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| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Atomic Structure and the Periodic Table

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|  |  |  |  |  |  |  |  |  |  |  |  | 2R |  O |  W |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  B |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  L |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | 3E |  | 4P |  E |  R |  I |  O |  D |  I | 5C |  T |  A |  B |  L |  E |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  L |  |  |  G |  |  |  |  |  |  A |  |  |  |  |  |  |  |  |  |  |
|  |  | 6S |  U | 7B |  S |  T |  A |  N |  C |  E |  S |  | 8A |  T |  O |  M |  | 9P |  R |  O |  P |  E |  R |  T |  I |  E |  S |  |  |
|  |  |  |  |  O |  |  |  |  |  |  C |  |  |  S |  |  |  | 10C |  |  B |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  N |  |  | 11I |  S |  O |  T |  O |  P |  E |  |  |  |  H |  |  O |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  D |  |  |  |  |  |  R |  |  |  S |  | 12E |  |  E |  |  N |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  S |  |  | 13H |  |  |  O |  |  |  |  |  I |  |  M |  |  |  | 14P |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | 15V |  A |  L |  E |  N |  C |  E |  |  |  G |  |  I |  |  | 16C |  O |  L |  U |  M | 17N |  |  |  |  |
|  |  |  |  |  |  |  |  L |  |  |  C |  |  | 18R |  |  H |  |  C |  |  |  |  S |  |  |  |  E |  |  |  |  |
|  |  |  |  |  |  | 19I |  O |  N |  |  L |  | 20N |  E |  U |  T |  R |  A |  L |  |  |  I |  |  |  |  G |  |  |  |  |
|  |  |  |  | 21F |  |  |  G |  |  |  O |  |  |  P |  |  |  |  L |  |  |  |  T |  |  |  |  A |  |  |  |  |
|  |  | 22S |  T |  A |  B |  L |  E |  | 23N |  U |  C |  L |  E |  U |  S |  |  F |  | 24A |  |  I |  |  |  |  T |  |  |  |  |
|  |  |  |  |  M |  |  |  N |  |  |  D |  |  |  L |  |  |  |  O |  |  T |  |  V |  |  |  |  I |  |  |  |  |
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|  |  |  |  |  L |  |  |  |  |  |  | 25I |  O |  N |  I |  C |  |  M |  |  M |  |  |  |  |  |  E |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  | 26C |  H |  E | 27M |  I | 28C |  A |  L |  |  C |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  | 29C |  H |  E |  M |  I |  C |  A |  L |  S |  Y |  M |  B |  O |  L |  |  |  |  |  |  |  |  |
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| **Across****2.** Each \_\_\_\_\_\_\_\_\_\_ on the Periodic Table represents the number of "energy levels" an element has.**4.** The elements are organized into this grid.**6.** When elements react they form new \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**8.** The smallest unit of matter with all the properties of that substance.**9.** Characteristics that are measurable or observable are called physical \_\_\_\_\_\_\_\_\_\_\_\_\_.**11.** An element that can have a variable number of neutrons in its nucleus.**15.** The "outer energy shell" of and atom**16.** Each \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the periodic table represents the number of valence electrons in an element.**19.** A charged particle.**20.** A neutron has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charge.**22.** Atoms with full outer energy shells are known to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**23.** The center of an atom where the protons and neutrons are located.**25.** Electrons are "stolen" in this type of bond.**26.** Reactivity is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ property.**29.** An abreviated way to name an element.**30.** Subtract the atomic number from the atomic mass to find the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | **Down****1.** A "Family" of elements that do not typically react with other elements.**3.** The location around the nucleus where electrons orbit.**5.** This element is found in all organic matter and has four valence electrons.**7.** The "electronic connections" between elements in a molecule.**10.** NaCl is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for salt.**12.** Other than hydrogen and helium, the number of electrons needed to fill the valence shell.**13.** The "Family" of elements that are very reactive.**14.** Protons have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charge.**17.** Electrons have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charge.**18.** "Like" electric charges \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ each other.**21.** A group of elements with similar properties are known as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**24.** This matches the number of protons in an atom.**27.** A combination of one or more atoms.**28.** Electrons are "shared" in this type of bond. |