

The Periodic Table

1.) Predict the properties of the unknown element using the properties of its neighbours and whatever mathematical methods seem appropriate. If Mendel could do it, so can you!

Atomic mass Density ($\frac{g}{mL}$) Density of oxide ($\frac{g}{mL}$) Formula of chloride Density of chloride ($\frac{g}{mL}$) Colour Lustre	Al	27.1 2.70 3.97 $AlCl_3$ 2.44 Silvery white metallic	Si	28.1 2.33 2.65 $SiCl_4$ 1.48 Grey metallic	P	31.0 1.82 2.14 PCl_3 (l), PCl_5 (g) 1.57 (liquid) Pale yellow waxy
Atomic mass Density ($\frac{g}{mL}$) Density of oxide ($\frac{g}{mL}$) Formula of chloride Density of chloride ($\frac{g}{mL}$) Colour Lustre	Ga	69.7 5.90 5.88 $GaCl_3$ 2.47 Silvery metallic	???????? ????????		As	74.9 5.73 3.87 $AsCl_3$ 2.16 Steel grey Dull metallic
Atomic mass Density ($\frac{g}{mL}$) Density of oxide ($\frac{g}{mL}$) Formula of chloride Density of chloride ($\frac{g}{mL}$) Colour Lustre	In	114.8 7.31 7.18 $InCl_3$ 3.46 Silvery white metallic	Sn	118.627.1 7.28 6.95 $SnCl_2$, $SnCl_4$ 3.95, 2.23 Silvery white metallic	Sb	121.8 6.69 5.67 $SbCl_3$, $SbCl_5$ 3.14, 2.34 Bluish-white metallic

2.) State the chemical family or group to which each of the following elements belongs.

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| a.) radon | c.) iodine | e.) calcium | g.) zinc |
| b.) iron | d.) lithium | f.) cesium | h.) chlorine |

3.) Give the symbol for two other elements in the same family as the following:

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| a.) Na | b.) Ar | c.) Mg | d.) Br |
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4.) Give the symbols for two other elements in the same period as the following:

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| a.) C | b.) S |
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