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| **Skill 8.01 Exercise 1** |
| A 101.96 g sample of a compound of aluminum and oxygen is 47.1% by mass oxygen. |
| What is the percent by mass of aluminum in this compound? |
| Of the 101.96 g of this compound, how many grams are aluminum? |
| Of the 101.96 g of this compound, how many grams are oxygen? |

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| **Skill 8.01 Exercise 2** |
| Two compounds of iodine (I) and chlorine (Cl) are analyzed. Compound A consists of 126.9 g of I and 35.45 g of Cl. Compound B consists of 126.9 g of I and 106.4 g of Cl. |
| What is the percent composition of each element in compound A? |
| What is the percent composition of each element in compound B? |

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| **Skill 8.02 Exercise 1** |
| Consider Dalton’s laws. Which of his laws are still true today? Which are no longer true? Explain. |



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| **Skill 8.03 Exercise 1** |
| The picture below depicts J.J. Thompson’s Cathode Ray experiment. The solid line running through the tube shows the trajectory of a cathode ray in the tube. Which of the following is a conclusion that can be drawn from this experiment? |
| Rutherford’s experiment measured scattering of positively charged alpha particles by a piece of gold foil. The arrows represent the deflected particles. Which of the following is a conclusion that can be drawn from this experiment? |

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| **Skill 8.04 Exercise 2** |
| For the atom below, identify the element, the number of protons, and the number of electrons |

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| **Skill 8.05 Exercise 1** |
| For the atom below, identify the element, the number of protons, and the number of electrons |
| What is the approximate mass of the element shown? |

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| **Skill 8.06 Exercise 1** |
| If atom A contains 18 protons and 22 neutrons, while atom B contains 18 protons and 20 neutrons, what can be concluded about atoms A and B? |

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| **Skill 8.07 Exercise 1** |
| What do these have in common? |