Name_____ Date_____

The Role of Atomic Mass in Density

If the mass of atoms were the only cause of density, which of each pair below would you expect to be denser? Circle the one in each pair that you think is **denser**. Use the information on Table A to help you.

1. Iron or Lead?
2. Iron or Aluminum?
3. Iron or Silver?
4. Iron or Gold?
5. Lead or Aluminum?
6. Lead or Silver?
7. Lead or Gold?
8. Aluminum or Silver?
9. Aluminum or Gold?
10. Silver or Gold?

Table A: Atomic Number and Mass Number

Element	Symbol	Atomic #	Mass #
Aluminum	Al	13	27
Iron	Fe	26	56
Silver	Ag	47	108
Gold	Au	79	197
Lead	Pb	82	207

Now, check each pair on the density table to see which is denser.

1. Iron or Lead?
2. Iron or Aluminum?
3. Iron or Silver?
4. Iron or Gold?
5. Lead or Aluminum?
6. Lead or Silver?
7. Lead or Gold?
8. Aluminum or Silver?
9. Aluminum or Gold?
10. Silver or Gold?

Did your predictions about density using the mass of atoms agree (for the most part) with the numbers on the density table?

Were there any pairs where your predictions didn't match up? What do you think is going on?

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