

Name: _____

Basketball Blaster Student Worksheet

Data Table 1

| Ball | Release Height | Maximum Rebound Height | | | | |
|--------------------|----------------|------------------------|---------|---------|---------|---------|
| | | Trial 1 | Trial 2 | Trial 3 | Trial 4 | Average |
| Basketball | 20 cm | | | | | |
| Rubber ball, small | 20 cm | | | | | |
| Rubber ball, large | 20 cm | | | | | |
| Ping Pong ball | 20 cm | | | | | |
| Marble, glass | 20 cm | | | | | |

Data Table 2

| Bottom Ball | Top Ball | Release Height | Maximum Launch Height of the Top Ball | | | | |
|--------------------|--------------------|----------------|---------------------------------------|---------|---------|---------|---------|
| | | | Trial 1 | Trial 2 | Trial 3 | Trial 4 | Average |
| Basketball | Marble | 20 cm | | | | | |
| Basketball | Ping Pong ball | 20 cm | | | | | |
| Basketball | Rubber ball, small | 20 cm | | | | | |
| Basketball | Rubber ball, large | 20 cm | | | | | |
| Rubber ball, large | Marble | 20 cm | | | | | |
| Rubber ball, large | Ping Pong ball | 20 cm | | | | | |
| Rubber ball, large | Rubber ball, small | 20 cm | | | | | |
| Rubber ball, large | Basketball | 20 cm | | | | | |
| | | 20 cm | | | | | |
| | | 20 cm | | | | | |
| | | 20 cm | | | | | |
| | | 20 cm | | | | | |

Post-Lab Questions (*Use a separate sheet of paper to answer the following questions.*)

1. Calculate the average Maximum Rebound Height and Launch Height of the top ball for each experiment. Record these values in Data Tables 1 and 2, respectively.
2. Describe what happened to the top ball during the double-ball drop experiment.
3. Describe what happened to the bottom ball during the double-ball drop experiment.
4. Compare the initial rebound heights (Data Table 1) to the double-ball drop rebound heights for each top ball. Relative to the initial rebound height, which ball performed the best as the top ball?
5. Which top ball launched to the greatest height?
6. Which top ball launched to the lowest height?
7. (*Optional*) Which bottom ball performed the best as a top ball launcher?
8. (*Optional*) What double-ball drop combination resulted in the greatest maximum height of the top ball?
9. Explain some possible sources of error for why the top ball did not launch to the theoretical height of nine times the drop height.