

THE GREAT BULLET RACE

HORIZONTAL AND VERTICAL MOTION OF A PROJECTILE

Name: _____ Per: _____ Date: _____

THE SET-UP

Over a level surface several thousand meters long, a bullet is fired horizontally from a rifle. Just as the bullet emerges from the gun, a second bullet is dropped from the height of the barrel. (Sketch the path of each bullet.)

'BLAM!'



THE QUESTION

Which bullet hits the ground first and why? (WAIT! Don't answer yet!)

THE POSSIBILITIES

List three distinct hypothetical outcomes of the situation described above. (Do not list reasons for or against any of the three, simply state the possible outcomes themselves.)

- 1.
- 2.
- 3.

THE PREDICTION

Which bullet really will hit the ground first?

THE RATIONALE

Why? Argue in favor of your prediction and against the other two predictions.

>>> continued>>>

PRE-DEMONSTRATION DISCUSSION NOTES

What rationales were offered (that varied from yours)?

--- DO NOT PROCEED UNTIL THE DEMONSTRATION HAS BEEN PERFORMED ---

THE EVIDENCE

What actually did happen?

THE RESOLUTION

Why did it happen this way?

CORRECT DIAGRAM

Show the path (trajectory) that the fired bullet *actually* follows.

'BLAM!'

