



A free-body diagram of a particle. A central black dot represents the particle. A long vertical arrow points upwards from the dot, labeled F_N to its right. A long vertical arrow points downwards from the dot, labeled mg to its right. To the right of the dot, there is a shorter vertical arrow pointing downwards, labeled v to its right, and another shorter vertical arrow pointing upwards, labeled a to its right.

F_N

mg

v

a