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| **Skill 9.01 Exercise 1** | |
| 1. What is the mass in amu of 1 helium-4 atom? | What is the mass in g of 1 helium-4 atom? |
| 1. What is the mass in amu of 1 nitrogen-14 atom? | What is the mass in g of 1 nitrogen-14 atom? |
| 1. What is the mass in grams of 6.022 x 1023 helium-4 atoms? | |
| 1. What is the mass in grams of 6.022 x 1023 nitrogen-14 atoms? | |

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| **Skill 9.02 Exercise 1** |
| 1. How many dozens of atoms are 24 hydrogen atoms? |
| 1. How many dozens of atoms are 2.44 x 1022 carbon atoms? |
| 1. How many moles of atoms are in 6.022 x 1023 hydrogen atoms? |
| 1. How many moles of atoms are 1.2044 x 1024 carbon atoms? |
| 1. How many atoms of helium are in .50 moles? |



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| **Skill 9.03 Exercise 1** | | | |
| (a) What is the mass of 6.022 x 1023 atoms of the following: | | | |
| (i) helium | (ii) nitrogen | (iii) oxygen | (iv) boron |
| (b) What is the mass of 1 mole of the following: | | | |
| (i) sodium | (ii) magnesium | (iii) neon | (iv) calcium |
| How many moles is in each of the following: | | | |
| (i) 40. g argon | (ii) 6 g of carbon | (iii) 7 g of nitrogen | (iv) 32 g of oxygen |
| How many atoms is in each of the following | | | |
| (i) 14 g of nitrogen | (ii) 40. g of argon | (iii) 32 g of oxygen | (iv) 12 g of magnesium |