DO NOW

$v = -10$ m/s, $a = 3$ m/s^2

$v = 8$ m/s, $a = 3$ m/s^2

Which car is moving faster?

Which car will increase its velocity in the next second?

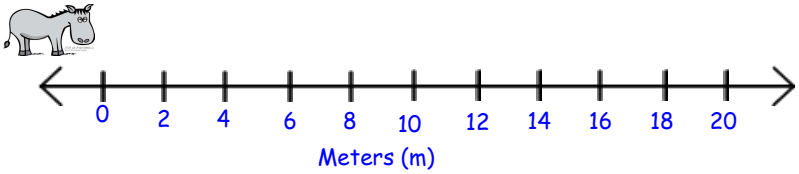
HW: 1) d = 86.4m, 5) vf = 405.3 m/s, 6) d = 1117.2m, 8) vf = 24.9 m/s, t = 2s

FREE FALL

Upward Motion

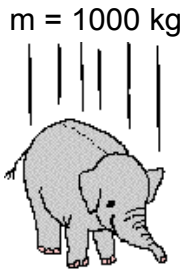
Nicole throws her dog up in the air and gives him an initial velocity of 19.6 m/s. When will nicole hopefully catch her dog again?

LINEAR MOTION



Example 1:
A bullet is fired upwards at 100 m/s.
What is its maximum height?

Free Fall Examples:



A 0.5 kg mouse is dropped from the top of a cliff.

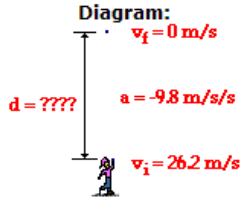
How fast will it travel after 5 seconds?

How soon after the mouse is released can the elephant be released so that they both hit the ground at the same time?

Free Fall Examples:

Rex Things throws his mother's crystal vase vertically upwards with an initial velocity of 26.2 m/s. Determine the height to which the vase will rise above its initial height.

Diagram:



Find:

d = ??