

Elemental Puzzler

All the elements known have been produced in stars. Even the elements that make up you were created deep in the hearts of stars. Do you think you know your elements? Do this crossword puzzle and see. Then conduct research to answer the questions on this page. All answers can be found in your completed puzzle.

ACROSS

- 1 the main ingredient in table salt
- 3 named after the scientist who discovered dynamite
- 7 used in making advertising signs
- 10 when coupled with oxygen, this element makes a compound essential for life
- 11 occupies the last place in the zero group of gases
- 13 used to make balloons float
- 14 radioactive rare earth metal named after Albert Einstein
- 17 an essential component of leaves, bones, teeth, and shells
- 18 used as an explosive ingredient in nuclear weapons
- 21 the key component of carbohydrates in foods like pasta
- 23 the ___ cycle is one of the most important processes in nature for living organisms
- 24 named for the village of Ytterby, Sweden
- 25 atomic number is 54
- 26 atomic weight is 126.9045

DOWN

- 1 has the highest electrical and thermal conductivity of all metals
- 2 discovered in 1886 by Lecoq de Boisbaudran
- 4 also called glucinium
- 5 element pictured in the lower right-hand corner of crossword
- 6 the heaviest (as yet unconfirmed) element found, announced in February 2004
- 8 common component of sparklers
- 9 poison used in many mystery novels
- 12 heavier than tungsten, lighter than osmium
- 15 found in a firework's fuel
- 16 All that glitters is not ___
- 19 makes up most of a human body's mass
- 20 key component of hemoglobin
- 22 helps form the household-cleaning compound borax

Questions

Write your answers on a separate sheet of paper.

- 1 What are the five most abundant elements that make up atomic matter in the universe and in what approximate percentages do they occur?
- 2 State three facts about hydrogen's role in the universe.
- 3 Two elements in your crossword puzzle combine to make ammonia, which is found in cold interstellar gas clouds. What are the two elements?
- 4 A star burns throughout its life and releases energy. During this process, a star fuses together increasingly heavier and heavier elements. Finally, a star reaches the point where only this element exists, which it cannot fuse. Instead, it undergoes thermonuclear reactions and blows up in a supernova. What is this element?

