Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hr \_\_\_\_\_

**Activity 1.2 - What happens to energy when objects collide?**

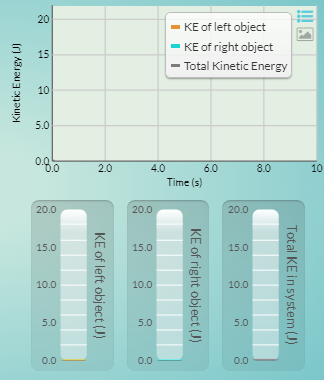
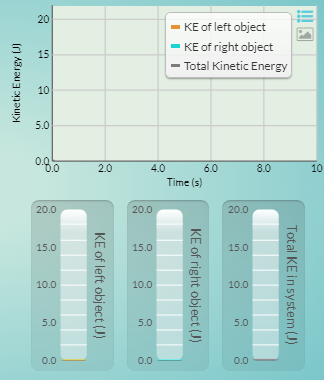
**Part 4 – Motion and energy simulation**

Using the simulation link on my website (christyjjh.weebly.com), explore why heavier or lighter spheres move at different speeds after a collision.

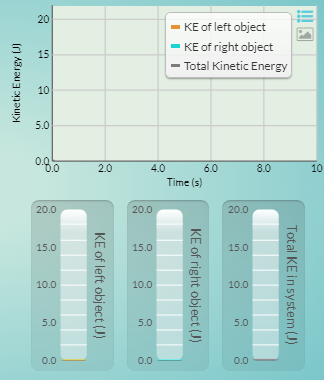
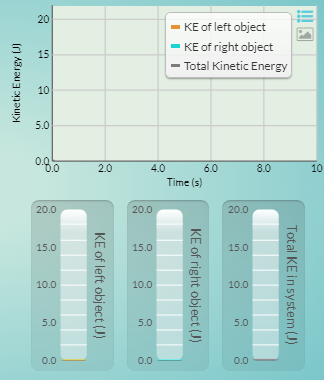
Use the following graphs to sketch the given variable changes.

* Complete a few trials of each before sketching below.
* Make sure the numbers you’re choosing register on all the graphs.

1. **Low mass & same speed** **2. High mass & same speed**

1. **What is the relationship between mass and kinetic energy?**
2. **Same mass & low speed**  **4. Same mass & high speed**



1. What is the relationship between speed and kinetic energy?Top of Form
2. Justify your answer using evidence from the simulation.
3. What pattern do you notice about the total amount of kinetic energy before and after each collision in the simulation?
4. Justify your answer using evidence from the simulation.