

# EQuIP Review Feedback



**Lesson/Unit Name:** Optimizing: Security Cameras

**Content Area:** Mathematics

**Grade Level:** 6

<p><b>Overall Rating:</b></p> <p style="font-size: 2em; font-weight: bold;">E</p> <p>Exemplar</p>
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## Dimension I – Alignment to the Depth of the CCSS

<p><i>The lesson/unit aligns with the letter and spirit of the CCSS:</i></p> <ul style="list-style-type: none"> <li>✓ Targets a set of grade-level CCSS mathematics standard(s) to the full depth of the standards for teaching and learning.</li> <li>✓ Standards for Mathematical Practice that are central to the lesson are identified, handled in a grade-appropriate way, and well connected to the content being addressed.</li> <li>✓ Presents a balance of mathematical procedures and deeper conceptual understanding inherent in the CCSS.</li> </ul>	<p>This lesson targets both CC math content standards for grade six and several Standards for Math Practice. Students are asked to examine the real-world situation of lines of vision of a security camera placed in the corner of a room composed of rectangular areas where some vision lines are blocked. The expectations for the products of the lesson require students to engage in the content through the SfMPs 1-4. The task aligns with 6.RP.A.3c and 6.G.A.1. There is a balance between math procedures (finding area and percents) and deeper conceptual understanding (reasoning about and comparing areas and percents).</p> <p>One suggestion for the author would be to consider making the connections to the 6.RP and 6.G content standards being surfaced in the lesson more apparent to the teachers.</p>
<p><b>Rating: 3 – Meets most to all of the criteria in the dimension</b></p>	

## Dimension II – Key Shifts the CCSS

<p><i>The lesson/unit reflects evidence of key shifts that are reflected in the CCSS:</i></p> <ul style="list-style-type: none"> <li>✓ <b>Focus:</b> Lessons and units targeting the major work of the grade provide an especially in-depth treatment, with especially high expectations. Lessons and units targeting supporting work of the grade have visible connection to the major work of the grade and are sufficiently brief. Lessons and units do not hold students responsible for material from later grades.</li> <li>✓ <b>Coherence:</b> The content develops through reasoning about the new concepts on the basis of previous understandings. Where appropriate, provides opportunities for students to connect knowledge and skills within or across clusters, domains and learning progressions.</li> <li>✓ <b>Rigor:</b> Requires students to engage with and demonstrate challenging mathematics with appropriate balance among the following:             <ul style="list-style-type: none"> <li>– <b>Application:</b> Provides opportunities for students to independently apply mathematical concepts in real-world situations and solve challenging problems with persistence, choosing and applying an</li> </ul> </li> </ul>	<p>The goals of this lesson are to:</p> <ul style="list-style-type: none"> <li>- Target engagement in Standards for Mathematical Practice #1-4</li> <li>- Support the major work of the grade in cluster 6.RP.A as students attempt to determine the best placement of the security camera based on the percentage of the floor area that can be viewed from certain angles. The lesson builds on students' prior knowledge of angle concepts, ratio concepts, and area concepts which connect student knowledge within the domains of Geometry and ratios and proportional Relationships. This lesson emphasizes conceptual understanding and application to real word situations.</li> </ul> <p>There are multiple opportunities for students to write and speak about their understanding and to represent their ideas in a variety of ways. Students will need to use some level of procedural skill in calculations, depending upon the manner in which they select to solve the problem.</p>
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<p>appropriate model or strategy to new situations.</p> <ul style="list-style-type: none"> <li>- <b>Conceptual Understanding:</b> Develops students' conceptual understanding through tasks, brief problems, questions, multiple representations and opportunities for students to write and speak about their understanding.</li> <li>- <b>Procedural Skill and Fluency:</b> Expects, supports and provides guidelines for procedural skill and fluency with core calculations and mathematical procedures (when called for in the standards for the grade) to be performed quickly and accurately.</li> </ul>	
<p>Rating: <b>3 – Meets most to all of the criteria in the dimension</b></p>	

### Dimension III – Instructional Supports

<p><i>The lesson/unit is responsive to varied student learning needs:</i></p> <ul style="list-style-type: none"> <li>✓ Includes clear and sufficient guidance to support teaching and learning of the targeted standards, including, when appropriate, the use of technology and media.</li> <li>✓ Uses and encourages precise and accurate mathematics, academic language, terminology and concrete or abstract representations (e.g., pictures, symbols, expressions, equations, graphics, models) in the discipline.</li> <li>✓ Engages students in productive struggle through relevant, thought-provoking questions, problems and tasks that stimulate interest and elicit mathematical thinking.</li> <li>✓ Addresses instructional expectations and is easy to understand and use.</li> <li>❑ Provides appropriate level and type of scaffolding, differentiation, intervention and support for a broad range of learners. <ul style="list-style-type: none"> <li>- Supports diverse cultural and linguistic backgrounds, interests and styles.</li> <li>- Provides extra supports for students working below grade level.</li> <li>- Provides extensions for students with high interest or working above grade level.</li> </ul> </li> </ul> <p><i>A unit or longer lesson should:</i></p> <ul style="list-style-type: none"> <li>❑ Recommend and facilitate a mix of instructional approaches for a variety of learners such as using multiple representations (e.g., including models, using a range of questions, checking for understanding, flexible grouping, pair-share).</li> <li>❑ Gradually remove supports, requiring students to demonstrate their mathematical understanding independently.</li> </ul>	<p>The formatting of the lesson makes it easy for educators to follow. The Introduction gives a broad overview for educators to quickly ascertain the various steps in the lesson.</p> <p>The language presented is accurate as are the pictures/representations for the students to work with and explore.</p> <p>The real-world context of this lesson along with the non-routine exploration of the different views of the security camera provides students with fodder for productive struggle. This is an interesting context for middle grades students to explore within the topic of "shop lifting" and other related store overhead/loss issues.</p> <p>Teacher supports include common areas of potential student misunderstandings and suggestions for questions and prompts to help students make further progress while reflecting on their work.</p> <p>Some suggestions for improvement would be to:</p> <ul style="list-style-type: none"> <li>- provide more supports for students working above grade level - how might they go deeper in this topic?</li> <li>- provide more supports for ESL students and those students who may have documented learning challenges.</li> </ul>
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<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrate an effective sequence and a progression of learning where the concepts or skills advance and deepen over time.</li> <li><input type="checkbox"/> Expect, support and provide guidelines for procedural skill and fluency with core calculations and mathematical procedures (when called for in the standards for the grade) to be performed quickly and accurately.</li> </ul>	
<p>Rating: <b>2 – Meets many of the criteria in the dimension</b></p>	

## Dimension IV – Assessment

<p><i>The lesson/unit regularly assesses whether students are mastering standards-based content and skills:</i></p> <ul style="list-style-type: none"> <li>✓ Is designed to elicit direct, observable evidence of the degree to which a student can independently demonstrate the targeted CCSS.</li> <li>✓ Assesses student proficiency using methods that are accessible and unbiased, including the use of grade-level language in student prompts.</li> <li>✓ Includes aligned rubrics, answer keys and scoring guidelines that provide sufficient guidance for interpreting student performance.</li> </ul> <p><u><i>A unit or longer lesson should:</i></u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use varied modes of curriculum-embedded assessments that may include pre-, formative, summative and self-assessment measures.</li> </ul>	<p>The Optimizing: Security Cameras lesson is designed to be a formative assessment lesson and it fulfills this goal via the following components:</p> <ul style="list-style-type: none"> <li>- A pre-assessment task is provided for teachers to assess their students' current understandings of the targeted standards.</li> <li>- A summary of common student misconceptions/issues which may arise in the student work on the pre-assessment task, includes suggested teacher questions and prompts for use during the lesson.</li> <li>- Provided samples of student work for the students to analyze and respond to creating a low-risk strategy for students to engage in the content of the lesson.</li> </ul> <p>Of particular interest is the "How Did You Work?" handout on page S-7 of the lesson. This resource requires students to reflect on their own group work and analyze how they might provide instructions to a new student attempting the task. This approach leads students to own their work. However, it is somewhat unclear as to whether or not this handout activity is meant to be the summative assessment for the lesson. A suggestion for the author is to include more guidance for teachers as to how to determine if their students met the lesson objectives.</p>
<p>Rating: <b>3 – Meets most to all of the criteria in the dimension</b></p>	

## Summary Comments

The overall lesson provides opportunities for students to explore some meaningful mathematical ideas through the application of several mathematical practice standards. However, it is somewhat unclear what the actual learning outcomes are and therefore it is difficult to know if the lesson had been effective. This is a lesson that can be implemented very effectively as it has many entry points and solution methods that support individual student thinking modes and learning styles.

### Rating Scales

#### Rating Scale for Dimensions I, II, III, IV:

**3:** Meets most to all of the criteria in the dimension

**2:** Meets many of the criteria in the dimension

**1:** Meets some of the criteria in the dimension

**0:** Does not meet the criteria in the dimension

#### Overall Rating for the Lesson/Unit:

**E:** Exemplar – Aligned and meets most to all of the criteria in dimensions II, III, IV (**total 11 – 12**)

**E/I:** Exemplar if Improved – Aligned and needs some improvement in one or more dimensions (**total 8 – 10**)

**R:** Revision Needed – Aligned partially and needs significant revision in one or more dimensions (**total 3 – 7**)

**N:** Not Ready to Review – Not aligned and does not meet criteria (**total 0 – 2**)

### Rating Descriptors

#### Descriptors for Dimensions I, II, III, IV:

**3: Exemplifies CCSS Quality** - meets the standard described by criteria in the dimension, as explained in criterion-based observations.

**2: Approaching CCSS Quality** - meets many criteria but will benefit from revision in others, as suggested in criterion-based observations.

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**1: Developing toward CCSS Quality** - needs significant revision, as suggested in criterion-based observations.

**0: Not representing CCSS Quality** - does not address the criteria in the dimension.

**Descriptor for Overall Ratings:**

**E: Exemplifies CCSS Quality** – Aligned and exemplifies the quality standard and exemplifies most of the criteria across Dimensions II, III, IV of the rubric.

**E/I: Approaching CCSS Quality** – Aligned and exemplifies the quality standard in some dimensions but will benefit from some revision in others.

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**R: Developing toward CCSS Quality** – Aligned partially and approaches the quality standard in some dimensions and needs significant revision in others.

**N: Not representing CCSS Quality** – Not aligned and does not address criteria.