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

**CONCEPTUAL PHYSICS: Projectile and Free Fall Activity**

We have studied objects in free fall and understand how the acceleration of gravity affects them. **But what happens if an object is not just dropped, but is pushed off the edge of a table (or cliff) with some initial horizontal velocity?**

You are going to investigate this question by pushing two pennies off the side of a table. Formulate a hypothesis to predict which penny will hit the floor first. Use an ‘if…., then…’ format for your hypothesis.

**Hypothesis**: I predict that if \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Materials needed**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Procedure: (The procedure is given on page 35 of your textbook and repeated here).**

**Step 1:** Place a coin at the edge of a smooth table so that it hangs over slightly.

**Step 2:** Place a second coin on the same table about 30 cm from the table edge and first coin.

**Step 3:** Push the second coin so that it slides into the first coin and both coins go over the table edge.

**Step 4:** Observe and record which coin hits the floor first.

**Step 5:** Repeat the above steps and try to determine if the speed of the sliding coin affects which coin hits the floor first.

Record the data from each trial and write your conclusions.

**Data:**

**Conclusion:**