# **Getting Ready for Physics Class**

You are a physics teacher preparing for the upcoming semester. You want to provide your students with some functions that will help them calculate some fundamental physical properties.

train\_mass = 22680

train\_acceleration = 10

train\_distance = 100

bomb\_mass = 1

#Turn up the Temperature

def f\_to\_c(f\_temp):

return (f\_temp - 32) \* 5/9

f100\_in\_celsius = f\_to\_c(100)

def c\_to\_f(c\_temp):

return (c\_temp \* 9/5) + 32

c0\_in\_fahrenheit = c\_to\_f(0)

#Use the Force

def get\_force(mass, acceleration):

return mass\*acceleration

#Test get\_force

train\_force = get\_force(train\_mass, train\_acceleration)

#Print results of train\_force

print("The GE train supplies " + str(train\_force) + " Newtons of force.")

#Define the fuction called get\_energy

def get\_energy(mass, c = 3\*10\*\*8):

return mass\*c\*\*2

bomb\_energy = get\_energy(bomb\_mass)

print("A 1k bomb supplies " + str(bomb\_energy) + " Joules.")

#Do the work

def get\_work(mass, acceleration, distance):

force = get\_force(mass,acceleration)

return force \* distance

train\_work = get\_work(train\_mass, train\_acceleration, train\_distance)

#Test code

print("The GE train does " + str(train\_work) + " Joules of work over " + str(train\_distance) + " meters.")

print("The GE train does " + str(train\_work) + " Joules of work over " + str(train\_distance) + " meters.")