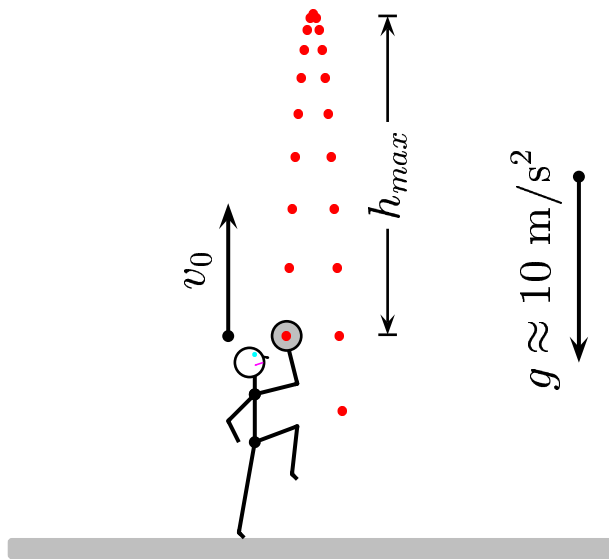


Given: A stone is thrown upward and at the tip-pity top of its path its vertical velocity is momentarily zero.



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 and upward initial velocity of 9.8 m/s^2 . One second later the velocity will be zero. Two seconds later the velocity will be -9.8 m/s^2 . In other words, in each second the velocity is decreased by 9.8 m/s .

Answer **A**.