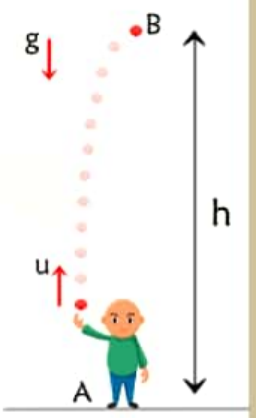
MOTION UNDER GRAVITY

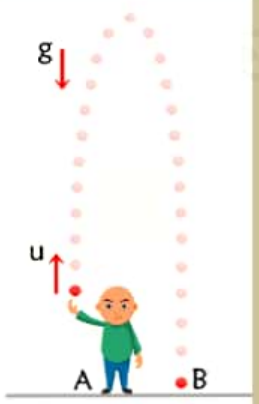


Sign Conventions

u = +ve
h = +ve
v = 0
a = −g

Equation of motion

$h = ut - 1/2gt^2$
$0 = u - gt$
$0^2 = u^2 - 2gh$

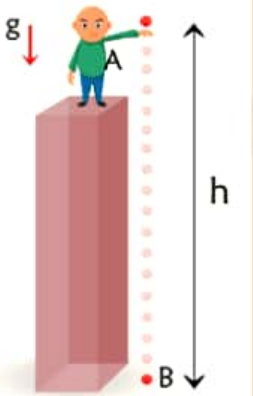


Sign Conventions

u = +ve
h = 0
v = −ve
a = −g

Equation of motion

$0 = ut - 1/2gt^2$
$-v = u - gt$
$v^2 = u^2 - 2g(0)$

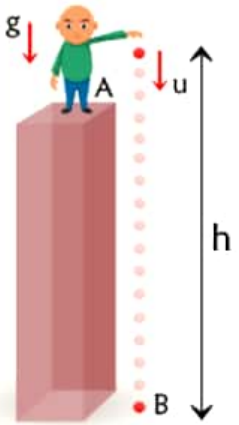


Sign Conventions

u = 0
h = −ve
v = −ve
a = −g

Equation of motion

$-h = 0(t) - 1/2gt^2$
$-v = 0 - gt$
$v^2 = (0)^2 + 2gh$
$v = \pm\sqrt{2gh}$

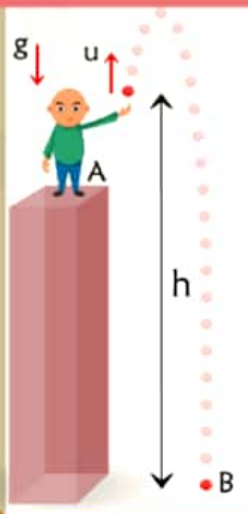


Sign Conventions

u = −ve
v = −ve
a = −g
h = −ve

Equation of motion

$-h = -ut - 1/2gt^2$
$-v = -u - gt$
$v^2 = u^2 + 2gh$



Sign Conventions

u = +ve
v = −ve
a = −g
h = −ve

Equation of motion

$-h = ut - 1/2gt^2$
$-v = u - gt$
$v^2 = u^2 + 2gh$