WJEC Wales Physics GCSE
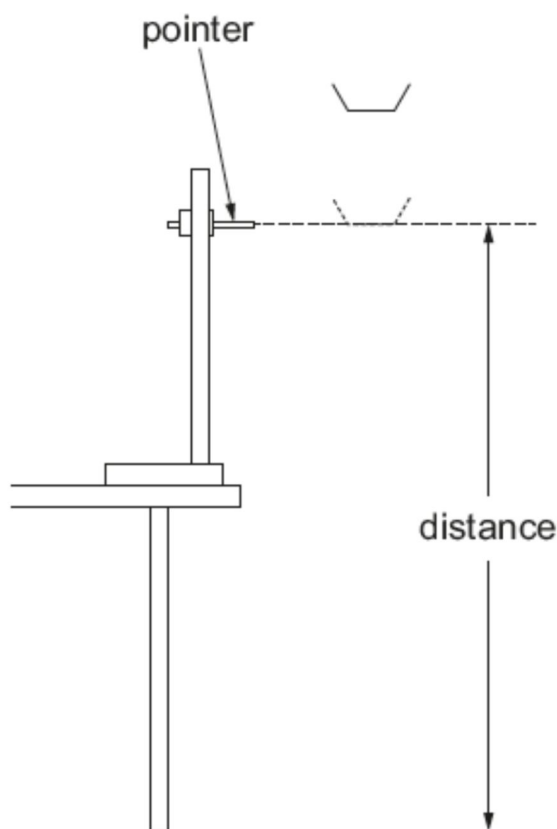
SP2.2: Terminal Speed

Practical Notes

Investigation of the terminal speed of a falling object

Equipment

- 6x paper cupcake cases
- Stopwatch
- 2x metre rulers
- Clamp stand, clamp and boss
- Pointer (e.g. a splint)

Diagram

Method

1. Clamp the pointer a reasonable height above the floor (e.g. 150 cm) and measure this accurately with the metre ruler.
2. Drop the case from a reasonable distance above the pointer (e.g. 20 cm) and record the time taken for the case to fall from the pointer level to the floor.
3. Repeat this four times and calculate an average.
4. Repeat this experiment with stacks of 2, 3, 4, 5, and 6 cases instead of individual ones.
5. Use the formula $speed = \frac{distance}{time}$ to calculate the average terminal speed (using the distance and average time taken) of each case stack.
6. Plot a graph of the number of cake cases against the terminal speed.