Lesson Observation: 3-Dimensional Science in the Schoolyard

<table>
<thead>
<tr>
<th>Teacher:</th>
<th>Observer:</th>
<th>Date:</th>
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<tbody>
<tr>
<td>School:</td>
<td>Standard:</td>
<td>Grade level:</td>
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**Description of Learning Experience Observed:**

**Teaching Methodologies Observed:**
- Student-directed investigation
- Engineering design challenge
- Teacher-directed hands-on activity
- Direct instruction: lecture or explanation
- Other: __________________________

**ecoSTEM kit in use?**
- Water
- Energy
- Earth
- PolliNation
- None
- Other

**Lesson Setting:**
- Outdoors / schoolyard
- Outdoors / garden
- In classroom
- In STEM Lab
- Both indoors and outdoors

**3-Dimensional Learning in Science**

**Students engaged in 3D science and engineering practices?**
- Asking questions arising from observation of phenomena
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematical and computational thinking
- Constructing explanation (science); designing solution (engineering)
- Arguing from evidence
- Obtaining, evaluating and communicating information

**Any of these crosscutting concepts referenced by teacher or students?**
- Patterns
- Cause and effect
- Scale, proportion, and quantity
- Systems and system models
- Energy and matter
- Structure and function
- Stability and change

**Do students observe and make sense of a phenomenon?**
- Teacher presents a phenomenon to engage students with a core idea
- Students try to make sense of phenomenon (instead of having it explained)
- Students conduct investigations to create, revise explanation for phenomenon

**Integrated STEM Learning?**
- ecoSTEM Kit or STEM performance tasks incorporated in lesson
- At least 2 subjects integrated (science, math, engineering, technology)
- Opportunities for creativity, communication, collaboration, critical thinking

**Comments and Suggestions**
# Pedagogy

## Classroom Management Strategies
- Students collaborate in small teams
- Boundary markers set for outdoor activities; signals used to regroup
- Journaling used to engage, focus, and reflect
- Students engaged and on task; time management effective
- Other strategies: 

## Differentiated Instruction
- Accelerated learners given extension opportunities
- Students who don’t initially master concept, given multiple
- Culturally and developmentally appropriate
- Other strategies: 

## Assessment of Student Performance
- Students demonstrate competency on authentic tasks
- Keeley probe, Kahoot, Quizlet or mid-lesson assessment used
- Other strategies: 

## Professionalism
- Teacher exhibits subject matter knowledge
- Clarity in communication, process, flow of activities, focus
- Organization and preparation minimize off-task time, disorder
- Necessary supplies and materials on hand;
- Rapport with students encourages curiosity, inquiry, understanding
- Length, level and pacing of learning activities appropriate for abilities
- Lesson is engaging, creative, and sparks student curiosity
- Student self-discipline
- Teacher facilitates learning and encourages student voice and choice
- Goals and expectations clear; rubrics provided to students in advance

## Strengths and Overall Effectiveness

## Suggestions for Growth