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Serial: 24

Pre-lab 2:

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1. Consider a ball of mass 0.050 kg release from 0.85 m height, what velocity does the ball will attain when it hits the floor?

Velocity, $v = \sqrt{2gh}$

Here, $g = 9.8\ ms^{-2}$

$h = 0.85m$

$= \sqrt{2 \times 9.8 \times 0.85}\ ms^{-1}$

$= 4.08\ ms^{-1}$ <ans.>

2. In a bouncing ball lab experiment what do you expect about the bounce height of the ball?

In a bouncing ball lab experiment, the bounce height of the ball will always be less than the drop height. This is because when the ball hit the ground, there it makes collision and some energy lose like sound, heat, and deformation

3. Without air resistance, the ball is still not be able to bounce to its original drop height, why?

Even if there is no air resistance, the ball is still not able to bounce to its drop height. Because we know, when K.E = P.E, we can say that, the energy is conserved. But during collision of ball with the floor, the system lose some energy as sound, heat, deformation and that's why, not all K.E converts to P.E. So, it can not reach the drop height.

4. Name some factors that would affect the bounce height.

Factor that would affted the bounce height,

i) Drop height
ii) Material of ball
iii) Mass and shape of the ball
iv) Temparature
v) Surface roughness
vi) Rotation or angle of impact
vii) Air resistance