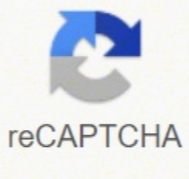




I'm not robot



reCAPTCHA

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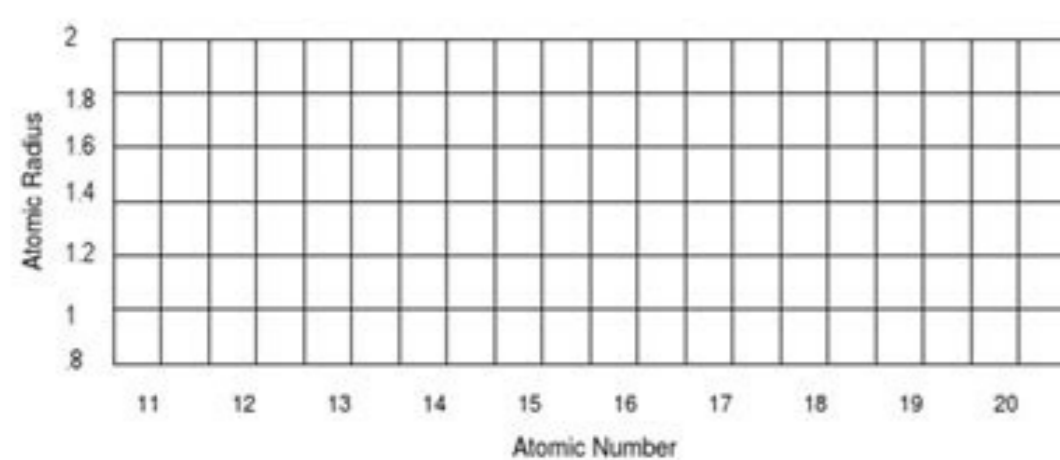
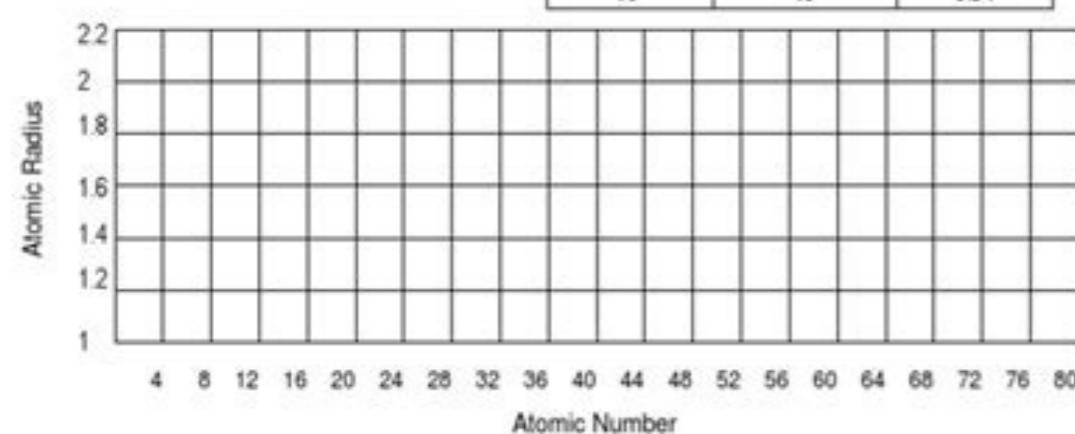
Periodic Trends Worksheet

Name _____

1. Using the data below, make a bar graph of atomic radius vs. atomic number for Group 2A and for Period 3 of the periodic table.

Group 2A		
Element	Atomic Number	Atomic Radius
Be	4	1.11
Mg	12	1.60
Ca	20	1.97
Sr	38	2.15
Ba	56	2.17

Period 3		
Element	Atomic Number	Atomic Radius
Na	11	1.86
Mg	12	1.60
Al	13	1.43
S	14	1.17
P	15	1.10
S	16	1.04
Cl	17	0.99
Ar	18	0.94



NOVA: Hunting the Elements

Name: _____

Hr: _____

- There are _____ unique substances (elements) arranged on an amazing chart that reveals their hidden secrets to anyone who knows how to read it.
- All the gold ever mined would fit into a single cube about _____ feet on a side.
- Three-quarters of the elements are _____.
- How an atom reacts chemically depends on how willing it is to share _____ with others.
- How much would a 60 pound block of gold be worth in dollars? \$ _____
- List two things copper is used for: _____
- In the assay furnace, a powder called _____ prevents the gold from reacting.
- Copper's symbol is _____; it has _____ protons and _____ electrons, plus ~ 24 neutrons.
- When 80% copper is combined with 20% _____, it makes bronze, the 1st manmade alloy.
- Why not use aluminum for bells?
- A sea of _____ makes metals malleable & conductors.
- The zoom to replicate the power of an electron microscope would be like seeing a _____ on Earth from 2,000 miles up in space.
- Bronze in bells is _____% Cu and _____% Sn.
- The alloy bronze is unpredictable to work with. Out of 100 bells cast, how many don't pass?
- Why is the microscope wrapped in acoustic blankets?
- What is the orderly arrangement of electrons called?
- What part of the atom is actually visible under the microscope?
- The number of _____ determines what kind of element the atom is.
- If an atom's electron cloud was 2 miles wide, a proton would be the size of a _____.
- The number of protons is called the atomic _____ and it's the fundamental organizing principle of every table of the elements.
- Metals are shiny, malleable materials that conduct _____.
- Most people think of _____ as white and chalky, but it's actually a silver, shiny metal.

Electron Configuration Practice Worksheet

In the space below, write the full (unabbreviated) electron configurations of the following elements:

- sodium $1s^2 2s^2 2p^6 3s^1$
- iron $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^6$
- bromine $1s^2 2s^2 2p^6 3s^2 3p^4 4s^2 3d^{10} 4p^5$
- barium $1s^2 2s^2 2p^6 3s^2 3p^4 4s^2 3d^{10} 4p^6 5s^2 4d^{10} 5p^6 6s^2$
- neptunium $↑$ "4f¹⁴ 5d¹⁰ 6p⁶ 7s² 5f⁵
everything from barium...

In the space below, write the Noble Gas (abbreviated) electron configurations of the following elements:

- cobalt $[Ar] 4s^2 3d^7$
- silver $[Kr] 5s^2 4d^9$
- tellurium $[Kr] 5s^2 4d^{10} 5p^4$
- radium $[Rn] 7s^2$
- lawrencium $[Rn] 7s^2 5f^{14} 6d^1$

Determine what elements are denoted by the following electron configurations:

- $1s^2 2s^2 2p^6 3s^2 3p^4$ S sulfur
- $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10} 4p^6 5s^1$ Rb rubidium
- $[Kr] 5s^2 4d^{10} 5p^3$ Sb antimony
- $[Xe] 6s^2 4f^{14} 5d^6$ Os osmium
- $[Rn] 7s^2 5f^{11}$ Es einsteinium

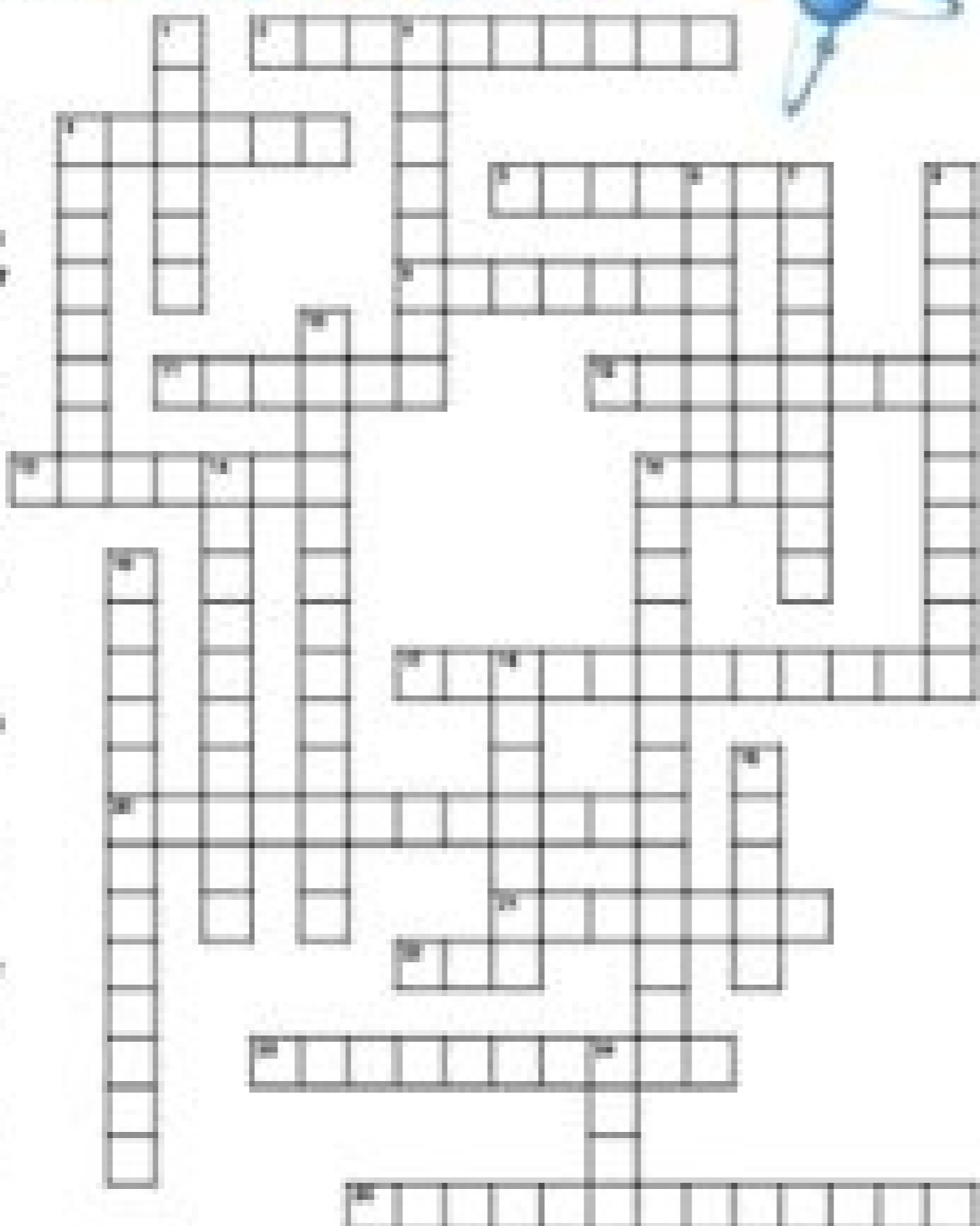
Name: _____ Date: _____

Atomic Structure



ACROSS

- A beam of electrons.
- The fundamental particle of visible light.
- The center of an atom.
- The term given to atoms that have the same number of protons but different numbers of neutrons.
- How positive or negative an atom is.
- A negatively charged subatomic particle.
- A subatomic particle with no charge.
- The smallest unit of an element.
- Electron emitted by radioactive decay.
- The number of protons in an atom.
- The region of space around the nucleus where an electron is likely to be found.
- An atom that has a positive or negative charge due to the gain or loss of one or more electrons.
- The total number of protons and neutrons in the nucleus of an atom.
- Empty space around the nucleus of an atom where electrons travel.



DOWN

- A subatomic particle with a positive charge.
- The time for a radioactive substance to lose half of its radioactivity.
- A minute quantity of matter.
- A form of matter that cannot be chemically broken down into simpler substances.
- Smaller than or occurring within an atom.
- The lowest possible energy state of an atom.
- Changing of one element to another through radioactive decay.
- How Erastus physicist who figured out subatomic structure.
- Two neutrons and two protons bound together and produced by radioactive decay.
- Emission of particles from an unstable atom.
- English physicist who discovered the electron.
- To break into smaller pieces.
- The Danish physicist who made essential contributions to the understanding of atomic structure.

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