

Problem 7 - Red or Blue ?

Category : Physics + Electronics

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Three balls (named 1, 2 and 3 in Fig.1) are thrown from a height 'h' as shown in Fig.1 on a rod hinged at the center. The coefficient of restitution (e) between the balls and rod is 0. Based on the given information, answer the question parts below.

(Given $\rightarrow m_1 : m_2 : m_3 = 3 : 2 : 1$)

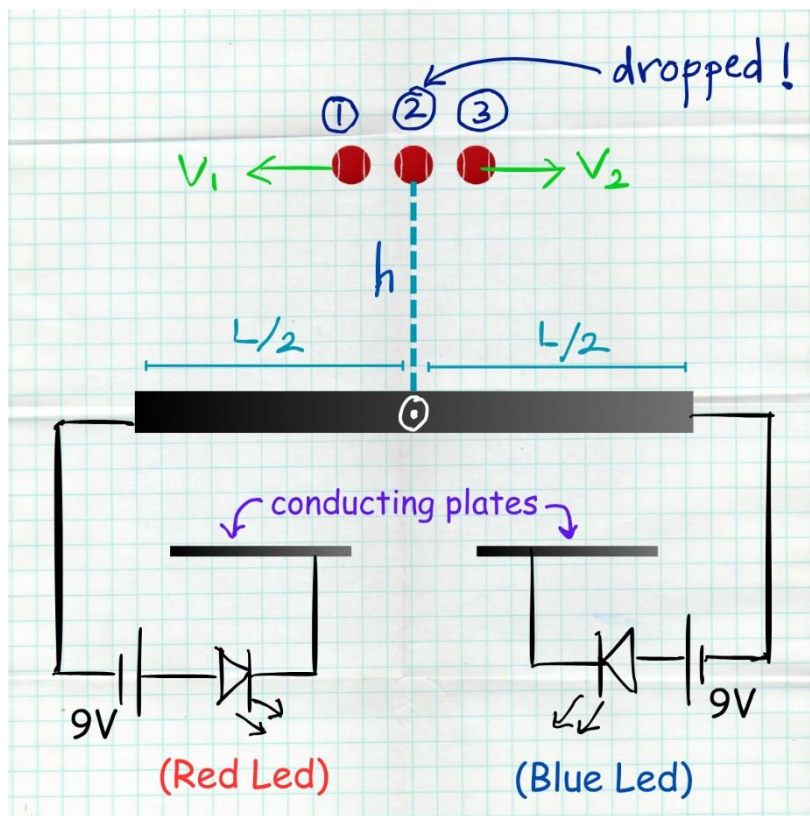


Fig.1 (Setup - Problem 7)

Question Parts :

(a) Find the resistance of the conducting rod in order to glow respective LEDs safely.

Given:

- Forward Voltage (Red) = 2 V
- Forward Voltage (Blue) = 3.5 V

(b) List down the cases in which red light will be turned ON and do the same for blue LED.

(c) Is there any chance that none of the two LEDs might get turned ON ?

Reference Article : <https://physicsandelectronics.com/dealing-with-resistors/>

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YouTube : The Physics Tactics