



Idea Bank

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Presidential "Periodic Table"

In chemistry classes, two of the first things students typically learn are the names and symbols for the chemical elements. Oral recitation is one strategy commonly used to teach this information, but games and puzzles can make the learning process more creative and enjoyable for students. The Presidential "Periodic Table" is an engaging activity that encourages high school chemistry students to match the names of elements with their chemical symbols in order to spell out the names of the 43 U.S.

presidents. By completing the puzzle, students reinforce their knowledge of both chemical elements and the names and chronological order of the American presidents.

In this activity, a periodic table displays U.S. presidents, rather than chemical elements (Figure 1). The only clues students are given to solve this puzzle are a series of blank spaces, element names, and each president's chronological number (Figure 2, pp. 70-71). In order to uncover the presidents' names, students must find the symbols that correspond to the element names given as clues and then rearrange these symbols to spell












































out each president's name. Symbols can be used more than once in this activity, and having to unscramble them provides an added challenge for students.

For example, the clue for the first president is "___ R ___ _ _ _ _ _ _ G _ _ _" (arsenic, tungsten, nitrogen, hydrogen, oxygen, tritium, iodine, germanium)." By identifying the chemicals symbols (As, W, N, H, O, T, I, Ge, respectively), students then unscramble them to discover the answer: **GeORGE WASHINGTON**. The second president is "J _ _ _ A _ _ _ _" (sulfur, americium, deuterium, nitrogen,

FIGURE 1

Presidential "Periodic Table."

Note that presidential pictures do not correspond to actual chemical elements, but are arranged chronologically to add interest to the activity. See answer key (Figure 3, p. 72).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
 1789-1797																	 1797-1801	
 1801-1809	 1809-1817											 1817-1825	 1825-1829	 1829-1837	 1837-1841	 1841-1841	 1841-1845	
 1845-1849	 1849-1850											 1850-1853	 1853-1857	 1857-1861	 1861-1865	 1865-1869	 1869-1877	
 1877-1881	 1881-1881	 1881-1885	 1885-1889	 1889-1893	 1893-1897	 1897-1901	 1901-1909	 1909-1913	 1913-1921	 1921-1923	 1923-1929	 1929-1933	 1933-1945	 1945-1953	 1953-1961	 1961-1963	 1963-1969	
 1969-1974	 1974-1977	 1977-1981	 1981-1989	 1989-1993	 1993-2001	 2001-2009												



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FIGURE 2

Clues (scrambled).

1	R _____ G _____ (arsenic, tungsten, nitrogen, hydrogen, oxygen, tritium, iodine, germanium)
2	S _____ A _____ (sulfur, americium, deuterium, nitrogen, oxygen, hydrogen)
3	M _____ JE _____ (oxygen, arsenic, thorium, fluorine, nitrogen, sulfur, erbium)
4	J _____ MA _____ (nitrogen, oxygen, americium, einsteinium, sulfur, iodine, deuterium)
5	J _____ M _____ R _____ E _____ (einsteinium, oxygen, nitrogen, americium)
6	J _____ Q _____ A _____ (uranium, iodine, nitrogen, carbon, yttrium, hydrogen, oxygen, sulfur, deuterium, americium)
7	A _____ J _____ (actinium, nitrogen, potassium, deuterium, sulfur, rhenium, oxygen, tungsten)
8	M _____ A _____ (argon, nitrogen, titanium, rhenium, uranium, boron, vanadium)
9	_____ L _____ R _____ _____ R _____ (hydrogen, argon, iodine, nitrogen, oxygen, sulfur, yttrium, helium, americium, lithium, tungsten)
10	J _____ L _____ (erbium, yttrium, tritium, nitrogen, oxygen, hydrogen)
11	J _____ X _____ L _____ (phosphorus, oxygen, potassium, nitrogen, einsteinium, americium)
12	Z _____ L _____ R _____ (tantalum, yttrium, oxygen, argon, actinium, hydrogen)
13	M _____ L _____ R _____ LLM _____ (lanthanum, deuterium, iodine, fluorine, oxygen, rhenium)
14	_____ _____ (cerium, erbium, iodine, phosphorus, nitrogen, lithium, potassium, radium, fluorine)
15	J _____ A _____ (sodium, nitrogen, carbon, uranium, americium, hydrogen, boron, einsteinium)
16	A _____ L _____ (cobalt, lithium, nitrogen, boron, americium, hydrogen, radium)
17	A _____ J _____ (tungsten, rhenium, deuterium, nitrogen, oxygen, sulfur, hydrogen)
18	_____ I _____ M _____ G _____ (silicon, phosphorus, sulfur, nitrogen, oxygen, uranium, yttrium, selenium, tritium, radium)
19	_____ R _____ A _____ (hydrogen, yttrium, einsteinium, argon, deuterium, carbon, iridium, boron, oxygen, fluorine, ruthenium, erbium, thorium)
20	J _____ A _____ EL _____ (bromine, americium, gallium, rutherfordium, iodine, deuterium, einsteinium)
21	_____ A _____ R _____ (uranium, argon, thorium, erbium, tritium, sulfur, helium, carbon, nitrogen, lanthanum)
22	GR _____ E _____ E _____ (oxygen, vanadium, erbium, neodymium, lanthanum, chlorine)

