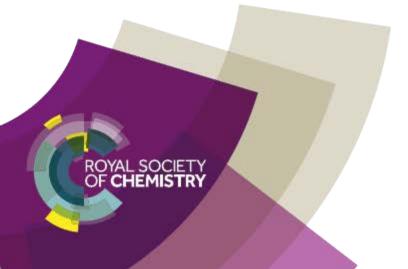# Making fertiliser from cooking oil

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1. Find nitrogen, phosphorus and potassium on the periodic table. Which are metals and which are non-metals?
2. Phosphorus is usually present in fertiliser as phosphate. What is the chemical formula for the phosphate ion?
3. Tomato plant fertiliser is usually high in potassium and the ratio of the elements is described as N:P:K = 4:5:8 (ratio by weight). If you have 6 kg of nitrogen in the fertiliser, what would be the masses of each of the other elements?

Q3 Use of a bar model to visualise the ratio   N : P : K = 4 : 5 : 8

$6 \div 4 = 1.5$ therefore $4 \times 1.5 = 6$. All the other values in the ratio are scaled up by the same factor. So $5 \times 1.5 = 7.5$ and $8 \times 1.5 = 12$.

x 1.5   4
        6

x 1.5   5
        x = 7.5

x 1.5   8
        y = 12