**Unit Conversion Practice Exercises**

For each of the following problem statements identify

1. The unknown amount and its unit
2. The initial amount and its unit
3. The conversion factors and their units

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| --- | --- | --- | --- |
| Question | Unknown | Initial amount | Conversion Factors |
| 1. If a chemical costs $50 per gram, what is the cost of 100g of the chemical? | # dollars | 100g | $50 and 1 g  1 g $50 |
|  | | | |
| 2. If a USB drive cost $24.00 for 4 USBs. How many USB drives can you buy for $36? |  |  |  |
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| 3. Cork has a density of 0.35g/mL. What is the volume of 20g of cork? |  |  |  |
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| 4. If 3 kiwi fruit sell for $1, how many kiwi fruit can you buy for $5? |  |  |  |
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| 5. If 4 bims are worth 5 tuds, how many bims can you buy for 30 tuds? |  |  |  |
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| 6. A farmer trades 2 cows for 7 goats. At this rate, how many goats can he get for 10 cows? |  |  |  |
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| 7. One mole of oxygen has a mass of 32g. What is the mass of 5.5 moles of oxygen? |  |  |  |
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| 8. One molecule of sulphur contains 8 sulphur atoms. How many sulphur molecules can be made to form 104 sulphur atoms? |  |  |  |
|  | | | |
| 9. How long does it take an electrical current of 35 coulombs/sec flow in order to deliver 200 coulombs? |  |  |  |
|  | | | |
| 10. What temperature increase is caused by 100 kJ of heat if 4.18kJ cause 1oC increase in temperature? |  |  |  |
|  | | | |

Putting it together. For each question above, now create the unit conversion calculation and find the answer including the units.

# dollars = 100g x $50 = $5000

1 g

This method of unit conversion may seem a little awkward at first, but later it will allow you to solve some complicated problem in one line. Also, it is “Self Checking”, allowing you to check the “correctness” of your results.

The General form of a unit conversion calculation is shown below:

INITIAL AMOUNT) X CONVERSION FACTOR = UNKNOWN AMOUNT