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|  | **Instructional design** | **Classroom** | **Teacher** | **Student** |
| **Planning** | Shows evidence of using students’ data both formative and summative, to design instruction. Clear links to standards with specific goals is evident. Planning follows scope and sequence. | Seating encourages multiple learning strategies. Students have clear view of board. Resource materials appropriate for all levels. | Current knowledge of subject being taught, as well as instructional practices. Knows their students and has data to support suppositions. Is organized. Utilizes multiple instructional practices. | Is prepared and ready to learn. Have materials necessary for personal success. (Notebook, folder, writing utensil, etc.) |
| **Community** | Expectations of high rigor for all students. Encourages a “growth mindset”. | Has culture of mutual respect where everyone talks science.  All stakeholders are engaged.  There are adequate and safe facilities, equipment and materials for science activities | Encourages student reflection. Encourages higher order thinking based on Bloom’s taxonomy. Supportive- students know teachers are available to help. | Engaged in science instruction and learning with other students. Develop critical friends- Reflect and revise their work as well as that of their peers. |
| **Assessment** | Assessments are aligned to the rigor and relevance of the lesson. Multiple methods of assessment of scientific learning are utilized, not just paper and pencil. Assessment includes authentic performance tasks. There are clear evaluation criteria for student products and performance. Assigns manageable tasks. | Displays evaluation criteria or scoring guides. Samples of high quality student work are on display. | Informs students of expectations at the beginning of the lesson/unit. Identifies, confronts and resolves preconceptions. Continuously assess to check for student learning and to provide prompt intervention.  Adjusts instruction based on students’ needs. | Can describe the goals (student performance) of the lesson or unit. Can explain what they are doing and why. Know criteria by which their work will be evaluated. Develop habits of mind associated with science |
|  | **Instructional Design** | **Classroom** | **Teacher** | **Student** |
| **Relevance** | Relevant/real world examples are included throughout instruction. Text books are used as references rather than the main resource. | Student performance and essential questions are central to classroom activities where the process of investigation is as important as knowing the “correct” answers. | Instruction is hands-on, minds-on. Begins instructions with what students know and builds. Provides real world examples and encourages students to create their own. | Apply what they have learned to an unknown situation. Develop the ability to conduct their own investigations. Able to explain and justify their work using data. |
| **Instruction/**  **learning** | Uses the constructivist approach, scaffolds to develop student skills necessary for success. Instruction builds on what students know and think. Moves from concrete to abstract, employing learning cycles-observation, generalization, verification, application. Promotes critical thinking. Focus on depth as well as breadth of instruction. | Learning experiences are activity centered and uses a mix of direct teacher instruction, whole-class activates, large group presentations, groupings and individual activities. | Engages student interest through multiple modalities. Differentiates instruction to include multiple strategies and learning styles.  Facilitates active construction of meaning. Inquiry and discovery is the norm, not rote memorization. | Shows an increase in their understanding of the science subject matter investigated and gains an understanding of how scientists study the natural world by actively participating in a variety of hands on and inquiry based activities. Demonstrate and **practice** learned scientific skills. |
| **Materials**  **& Resources** | Kit, materials or equipment are appropriately used and exactly as described in the teacher’s guide (teacher facilitates the hands-on lesson in sequence and in its entirety) with modifications for learner differences and styles. | Kit boxes are in plain sight, materials management stations/tables are present, materials are present/in use, student graphs or other work related to hands-on lessons are posted in room, safety or print-rich scientifically relevant posters are visible. Note\*Seeds of Science includes word wall. Does not look to the teacher or text as sole source of information. Access to technology as a research tool. | There are adequate and safe facilities, equipment and materials for science activities | Student interactions reflect a familiarity with group work and materials management; are focused and engaged on kit or hands-on tasks. Few teacher corrections and reminders are necessary. |

Comments: