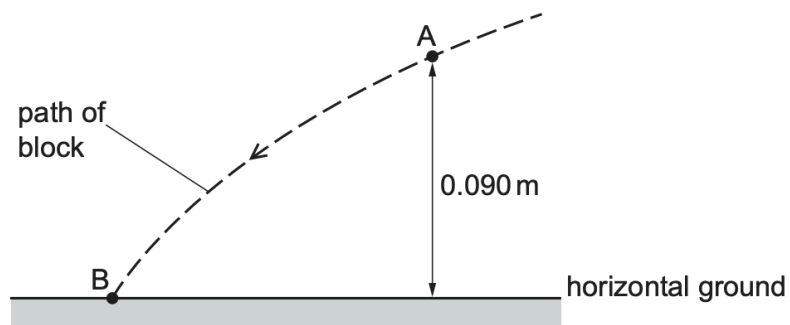


1.

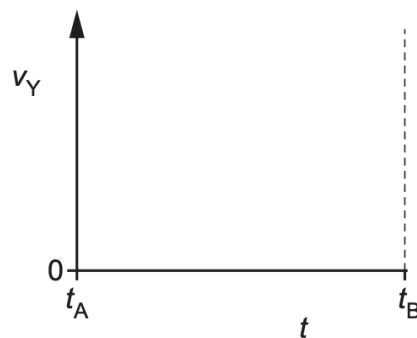


By reference to the force on the block, explain why the horizontal component of the velocity of the block remains constant as it moves from A to B.

- Resultant force acting on the block is in the vertical direction

The block passes through point A at time t_A and arrives at point B at time t_B .

On Fig. 2.3, sketch a graph to show the variation of the magnitude of the vertical component v_Y of the velocity of the block with time t from $t = t_A$ to $t = t_B$. Numerical values of v_Y are not required.



- straight line with positive gradient starting from non-zero value of v_Y at time t_A to a time t_B

2. Define velocity

- Change in displacement / time taken

3. Define displacement from a point

- distance from the point in a straight line in a given direction