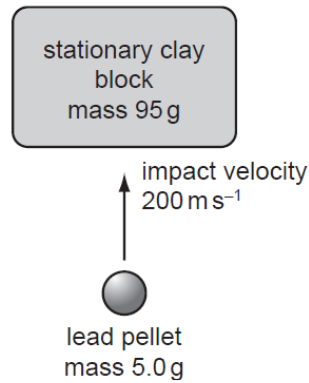


6

A lead pellet is shot vertically upwards into a clay block that is stationary initially but is able to rise freely after impact. The mass of pellet is 5.0 g and the mass of clay block is 95 g.



The pellet hits the block with an initial velocity of 200 m s^{-1} . It embeds itself in the block and does not emerge.

How high above its initial position will the block rise?

A

5.1 m

B

10 m

C

61 m

D

102 m