Free Fall Motion

Free Fall Displacement and Velocity

Free Fall Displacement

- Vi = 0 m/s   need to know:
- A = 9.8 m/s/s   Displacement
- t = 1 s, 2 s, 3 s

- D = Vi x t + ½ x A x t^2
-      =   0   + 4.9 x t^2
- So, 1 s gives 4.9 m; 2 s gives 19.6 m; 3 s gives 44.1 m

Free Fall Velocities

- Vi = 0 m/s   Need to know Vf

- A = 9.8 m/s/s

- T = 1 s, 2 s, 3 s

- Vf = Vi + (A x t) = 0 + (A x t)

- For 1 s, Vf = 9.8 m/s; for 2 s, Vf = 19.6 m/s; for 3 s, Vf = 29.4 m/s

Group Activity for Free Fall

- Determine both the Free Fall Displacement and the Vf on the moon.

- Vi = 0 m/s   need to know: D & Vf

- A = 1.6 m/s/s

- t = 1 s, 2 s, 3 s

Free Fall Motion on the moon

Displacement

- 1 s, D = 0.8 m
- 2 s, D = 3.2 m
- 3 s, D = 7.2 m

Vf

- 1 s, Vf = 1.6 m/s
- 2 s, Vf = 3.2 m/s
- 3 s, Vf = 4.8 m/s