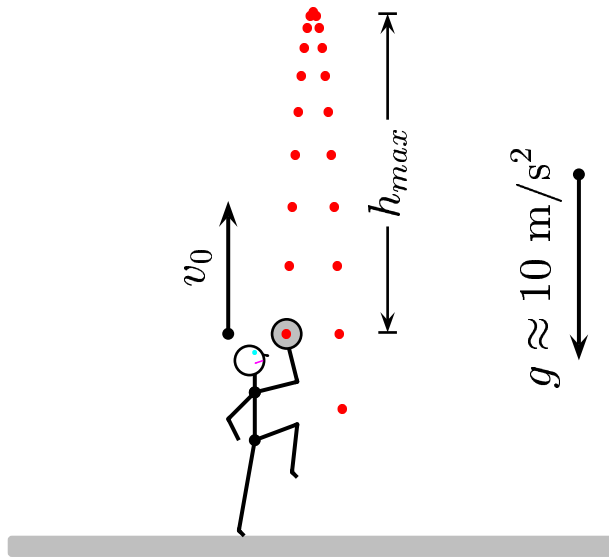


Given: A stone is thrown upward and at the tip-pity top of its path its vertical velocity is momentarily zero.



What is its acceleration at this point?

- A) $a_{top} = 9.8 \text{ m/s}^2$ and is directed down.
- B) $a_{top} = 0 \text{ m/s}^2$ and its directed is undetermined.
- C) $a_{top} = 9.8 \text{ m/s}^2$ and is directed up.

Near the surface of the Earth, for all practical purposes the gravitational acceleration is constant, which is 9.8 m/s^2 and is directed downward.

To illustrate how it works, let us take for example an upward initial velocity of 9.8 m/s . One second later the velocity will be zero. Two seconds later the velocity will be -9.8 m/s . In other words, in each second the velocity is decreased by 9.8 m/s .

Answer A.

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