Student End-of-Module Assessment, Sample Responses, and Rubric

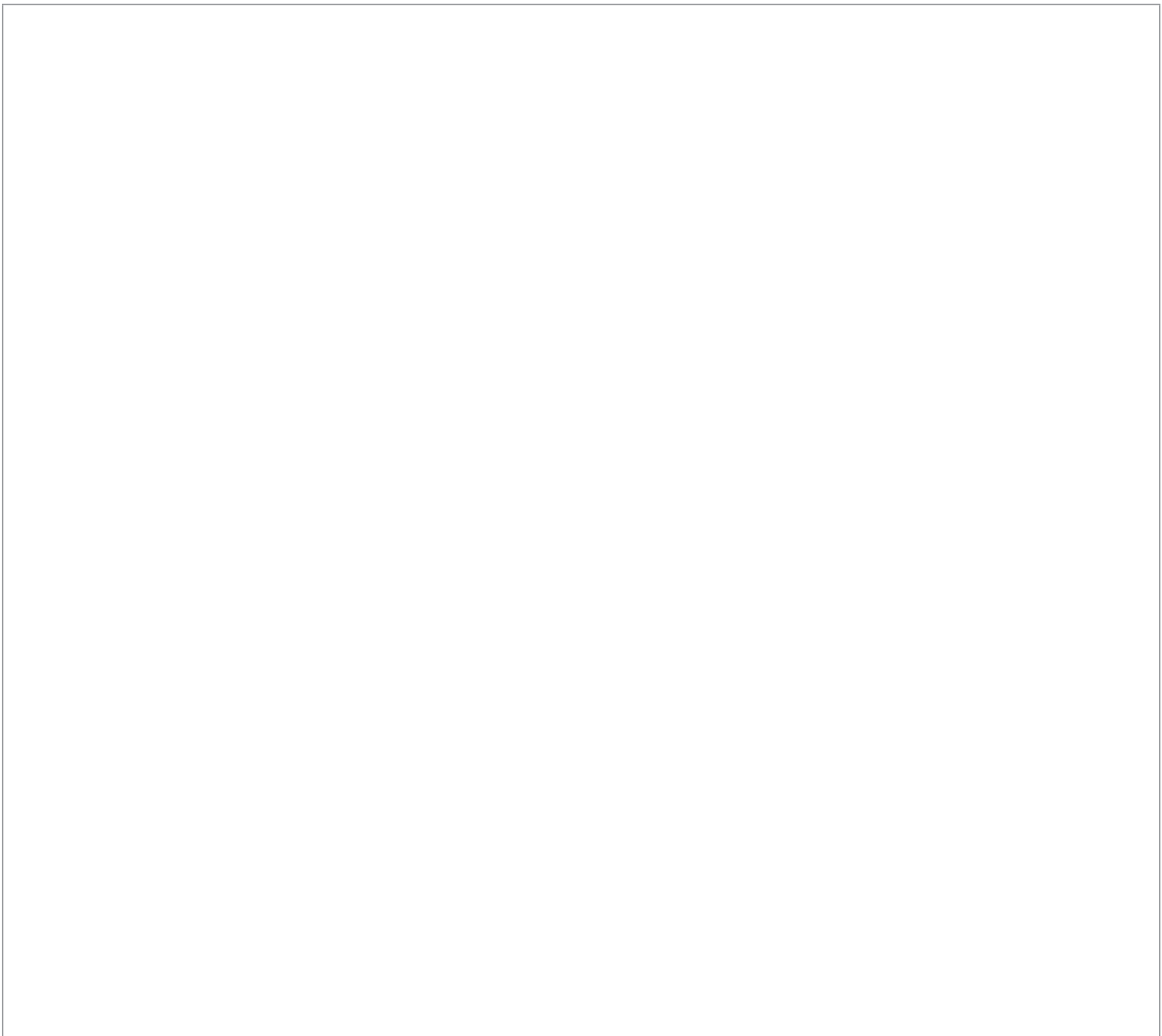Name: _____   Date: _____

LEVEL 4 ENERGY

End-of-Module Assessment

1. Imagine that you are in the kitchen helping to cook dinner and listening to music.

    Draw a model to show the indicators of energy that you would observe. Be sure to label your model, including the indicators of energy.

2. Use a pencil or a highlighter to analyze the data set below. Use the data set to answer the questions that follow.

Student A and Student B are curious about who can kick a soccer ball into a goal with more energy. They know that a slower ball will take more time to reach the goal. The students take turns kicking the ball from the same location and timing how long it takes for the ball to reach the goal. Their data set is displayed in the table below.

Trial	Time for Student A	Time for Student B
1	4 seconds	6 seconds
2	4.5 seconds	5 seconds
3	4 seconds	5.5 seconds
4	4.5 seconds	4 seconds
5	5 seconds	5 seconds
6	4 seconds	5.5 seconds
7	4.5 seconds	5 seconds
8	4.5 seconds	5 seconds
9	5.5 seconds	5.5 seconds
10	4.5 seconds	5 seconds

a. What pattern(s) do you notice in the data set? Use evidence from the data to support your response.

_____

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_____

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b. Neither student has ever worked with this type of information before. What three questions might the students have about this data as they try to figure out who kicked the soccer ball with more energy?

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c. Student A says that she used more energy during the investigation than Student B. Is there evidence in the data to support her claim?

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3. The model below shows a solar cell powering a laptop computer that is playing music. Add detailed information to the model to explain the energy transfers and energy transformations taking place.
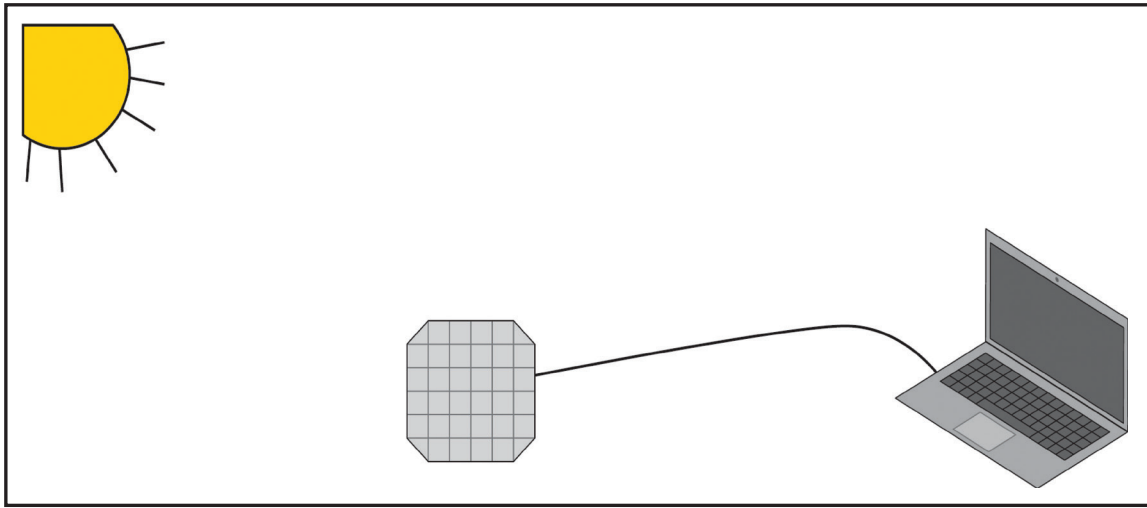
4. A blue marble is sitting on a flat surface when a white marble collides with it. Describe what happens to the energy of each marble before, during, and after the collision. If needed, create a drawing in the box to help organize your thoughts.

Before the collision:

_____

_____

_____

_____

During the collision:

_____

_____

_____

After the collision:

_____

_____

_____

_____