NextGen TIME: Prescreen Tool

Name of Instructional Materials_____

Lesson/Instructional Sequence Title_____

Grade Level _____

Prescreen Consensus

Use the following questions to create a summary of the evidence collected:

- How does a phenomenon/problem organize the learning?
- How are learning opportunities sequenced to enable students to make sense of the phenomenon or problem?
- What is the path of student thinking from their prior knowledge to the expected three-dimensional learning outcomes?
- How do students show/demonstrate their three-dimensional understanding of the phenomenon?

Summary Recommendation:

Developed in collaboration with the K-12 Alliance at WestEd and Achieve, Inc.

Prescreen Tool

Criteria	**Evidence:** What was in the materials, where was it, and why is this evidence?	**Shows promise**
Use of Phenomena/Problems. Materials provide relevant and authentic learning contexts through which students ● engage as directly as possible with phenomena or problems to ask and answer their questions as well as questions from other sources and ● have the potential to use the three dimensions to make sense of phenomena or design solutions to problems.*		
Presence of Logical Sequence. Student learning across the three dimensions is ● arranged in a logical sequence and ● sufficient and appropriate for students to figure out the phenomena or problems.*		
Students Are Figuring Out. Materials position students to make sense of phenomena and design solutions to problems by ● asking and answering questions that link learning over time and ● using the three dimensions to link prior knowledge and negotiate new understandings and abilities.*		
Three-Dimensional Performances. Materials include assessments designed to ● match the targeted learning goals and ● elicit evidence of students' use of the three dimensions to make sense of phenomena and/or to design solutions to problems.*		

*to the extent possible when reviewing a limited portion of the instructional materials.

Resources to Build Common Understanding

Instructional materials programs designed for the NGSS include the criteria as described in the "More of this" column of these charts.

Use Phenomena/Solve Problems	
Less of this …	**More of this …**
Making sense of phenomena and designing solutions to problems may be used occasionally as engagement strategies but are not a central part of student learning.	Phenomena and designing solutions to problems are central to student learning and require the application of grade-appropriate SEPs, CCCs, and DCIs for sensemaking.
Topics, rather than phenomena, are used to direct student learning experiences and are not necessarily designed to answer student questions.	Phenomena are relevant and engaging to student learning and cause students to ask questions that they want to answer.
Only talking or reading about phenomena or how other scientists and engineers are engaged with phenomena and problems	Students experience phenomena directly or through rich multimedia.

*Statements adapted from ACESSE Survey

Resources to Build Common Understanding

Students Figuring Out Phenomena or Solving Problems	
Less of this …	**More of this …**
Learning science that may be relevant to adults and may be useful to students someday in their lives*	Learning science that is personally relevant to student lives*
Using science practices and crosscutting concepts only to serve the purpose of students acquiring more DCI information	Careful design to build student proficiency in all three dimensions of the standards
Learning experiences are 1–2 dimensional or marginally connected to one another and provide limited opportunities to use the dimensions together to make sense of phenomena or solve problems	Multiple opportunities, experienced in a logical sequence, to use the three dimensions to make sense of phenomena or solve problems
Learning experiences are designed for the "right answer".	Learning experiences are designed so that initial explanations for phenomena are negotiated and revised over time as understanding increases in complexity.*
Rote memorization of facts and terminology; providing discrete facts and concepts in science disciplines, with limited application of practice or the interconnected nature of the disciplines	Facts and terminology are learned as needed while developing explanations and designing solutions supported by evidence-based arguments and reasoning.

*Statements adapted from ACESSE Survey

Developed in collaboration with the K-12 Alliance at WestEd and Achieve, Inc.

Resources to Build Common Understanding

Three-Dimensional Performance	
Less of this ...	**More of this …**
Teachers only posing questions that have one correct answer and/or measure understanding in one moment in time	Teachers posing questions that elicit the range of student understanding and capture student thinking over time
Only providing summative assessments that measure the end point of student understanding	Formative assessment processes embedded into instruction to provide feedback data to adjust instruction as well as inform students of their progress
Assessments that focus on one dimension at a time and are mostly concerned with measuring students' ability to remember information	Assessments reflect each of the three distinct dimensions of science, their interconnectedness and their use by students to figure out phenomena or solve problems.
Assessed on core ideas of science*	Students' increasing grasp of science and engineering practices helps them to develop understanding of the core ideas and crosscutting concepts.*
Students are assessed in the same way to reveal the achievement gaps.*	Student experience multiple measures and types of assessment to show the range of understanding about something being learned.*

*Statements adapted from ACESSE Survey

*Citations for ACESSE Survey

Penuel, W. R., Weidler-Lewis, J., & Van Horne, K. (under review). Developing a measure of teachers' vision for equitable science teaching and learning. Journal of Science Teacher Education.

Weidler-Lewis, J., Penuel, W. R., & Van Horne, K. (2017, April). Developing a measure of teachers' vision for equitable science teaching and learning. Paper presented at the NARST Annual Conference, San Antonio, TX.