Grade 8
Joy O'Reilly	Lincoln Elementary School	Instructional Specialist
Roxy Ponzio	Lincoln Elementary School	Grade 3
Amy Rains	Roosevelt Middle School	Grade 6-8
Kate Szostak	Willard Elementary School	Grade 3
Katie Till	Willard Elementary School	Grade 2
Diane Wood	Willard Elementary School	Principal



Develop D90 Mission and Vision for Science and STEM Education



Review the intentions of the Next Generation Science Standards and Practices



Identify content area changes and grade level shifts



Evaluate instructional materials for classroom pilot

*K-8
Science/STEM
Committee Goals*

BSCS Science Learning Partnership

Non-profit organization devoted to Science Education

Mission is to transform science teaching and learning through research-driven innovation

Supported by National Science Foundation to develop tools and guidelines to evaluate quality of science programs

Facilitates Next Gen Time professional learning



Crosscutting Concepts: exploring connections across the four domains of science



Science and Engineering Practices: describe what scientists do to investigate the natural world and what engineers do to design and build systems



Disciplinary Core Ideas: key ideas in science that have broad importance within or across multiple science or engineering disciplines

Next Generation Science Standards: The Three Dimensions of Science Learning

EQuIP Rubric Lesson Screening Criteria



EXPLAINING
PHENOMENA OR
DESIGNING
SOLUTIONS



THREE DIMENSIONS:
SEP, CCC, DCI



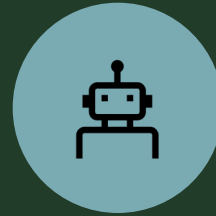
INTEGRATING THE
THREE DIMENSIONS
FOR INSTRUCTION
AND ASSESSMENT



RELEVANCE AND
AUTHORITY



STUDENT IDEAS



BUILDING ON
STUDENT PRIOR
KNOWLEDGE

Criterion A. Explaining Phenomena or Designing Solutions

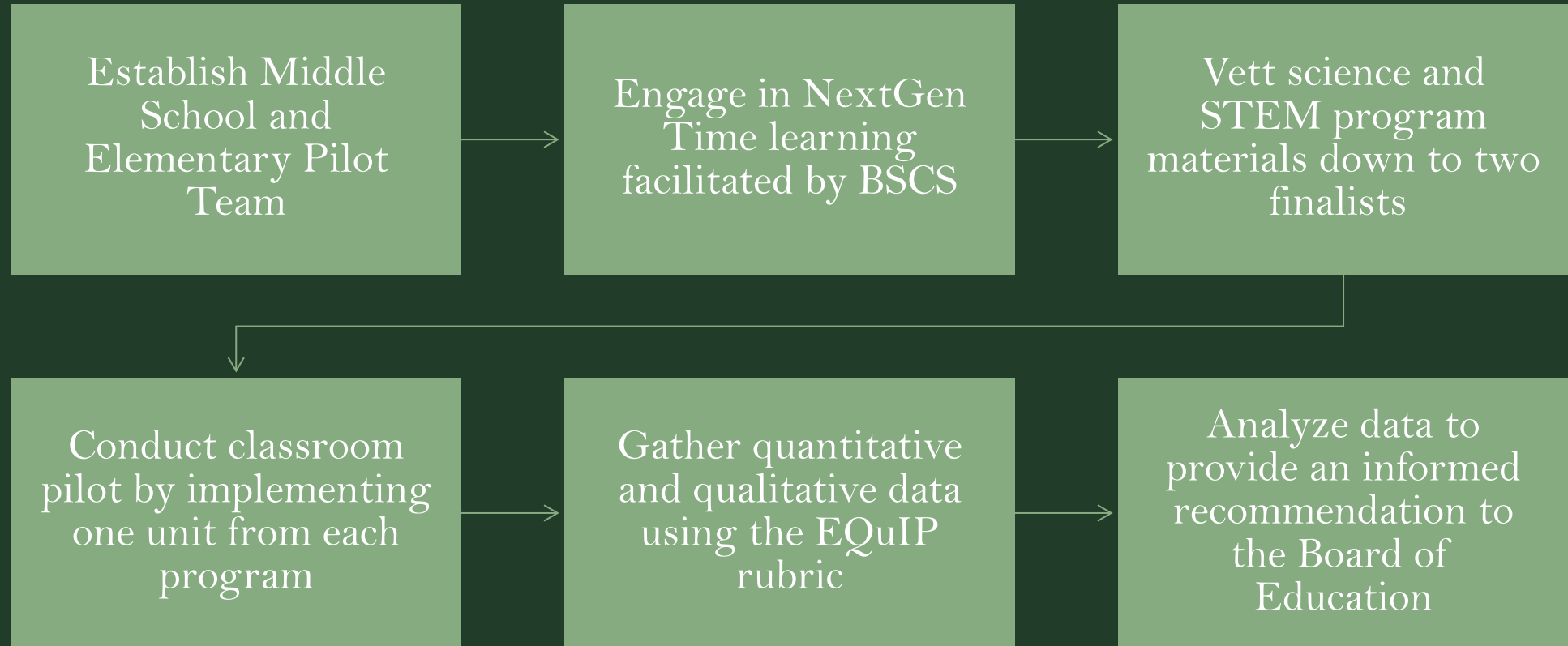
1. **Learn about the importance of explaining phenomena and designing solutions** in lessons designed for the NGSS here: www.nextgenscience.org/phenomena. Once you are comfortable with the role of explaining phenomena and designing solutions, use the table below to help gather evidence that either student problem-solving or sense-making of phenomena drives the lesson:

Explaining Phenomena or Designing Solutions	NGSS designed lessons will look <i>less</i> like this:	NGSS designed lessons will look <i>more</i> like this:
	Explaining phenomena and designing solutions are not a part of student learning or are presented separately from “learning time” (i.e. used only as a “hook” or engagement tool; used only for enrichment or reward after learning; only loosely connected to a DCI).	The <u>purpose and focus</u> of the lesson are to support students in making sense of phenomena and/or designing solutions to problems. The entire lesson drives toward this goal.
	The focus is only on getting the “right” answer to explain the phenomenon	Student sense-making of phenomena or designing of solutions is used as a window into student understanding of all three dimensions of the NGSS.
	A different, new, or unrelated phenomenon is used to start every lesson.	Lessons work together in a coherent storyline to help students make sense of phenomena.
	Teachers tell students about an interesting phenomenon or problem in the world.	Students get <u>direct</u> (preferably firsthand, or through media representations) experience with a phenomenon or problem that is relevant to them and is developmentally appropriate.
	Phenomena are brought into the lesson after students develop the science ideas so students can apply what they learned.	The <u>development</u> of science ideas is anchored in explaining phenomena or designing solutions to problems.

2. **Record evidence** about how explaining phenomena or designing solutions to problems are represented in the lesson. Describe in the response form below how this evidence is or is not an adequate indicator the criterion is being met. Include detailed suggestions for improvement.

Lessons designed for the NGSS include clear and compelling evidence of the following:	What was in the materials, where was it, and why is this evidence?	Evidence of Quality?	Suggestions for improvement
A. Explaining Phenomena or Designing Solutions: The lesson <u>focuses</u> on supporting students to make sense of a phenomenon or design solutions to a problem.		☐ None ☐ Inadequate ☐ Adequate ☐ Extensive	

K-8 Science/STEM Pilot Process



Middle School Pilot Process Timeline

Month	Objective/Outcome
February/March 2022	Contact vendors for program sample kits
April 7, 2022	Virtual kick-off meeting with BSCS to provide process overview.
April 29 & May 9th – 11, 2022	On-site BSCS consultant will guide team through review of materials to determine top two programs to pilot
September/October 2022	Pilot selected programs in classrooms to gather quantitative and qualitative data
October 28, 2022	Review of data and discussion to determine program recommendation
November or December 2022	Present pilot results and middle school program recommendation to the Board of Education
January – April 2023	Provide professional development to support implementation of new programs

Elementary School Pilot Next Steps (tentative)

Month	Activity
March 2022	Send out K-4 Science Pilot Interest Survey
March/April 2022	Confirm Elementary pilot training dates with facilitator
May 2022	Contact vendors for program sample kits
June or August 2022	On-site BSCS consultant will guide team through review of materials, and determine top two programs to pilot
Fall 2022/Winter 2023	Pilot selected programs in classrooms. Gather quantitative and qualitative data
Spring 2023	Review of data and discussion to determine program recommendation
May/June 2023	Present pilot results and elementary program recommendation to the Board of Education
August 2023 –May 2024	Professional development to support implementation of new programs



THANK YOU!



QUESTIONS?