

Science Classroom Observation Tool for School Administrators  
June 2023

The Science Classroom Observation Tool for School Administrators was developed to support school administrators when observing students and teachers in the classroom, constructing feedback to teachers, and evaluating science instruction. This tool is to be used to construct feedback loops to ensure instruction and pedagogical methodologies are aligned to a science standards-based classroom and to inform the teacher on how to identify areas of focus for planning, acting, and continuously improving.

The observation tool is meant to be used in parts and not as a whole; teachers and administrators should identify areas of focus upon which to direct their attention.

“Look Fors” in the Science classroom include:

- 1) Teachers start each science unit with a unit [phenomenon<sup>1</sup>](#) or problem or question.
- 2) Students **ask questions** that drive the learning.
- 3) When prompted, students should be able to [tell what they are doing for that day](#), make connections to the phenomena, and relate what they are learning to real-world problems.
- 4) Students use their own language when conducting an activity and [before science specific vocabulary](#) is introduced (conceptual understanding).
- 5) Students “DOING” science using the [Scientific and Engineering Practices \(SEPs\)](#) to make sense of a phenomenon.
- 6) Students [engage in discourse](#) as they **make sense of the science** versus the teacher telling students the answers.
- 7) The teacher uses questioning techniques that involve students in higher level questions and engages many students.

Standard Alignment: The lesson meets the expectations of the standards.		
Learning Intentions	<input type="checkbox"/> Learning intentions are posted <input type="checkbox"/> Learning intentions are clear to students <input type="checkbox"/> Learning intentions are aligned to lesson activities <input type="checkbox"/> Not Observed	Learning Intention Notes
Success Criteria	<input type="checkbox"/> Success criteria are posted	Success Criteria Notes



	<input type="checkbox"/> Success criteria are clear to students <input type="checkbox"/> Success criteria are aligned to lesson activities <input type="checkbox"/> Not Observed	
Lesson plans were current and reflected the taught material.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Lesson plans were not available	
Standard or lesson objective:		
<a href="#">Lesson Alignment: The instruction of the lesson meets the expectations of the standards.</a>	Lesson fully meets does	Lesson partially meets
A phenomenon <sup>1</sup> , problem or question that is aligned to the standards drive the instruction.	Is fully aligned	Is partially aligned
The activities, materials, and/or tasks align to the expectations of the standards.	Is fully aligned to expectations	Is partially aligned to expectations
Observation Notes:		

<sup>1</sup> Phenomena- Natural phenomena are observable events that occur in our communities, the world, and the universe. The use of natural phenomena in science is intended to shift science learning from learning about a topic to figuring out why or how something happens. The phenomena should be selected that are relevant and engaging to students.



Student Actions	Evidence: Select all that apply	Other observations
Students <a href="#">are engaged in the phenomena<sup>1</sup> or problem.</a>	<input type="checkbox"/> Students <a href="#">express interest in the phenomena or problem.</a> <input type="checkbox"/> Students ask questions about phenomena or problem. <input type="checkbox"/> When asked, students can <a href="#">articulate what they are doing and why they are doing it</a> as it relates phenomena or problem.	
Students connect the lesson(s) to their experiences, culture, and community.	<input type="checkbox"/> Students connect the lesson to their experience. <input type="checkbox"/> Students <a href="#">connect lesson to something in their community.</a>	
Students can use their understanding of content to extend their thinking and make sense of the phenomena or problem.	<input type="checkbox"/> Students extend their thinking through making connections to their experiences and the real-world. <input type="checkbox"/> Students <a href="#">explain their understanding</a> as they make connections to the phenomena. <input type="checkbox"/> Depending on where students are in the learning process, <a href="#">students use their own language</a> to explain understanding of the phenomena or problem. <input type="checkbox"/> Students support <a href="#">claims and explanations using evidence.</a>	



Student Actions	Evidence: Select all that apply	Other observations
	<input type="checkbox"/> Students extend their thinking through making connections to other concepts in science such as <i>stability and change, patterns, systems, cause and effect, energy and matter, and structure and function</i>	
Students use <a href="#">the scientific and engineering practices (SEPs)</a> to gather or critique evidence to explain phenomena or solve a problem.	Students are: <ul style="list-style-type: none"> <li><input type="checkbox"/> asking scientific questions</li> <li><input type="checkbox"/> <a href="#">planning and conducting</a> investigations, including collecting data</li> <li><input type="checkbox"/> interpreting, analyzing or evaluating data</li> <li><input type="checkbox"/> <a href="#">constructing and critiquing conclusions, explanations, and arguments</a></li> <li><input type="checkbox"/> <a href="#">developing or using models</a></li> <li><input type="checkbox"/> evaluating and communicating information</li> </ul>	



Instructional practices of the teacher	Evidence: Select all that apply	Observations
<p>Teacher provides <a href="#">structures</a> for students <a href="#">to express understanding</a> and make explicit connections to prior and/or upcoming lessons.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Teacher <a href="#">elicits students understanding</a> of the phenomena.</li> <li><input type="checkbox"/> Teacher uses multiple strategies throughout instruction to allow students to make connections.</li> <li><input type="checkbox"/> Teacher provides scaffolds to support all students as they express understanding of phenomena or problem.</li> </ul>	
<p>Teacher <a href="#">lesson(s) design and implementation</a> provides opportunities for students to explain the phenomena or problem.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Opportunities for students to explore core content as they engage with a phenomenon or conduct an investigation.</li> <li><input type="checkbox"/> Opportunities for students to use data and resources to provide evidence of conceptual understanding.</li> <li><input type="checkbox"/> Teacher integrates questions to prompt student reflection and to have students revise misconceptions.</li> <li><input type="checkbox"/> Direct instruction, as needed, is used to address gaps in student understanding.</li> </ul>	



Instructional practices of the teacher	Evidence: Select all that apply	Observations
Teacher supports students as they engage in the SEPS to gather, make sense of, and/or critique evidence to figure out phenomena.	<input type="checkbox"/> Safe classroom practices are consistently reinforced in the classroom. <input type="checkbox"/> <a href="#">Instruction allows time for students to develop and implement SEPs.</a> <input type="checkbox"/> Teacher provides scaffolds and support for development of SEPs. <input type="checkbox"/> Lesson provides opportunities for students to engage in SEPs to include investigations, modeling, and using evidence to construct arguments.	
Teacher promotes student <a href="#">sensemaking through opportunities for discourse.</a>	<input type="checkbox"/> <a href="#">Discourse</a> allows students' opportunities to use their own language to explain their understanding of the phenomena or problem. <input type="checkbox"/> Questioning techniques are used to facilitate the sensemaking process.	
Teacher utilizes <a href="#">feedback</a> to determine students' changes in thinking and builds student understanding through whole class discussion.	<input type="checkbox"/> Teacher asks questions to elevate/prompt student thinking. <input type="checkbox"/> Teacher supports students in the <a href="#">development and revision of models</a> throughout the learning process. <input type="checkbox"/> Teacher uses a variety of strategies to <a href="#">determine student understanding.</a> <input type="checkbox"/> Other	



<b>Instructional practices of the teacher</b>	<b>Evidence: Select all that apply</b>	<b>Observations</b>
Observation Notes:		

