

OpenSciEd Key Instructional Elements



Element	Description
<p>Phenomena Based</p> <p>Centered around figuring out phenomena or solving problems</p>	<ul style="list-style-type: none"> • Students' work is anchored in meaningful phenomena or problems that motivate building ideas over time. • Anchoring phenomena and problems are complex, relevant, and returned to as we figure out more. • Students investigate related phenomena to figure out pieces of the explanation. • Assessments ask students to make sense of specific and compelling phenomena using their understandings built during the unit.
<p>Coherent for Students</p> <p>Driven by students' questions and ideas</p>	<ul style="list-style-type: none"> • Students' prior ideas and understandings are elicited, valued and built upon. • Students and teachers work together to figure out where to go next and what evidence is needed to answer their questions. • Students understand what they are doing and how it will help them answer questions about a larger phenomenon or solve a problem. • Students engage in science and engineering practices in meaningful ways in order to make progress on their questions.
<p>Driven by Evidence</p> <p>Incremental building and revision of ideas based on evidence</p>	<ul style="list-style-type: none"> • Students' ideas and questions determine what evidence to collect. • Students seek and use evidence to figure something out as they build and revise their explanations, models and arguments. • Investigations provide evidence to build new science ideas instead of confirming pre-taught ideas. • Evidence can be used to problematize our current thinking and help us think about where to go next.
<p>Collaborative</p> <p>WE figure out ideas together</p>	<ul style="list-style-type: none"> • Students have opportunities to use, build upon, and critique other's ideas. • Students use evidence to support ideas, ask for evidence from others, and suggest ways to get additional evidence. • Students have several opportunities to give and get feedback • The culture of the classroom supports risk taking and changing our minds.
<p>Equitable</p> <p>Requires a classroom culture that values all ideas</p>	<ul style="list-style-type: none"> • Students have multiple opportunities to make sense individually and through small and whole group discussions. • The class community values the diversity of resources students bring to science class, including language, gestures, metaphors, and various modes of expression. • Norms are established and revisited to support equitable sensemaking. • Teachers integrate a variety of assessment activities to elicit, interpret, and provide feedback to build from students' diverse ideas and experiences. • Students understand how and why what they are learning is relevant to their own lives and their communities.