

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

### Identifying Chemicals

Study the table below carefully.

Characteristics of 4 Elements

Property	Aluminum	Tin	Magnesium	Lead	Cobalt
Density	2.7 g/ml.	7.3 g/ml	1.74 g/ml	11.4 g/ml	8.9 g/ml
Boiling Point	2740 K	2876 K	1363 K	2023 K	3200 K
Freezing Point	933.25 K	505.06 K	922 K	600.6 K	1768 K
Color	Dull Silver	Dull Silver	Silvery	Dull Grey	Grey
Crystal	Cubic	Tetragonal	Hexagonal	Cubic	Hexagonal

Tetragonal – 4 sided polygon

Hexagonal - 6 sided polygon

Cubic – 4 sided , but equal length polygon

Below are the characteristics of an 3 unknown elements. Using the information above, determine which of the 5 elements profiled is the unknown. **Provide reasoning for your decision.**

Element A:

This dull, cubic crystal floats in a pool of molten tin, but sinks in a pool of magnesium.

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Element B:

This dull, 6 – sided element will melt in molten magnesium and a 1 gram piece takes up the least amount of space of all the elements listed.

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Element C:

This grey element will not melt in molten aluminum but will sink in the molten aluminum

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