**Instructional Practice Guide for Science**

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| **Purpose:** The Instructional Practice Guide (IPG) for Science describes core instructional practices shown to improve student outcomes and is aligned to the *Kentucky Academic Standards (KAS)*. This IPG supports curriculum-focused:* Observation-based feedback on classroom practice contributing to student outcomes;
* Reflection on instructional practices and shifts; and
* Identification of professional learning needed to support standards-aligned practice.

It may be helpful to supplement what is observed with further evidence from artifacts, such as lesson plans, tasks or student work. Although many indicators will be observable during a lesson, some lessons may appropriately focus on a smaller set of objectives, or an observation may occur during only a portion of a lesson. In those cases, some of the tool may be left blank. Finally, districts/schools may choose to stagger their observation focuses as they move through implementation of the local curriculum and high-quality instructional resources (focus on *Culture of Learning* and *Core Action 1* in year one, for example).**Rating Criteria** **1: Yes –** All indicator aspects are fully present whenever appropriate.**2:** **Mostly**– Most indicator aspects are met most of the time it would be appropriate. **3: Somewhat** – Some indicator aspects are met some of the time it would be appropriate. **4: Not Yet**– Indicator aspects are not yet met. ***Important Note****: For professional learning support with academic standards and aligned practice, please visit* [*kystandards.org*](https://kystandards.org/)*.* |

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| **Date**: **Observer**:**Teacher**:  | **Grade Level/Course**:**Lesson Segment(s)**: All / Beginning / Middle / End**Observation Focus (if applicable)**:  |

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| **CULTURE OF LEARNING: There is a culture of learning and high expectations in this classroom.** |

| **Indicators** | **Rating** |
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| 1. Students demonstrate self-management skills by following behavioral expectations, classroom directions, and executing transitions and procedures efficiently, independently and with peers.
 | **YES / MOSTLY / SOMEWHAT / NOT YET****Explanation:** |
| 1. Students engage in the learning of the lesson from start to finish; there is a sense of urgency about how time is used and managed.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students demonstrate evidence of growth mindset (embrace challenges/learn/persist) and self-efficacy (belief in ability to succeed) through interactions with teachers, peers and course content.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students demonstrate social skills (i.e., listening, disagreeing respectfully, building on thoughts or arguments, perspective taking, social cues) and cultural awareness through interactions with teachers, peers and content.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students and teacher demonstrate an enthusiasm for learning through positive relationships and strong classroom culture that is responsive to student interests, experiences and preferences for learning.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |

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| **CORE ACTION 1: The learning of the lesson reflects the instructional shifts within the *KAS for Science*.** |

| **Indicators** | **Rating** |
| --- | --- |
| 1. The purpose and focus of the lesson support students in making sense of a phenomenon and/or designing solutions to problems.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The lesson leverages grade-appropriate elements of the Science and Engineering Practices (SEPs) to deepen students’ understanding of how grade-appropriate Disciplinary Core Idea(s) (DCI) are developed throughout the lesson.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The lesson leverages grade-appropriate elements of the Crosscutting Concepts (CCC) to support students’ sense-making and reasoning as they make connections within and across scientific disciplines.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |

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| **CORE ACTION 2: Students are responsible for doing the scientific thinking in this classroom.** |

| **Indicators** | **Rating** |
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| 1. Students do the majority of the work of the lesson.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students analyze, express, design, construct, clarify, justify, interpret, explain, and communicate their ideas.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students talk about and ask questions about each other's thinking, in order to clarify or improve their own understanding and to construct explanations.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students share their developing thinking about the content of the lesson.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students evaluate and revise their thinking as information is obtained and understanding develops.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students use scientific language appropriate to the content in their explanations, arguments and discussions.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |

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| **CORE ACTION 3: The teacher employs instructional practices that allow all students to access grade-level learning.** |

| **Indicators**  | **Rating** |
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| 1. The teacher identifies and clearly communicates the lesson’s learning goal(s) and success criteria to students and why the learning goal(s) is important. The learning goal(s) and success criteria are revisited throughout the lesson, used by students and teacher to monitor progress and inform next steps.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The teacher intentionally and explicitly leverages students’ prior knowledge and experience to support understanding of phenomena or to solve design problems.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The teacher supports students to make sense of disciplinary core idea(s) as they work to figure out a relevant phenomenon through the use of asking questions, investigations, explanations, models, and analyzing and interpreting data.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The teacher strengthens all students’ understanding of the content by strategically referencing student work and discussion and connecting them to the learning goal of the lesson.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The teacher deliberately checks for understanding to surface misconceptions and adapts the lesson according to student understanding.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |