**A Checklist for Administrators**

The STEELS standards require a shift in both science instruction and how students should be learning in classrooms. The following guide is for administrators to look for indicators of the science and engineering practices embedded in the STEELS standards.

The science and engineering practices along with multi-dimensional learning should be evident in all classrooms, K-12.

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| Indicators of STEELS Science and Engineering Practices | Examples | Evident in Classroom? | Evidence |
| Phenomena and problem-solving drives lessons and investigations  | Students are engaged with real-world phenomena and are designing solutions to real-world problems within each lesson.  |  |  |
| Lessons follow a progression of learning  | Students are investigating to obtain information and evidence to construct explanations for phenomena.  |  |  |
| Students design solutions to real-world problems  | Students are developing and optimizing solutions to problems with criteria and constraints through testing and analysis  |  |  |
| Students communicate results  | Groups present the results of their investigations/engineering projects to the class.  |  |  |
| Notebooks or lab books are used  | Students are using science notebooks to collect data, organize their ideas and plans, and make claims supported by evidence.  |  |  |
| Inquiry-based instruction engages students  | Students find answers, ask new questions, and engage in hands-on investigations.  |  |  |
| Students work collaboratively  | Students actively engage in science while working in pairs or small groups.  |  |  |
| Lessons integrate mathematics and reading  | Students read and apply math skills to obtain additional information or data.  |  |  |
| Teacher acts as facilitator  | Teacher guides instruction by questioning, not telling. Students work both in small groups and independently.  |  |  |
| Use of a learning cycle (for example: 5E, 6E, Engineering Design Process, etc.) is evident  | Students are continually drawing upon prior knowledge, exploring and explaining phenomena, designing solutions, applying newly gained knowledge to analogous concepts, and evaluating their knowledge.  |  |  |
| Assessment is evident and takes multiple forms  | Examples of assessment: teacher check sheets, notebooks, rubrics for scoring projects or presentations, exit slips.  |  |  |
| Hands-on science materials are used by students  | Students engage with science materials rather than watching teacher demos or experiencing concepts only through videos or simulations.  |  |  |
| Focus questions are used at the beginning of a lesson or group of lessons to pique students’ curiosity and motivate learning.  | Teachers begin by sharing a focus question that engages students. This is revisited at the end of the lesson to assess learning. Students are aware they are engaging in lessons that will help them gather evidence to answer the focus question.  |  |  |

Adapted from Carolina Biological and California State Board of Education.