**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-regulation skills by meeting behavioral expectations, following classroom instructions and engaging 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, persist in learning) 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 (e.g., 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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| **Consistent HQIR Usage**  |

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| **Indicators** | **Rating** |
| 1. Tier 1 local HQIR(s) is present in the classroom.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Teachers are using the curriculum as intended. The teacher follows discussion notes or prompts, uses examples from the HQIR and has students engage in its three-dimensional tasks.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The teacher uses appropriate scaffolds provided by the HQIR, avoiding over-scaffolding with additional supports or simplifying questions, texts and/or tasks.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Pacing is on schedule according to district/HQIR guidance.
 | **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** |
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| 1. The lesson is driven by a phenomenon or problem aligned to the standard(s), engaging students in making sense of the world or designingsolutions to real-world problems.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The lesson integrates grade-appropriate elements of the three dimensions identified in the performance expectation(s) [i.e., Science and Engineering Practices (SEPs), Crosscutting Concepts (CCCs), and Disciplinary Core Ideas (DCIs)] to make sense of the phenomenon or design solutions to a problem.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The lesson supports students in sensemaking as they connect prior knowledge, evidence, and concepts, while sharing their thinking throughout the process to construct their own understanding of science ideas.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |

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| **CORE ACTION 2: The teacher employs instructional practices that allow all students to access grade-level learning.** |

| **Indicators**  | **Rating** |
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| 1. The teacher makes explicit connections to the prior and/or upcoming lessons to help students build their understanding of the phenomenon/problem in a coherent manner. The focus question(s) and success criteria are revisited throughout the lesson and used by students and teachers to monitor progress toward the big idea.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The teacher intentionally and explicitly leverages students’ prior knowledge and experiences to support their understanding of the phenomenon or to solve a design problem, while encouraging student-generated ideas and perspectives expressed through a variety of modes (e.g. speaking, writing, and drawing, etc.).
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The teacher provides students with meaningful contexts to develop and apply DCIs and CCCs as they work to make sense of a relevant phenomenon or design solutions to a problem through the use of SEPs.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The teacher helps students build a deep, coherent understanding of science ideas by asking questions and using prompts that guide them to connect tasks, ideas and evidence to what they’ve learned before, as they figure out the phenomenon or design solutions to a problem.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. The teacher tracks and elevates changes in student thinking and supports ongoing idea refinement through feedback and reflection, helping students test, revise, and make sense of a phenomenon or design solutions to a problem.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |

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| **CORE ACTION 3: Students are responsible for doing the scientific thinking in this classroom.** |

| **Indicators** | **Rating** |
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| 1. Students are motivated by a meaningful phenomenon or problem, using it to drive their own learning as they ask questions and make predictions about how and why something happens or works.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students construct their own understanding of a science idea(s) by engaging in a SEP(s), using a CCC(s) as a lens for thinking and developing a DCI(s) while making sense of a phenomenon or designing solutions to a problem.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students engage like scientists in respectful, collaborative discussions where they listen actively, ask questions, and build on one another’s ideas, using evidence and scientific language to collectively develop and refine their understanding of science concepts.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students are able to connect the phenomenon and/or the lesson tasks to their personal experiences, culture, and/or community.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students monitor and explain how their ideas about a phenomenon change over time by tracking their thinking, revising models, asking questions, and connecting science ideas to one another to clarify, deepen, and extend their understanding.
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |
| 1. Students communicate their understanding through a variety of formats (e.g., models, explanations, arguments, or data representations).
 | **YES / MOSTLY / SOMEWHAT / NOT YET** **Explanation**: |