Grade Level/Course:
Grade 8 / Physical Science

Lesson/Unit Plan Name:
Periodic Table Symbols

Rationale/Lesson Abstract:
This is a fun activity to be used as an introduction to the symbols on the Periodic Table. Students are given a picture, and then must use the symbols on the Periodic Table to put together a word to describe it. They are then shown actual formulas for compounds and must identify the elements that are present.

Timeframe:
1 class period

Standard(s):

Structure of Matter

3. Each of the more than 100 elements of matter has distinct properties and a distinct atomic structure. All forms of matter are composed of one or more of the elements. As a basis for understanding this concept:

   b. *Students know* that compounds are formed by combining two or more different elements and that compounds have properties that are different from their constituent elements.

   f. *Students know* how to use the periodic table to identify elements in simple compounds.

Instructional Resources/Materials:

- Students will need a Periodic Table. One version is provided below.
- Handout is provided below.

Activity/Lesson:
This is an introduction to the symbols on the Periodic Table. Students will become more familiar with the elements and their corresponding symbols.

Background information to present might include naming conventions. Element symbols usually fall into one of a few categories:

- The first letter of the element, e.g. 'H' for Hydrogen.
- The first two letters of the element, e.g. 'He' for Helium
- The first and third letters of the element, e.g. 'Mg' for Magnesium.
- Letters from the Latin word for the element, e.g. 'Au' for Gold (*aurum*).

Students should also be reminded of the importance of always capitalizing the first letter of the symbol, and leaving the second letter lower case. Each capital letter in a chemical formula will represent a new element, e.g. $CaCO_3$ includes the elements Calcium (Ca), Carbon (C), and Oxygen (O). 'Co' represents Cobalt, and is distinguishable from Carbon and Oxygen due to the second letter in lower case.

Assessment:
Practice handout and Periodic Table below.

Periodic Table Symbols

Use the symbols on the Periodic Table to describe each image. Use upper and lower case exactly as shown on the Periodic Table. There may be more than one correct answer.

Ex. 

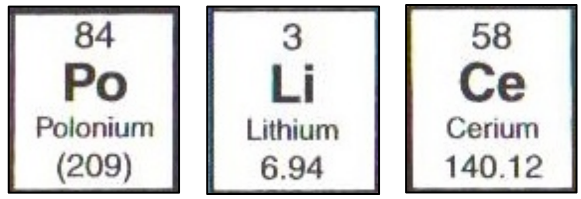
P o L i C e

Elements:

Polonium (Po)

Lithium (Li)

Cerium (Ce)



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Elements:

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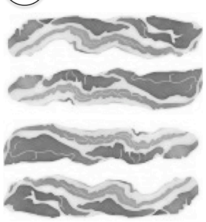

Elements:

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Elements:

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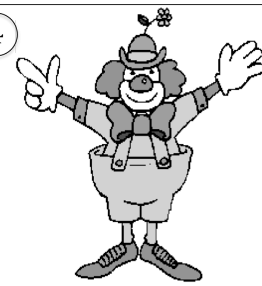

Elements:

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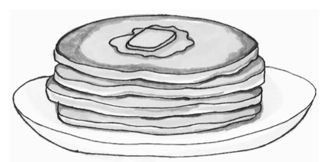

Elements:

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Elements:

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Which elements do you see in these formulas for actual compounds?

Rust (Fe_2O_3)
Elements:

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Salt (NaCl)
Elements:

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Copper sulfate ($CuSO_4$)
Elements:

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Baking soda ($NaHCO_3$)
Elements:

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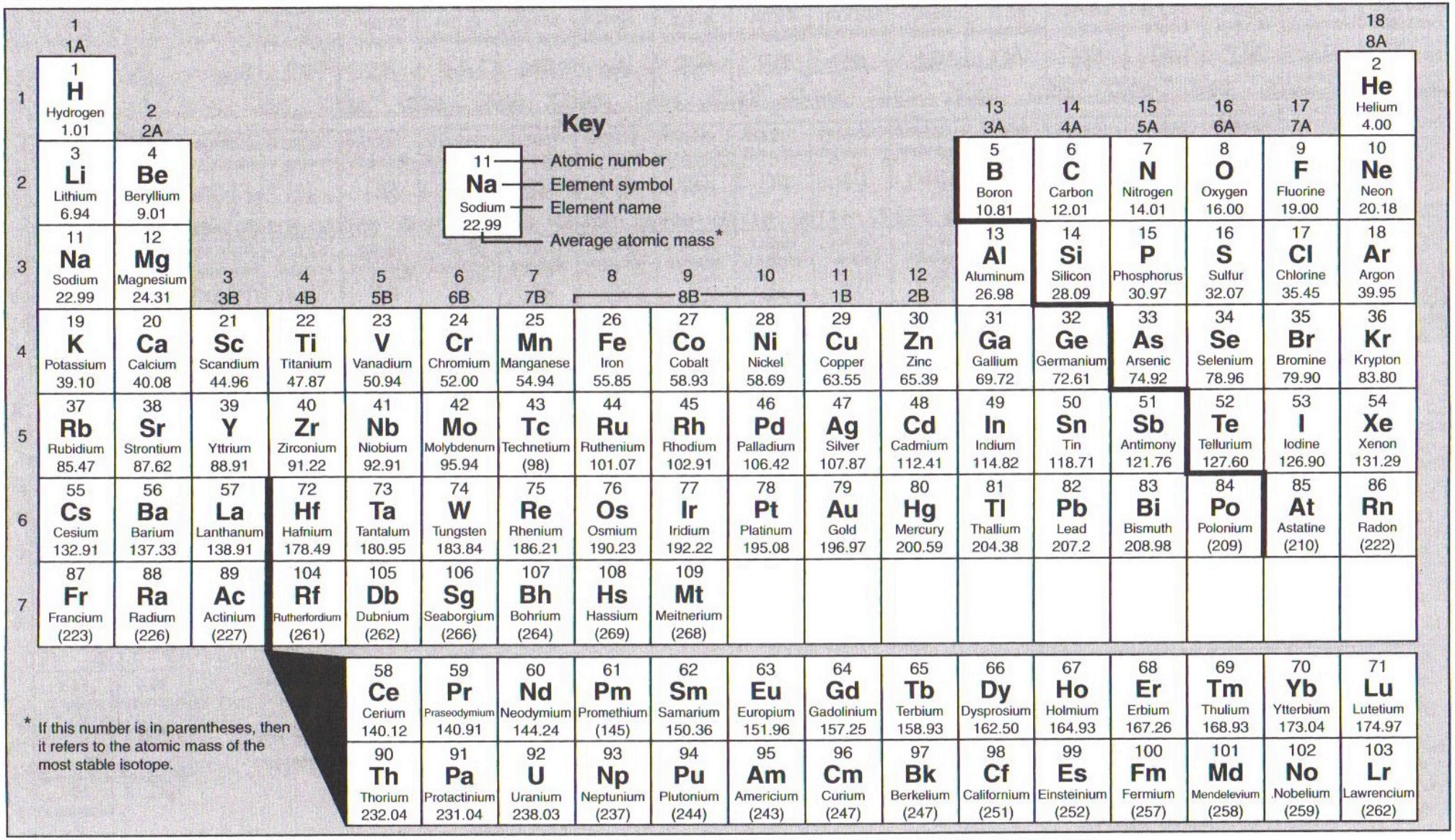
Periodic Table of the Elements



* If this number is in parentheses, then it refers to the atomic mass of the most stable isotope.