

## The Weight Conundrum

### Question:

Under the laws of physics you can only get out what you put in, so 1 litre of petrol weighs 1 kilo. How can it produce 2.3kg by product (CO<sub>2</sub>).

### Answer

Petrol is a hydro-carbon fuel. This means its molecules consist of hydrogen atoms and carbon atoms. When you burn the petrol those atoms combine with the oxygen atoms of the air. Two hydrogen atoms will combine with one oxygen atom to form H<sub>2</sub>O (water in its gaseous form) - but each one of the carbon atoms will combine with two oxygen atoms. So the produced CO<sub>2</sub> will have more than triple the mass of the carbon atoms of the amount of petrol burned.

You can first subtract the mass of the hydrogen atoms in the amount of petrol (because this does not produce any CO<sub>2</sub>) and then multiply the remaining mass of carbon atoms with 3.67 and you will get the mass of CO<sub>2</sub>

You see, even when 1 litre of petrol has only a mass of 0.75kg, the 2.3kg of produced CO<sub>2</sub> is reasonable without "reinventing the laws of physics"

Please note: This is an extract from <http://answers.yahoo.com>