Shaking BBs Lab

Name: _____
Period: ____ Date: _____

How does shaking & causing collisions affect temperature?

Purpose: to investigate how temperature is changed when objects collide repeatedly.

Student roles: everyone is a *shaker* (for about a minute each), one person is the *temperature specialist*, one person is the *data recorder* and one person is the *timer*.

Instructions:

1. With the lid removed, **measure and record the starting temperature of the BBs** (before shaking) with the temperature gun (use degrees Celsius). Do not touch the BBs, and keep them away from sunlight, etc. which could affect their temperature. We are using 3 coffee cups stacked together to better insulate the BBs from your hand during the shaking process.

2. Push the lid onto the cups.

3. Shake vigorously for 3 minutes. The *timer* will keep track of the time. Trade off on who is doing the shaking after each minute.

4. After 3 minutes, carefully BUT QUICKLY remove the lid, and record the temperature of the BBs (in degrees Celsius, again). NOTE: you must get the temperature as soon as possible after the shaking, as the temperature decreases quickly.

Record your data here:

Table #	Initial Temperature of BBs (before shaking) $T_{initial}$	Final Temperature of BBs (after shaking for 3 minutes) T_{final}	Change in Temperature (T_{final} - $T_{initial}$) ΔT

5. Send one person up to also record your temperature data in the **class data table**.

6. Describe the results of your experiment here (using complete sentences):

7. What do you think caused the results you just described?