Unit Assessment: Teacher Evaluation Guide

Teacher Directions: The Unit Assessment on pages 129–136 is designed as a fifty-point test. Through this assessment, students demonstrate their overall learning of the unit's Learning Objectives. CKSci Unit Assessments typically range from ten to fifteen questions in the upper elementary grades, which can be answered in a longer, single classroom session or administered in two sittings.

Items with simpler answers that assess knowledge but not the deeper understandings of the content, such as multiple choice or short answers, are weighted differently and are worth fewer points. Assessment items that require more complex thinking and a deeper understanding of the content, such as writing explanations or identifying multiple relationships, are worth more points. Items that require synthesis of content and other student knowledge are weighted with more points as well. Some test items encourage students to use their Core Vocabulary decks as a reference source for terminology and concepts related to the test item.

Expected Answers and Model Responses

1. a, b, c, d (2 points)

2. (6 points)

- **a)** light and heat
- **b)** light, sound (Heat and motion also should be considered correct.)
- **c)** motion, sound
- **d)** motion, sound (Heat should also be considered correct.)
- **e)** motion, sound (Electrical energy should also be considered correct.)
- **f)** electrical energy, light (Heat should also be regarded as correct.)

3. (4 points)

Above Average	Student response includes labels and/or clear descriptions of what is happening in the illustration. The type of energy causing the change is identified, and student clearly describes the change.
Average	Student response includes an accurate drawing with labels. The type of energy causing the change is identified, and student describes the change.
Adequate	Student response includes a drawing. The type of energy causing the change is identified, and/or student describes the change.
Inadequate	Student response includes an inaccurate or no drawing. The type of energy causing the change is not identified or is incorrect. Student does not describe the change.

4. Student response should note that the highest ramp will result in the greatest energy of motion when the ball contacts the block. When the energy is transferred to the block, it will move it the farthest. (3 points)

5. Student response should note that the lowest ramp will result in the least energy of motion when the ball contacts the block. When the energy is transferred to the block, it will move it the least distance. (3 points)

6. Student response should note that as the speed of an object increases, the amount of its energy of motion increases. (3 points)

7. Student response should include evidence that sound energy can travel over long or short distances. (3 points)

8. a, d, e, f, g (3 points)

9. The food lamps transfer light and heat energy to the food. (2 points)

10. Accept all plausible responses. Student responses providing evidence that the lamps transfer light and heat could include: the food stays hot on the counter, you can feel the heat coming from the lamp, and you can see the light with your eyes. (3 points)

11. Student response should note that the more weight in the car, the more stored energy it probably must have that is converted to motion energy. Based on this pattern, the car with more weight will knock more blocks over than a car with less weight. (3 points)

12. Student response should note that Student A is correct because the ball has stored energy while it is positioned in the teacher's hand. This stored energy transforms into motion energy when she drops the ball. (3 points)

13. Accept all plausible student descriptions of a device that automatically provides water and light to a plant. (4 points)

14. It could be tested by making sure the plant is healthy and the soil is moist. It might be improved by adjusting it to get more light or water. (4 points)

15. Maria's drip hose solution converts energy of position to energy of motion (as water runs down from the container to the planter). Maria's lamp solution converts electrical energy to light energy. (4 points)