| Chemistry .. MCQs .. Chapter 1 | | | |
|---|---|---|---|
| **- the study of matter and its changes is** | | | |
| A | Chemistry | B | Biology |
| C | Mathematics | D | Sociology |
| **- which of the following determine how matters behave?** | | | |
| A | Molecules only | B | Atoms only |
| C | Atoms and molecules | D | None of these |
| **- which of the following binds to hemoglobin?** | | | |
| A | Carbon dioxide | B | Carbon monoxide |
| C | Carbon trioxide | D | None of these |
| **- which of the following does NOT bind to hemoglobin?** | | | |
| A | Carbon dioxide | B | Carbon monoxide |
| C | Carbon trioxide | D | None of these |
| **- submicroscopic particles constitute the building block of matter are** | | | |
| A | Atoms | B | Molecules |
| C | Organs | D | DNA |
| **- free atoms are …… in nature.** | | | |
| A | Plenty | B | Multitude |
| C | Rare | D | Never exist |
| **- atoms binds together to form** | | | |
| A | Molecule | B | Oxygen |
| C | Compounds | D | All answers are correct |
| **- matter is anything that** | | | |
| A | Can breathe | B | Has volume |
| C | Has a mass | D | B & C |
| **- which of the following is an example of matter?** | | | |
| A | Light | B | Dust |
| C | Heat | D | All answers are correct |
| **- which of the following is an example of matter?** | | | |
| A | Air | B | Book |
| C | Vapor | D | All answers are correct |
| **- matter can be classify according to its** | | | |
| A | State | B | Composition |
| C | Both | D | None |

| | | | |
|---|---|---|---|
| **- which of the following is a physical classifying of matter** | | | |
| A | State classifying | B | Composition classifying |
| C | Atoms classifying | D | All answers are correct |
| **- matter can be classified as** | | | |
| A | Solid | B | Gas |
| C | Liquid | D | All answers are correct |
| **- the state of matter change (gas>liquid>solid) with** | | | |
| A | Increasing temperature | B | Decreasing temperature |
| C | Both are correct | D | Both are wrong |
| **- in liquids, gases, solids atoms and molecules has** | | | |
| A | Same structure | B | Different structure |
| C | Cannot be determined | D | Almost same structure |
| **- atoms or molecules are packed closely to each other in ……. Matters.** | | | |
| A | Solid and liquid | B | Solid and gas |
| C | Liquid and gases | D | all phases of |
| **- atoms or molecules in pattern with long-range repeating order are called** | | | |
| A | Amorphous | B | Crystalline |
| C | Solid matter | D | Both solid and liquid |
| **- when atoms or molecules do NOT have a repeating order, we call it** | | | |
| A | Amorphous | B | Crystalline |
| C | Solid matter | D | Both solid and liquid |
| **- which of the following is an example of amorphous solid?** | | | |
| A | Glass | B | Table salt |
| C | Diamond | D | All answers are correct |
| **- which of the following is an example of crystalline solid?** | | | |
| A | Glass | B | Table salt |
| C | Plastic | D | All answers are correct |
| **- which of the following has fixed shape and fixed volume?** | | | |
| A | Water | B | Ice |
| C | Vapor | D | Blood |
| **- which of the following has regular three-dimensional pattern?** | | | |
| A | Water | B | Plastic |
| C | Glass | D | Crystalline solids |
| **- a matter can be determined as liquid at** | | | |
| A | Room temperature | B | Boiling temperature |
| C | Melting temperature | D | The dictionary |

| | | | |
|---|---|---|---|
| **- Which of the following can be compressed?** | | | |
| A | Oxygen | B | Water |
| C | Ice | D | All answers are wrong |
| **- the process that change liquids to gases called** | | | |
| A | Melting | B | Vaporizing |
| C | Condensing | D | Sublimation |
| **- the process that change solids to gases called** | | | |
| A | Melting | B | Vaporizing |
| C | Condensing | D | Sublimation |
| **- which of the following can be physically separated?** | | | |
| A | Pure substances | B | Elements |
| C | Compounds | D | Mixtures |
| **- which of the following can NOT be physically separated?** | | | |
| A | Pure substances | B | Elements |
| C | Compounds | D | All answers are correct |
| **- oil and water solution is an example for ……. mixture.** | | | |
| A | Homogeneous | B | Heterogeneous |
| C | Both | D | None |
| **- chicken soup is an example of** | | | |
| A | Homogenous mixture | B | Heterogenous mixture |
| C | Both | D | None |
| **- vegetable soup is an example of** | | | |
| A | Homogenous mixture | B | Heterogenous mixture |
| C | Both | D | None |
| **- which of the following is pure substances** | | | |
| A | Elements | B | Compounds |
| C | Both | D | None |
| **- which of the following can be chemically separated?** | | | |
| A | Elements | B | Compounds |
| C | Both | D | None |
| **- in which case a sample represent the solution?** | | | |
| A | Homogenous mixture | B | Heterogenous mixture |
| C | Both | D | None |
| **- in which case a sample does NOT represent the solution?** | | | |
| A | Homogenous mixture | B | Heterogenous mixture |
| C | Both | D | None |

| | | | |
|---|---|---|---|
| **- mixtures are** | | | |
| A | Separable | B | Inseparable |
| C | Cannot be determined | D | All answers are wrong |
| **- physical changes can alter only the** | | | |
| A | Appearance | B | State |
| C | Composition | D | A and B |
| **- atoms or molecules do NOT change their identity during** | | | |
| A | Physical change | B | Chemical change |
| C | Adaptational change | D | All answers are correct |
| **- rusting and burning are** | | | |
| A | Physical changes | B | Chemical changes |
| C | Adaptational changes | D | All answers are correct |
| **- boiling of water is a** | | | |
| A | Physical change | B | Chemical change |
| C | Adaptational change | D | All answers are correct |
| **- chemical changes can alter the** | | | |
| A | Appearance | B | State |
| C | Composition | D | All answers are correct |
| **- one evidence of chemical change is** | | | |
| A | Bubbles | B | Permanent color change |
| C | Light | D | All answers are correct |
| **- which of the following is an example of physical change** | | | |
| A | Dry ice subliming | B | Sugar dissolving |
| C | Propane gas burning | D | A and B |
| **- which of the following is an example of chemical change** | | | |
| A | Dry ice subliming | B | Sugar dissolving |
| C | Propane gas burning | D | A and B |
| **- during ……. change, atoms rearrange** | | | |
| A | Chemical | B | Physical |
| C | Biological | D | None |
| **- the bleaching of hair with hydrogen peroxide is a** | | | |
| A | Chemical change | B | Physical change |
| C | Both | D | None |
| **- the forming of frost on a cold night is a** | | | |
| A | Chemical change | B | Physical change |
| C | Biological | D | None |

| | | | |
|---|---|---|---|
| **- which of the following is a physical property?** | | | |
| A | Melting point | B | density |
| C | Color | D | All answers are correct |
| **- which of the following is a chemical property?** | | | |
| A | Flammability | B | Corrosiveness |
| C | Toxicity | D | All answers are correct |
| **- which of the following is a chemical property?** | | | |
| A | Inflammable | B | Viscosity |
| C | Malleability | D | Ductility |
| **- which of the following is a physical property?** | | | |
| A | Flammable | B | Inertness |
| C | Basicity | D | Explosiveness |
| **- what is the opposite of melting?** | | | |
| A | Freezing | B | Vaporizing |
| C | Sublimating | D | Temperature |
| **- cooking an egg is** | | | |
| A | Physical change | B | Chemical change |
| C | Both | D | None |
| **- dissolving of sugar in water is** | | | |
| A | Physical change | B | Chemical change |
| C | Both | D | None |
| **- dissolving of salt in water is** | | | |
| A | Physical change | B | Chemical change |
| C | Both | D | None |
| **- "the capacity to do work" is the definition of** | | | |
| A | Work | B | Energy |
| C | Movement | D | Pushing |
| **- when a force acts through a distance** | | | |
| A | Work will be done | B | Energy will be done |
| C | Work will be gained | D | Energy will be gained |
| **- the potential energy results from the matter's** | | | |
| A | Position or movement | B | Movement or composition |
| C | Position or composition | D | None of these |
| **- the kinetic energy results from the matter's** | | | |
| A | Position | B | Motion |
| C | Composition | D | None of these |

| | | | |
|---|---|---|---|
| **- energy can be** | | | |
| A | Created | B | Destroyed |
| C | Both created and destroyed | D | Converted from one form to another |
| **- energy cannot be** | | | |
| A | Created | B | Destroyed |
| C | Both created nor destroyed | D | Converted from one form to another |
| **- the two most common unit systems are** | | | |
| A | Metric system and English system | B | Metric system and CGS system |
| C | SI system and CGS system | D | KSA system and USA system |
| **- most of the world use the** | | | |
| A | Metric system | B | English system |
| C | CGS system | D | KSA system |
| **- the international system of units (SI) is based on** | | | |
| A | The metric system | B | The English system |
| C | Both | D | None |
| **- (second) is the unit of time in the** | | | |
| A | The metric system | B | The English system |
| C | Both | D | None |
| **- the volume unit in the metric system is** | | | |
| A | Liter (L) | B | Cubic meter ($m^3$) |
| C | Both | D | None |
| **- (20in) is equal to "2.54cm = 1in"** | | | |
| A | 50.8 in | B | 508 m |
| C | 0.508 m | D | 508 cm |
| **- convert (50000g) to SI system unit of mass** | | | |
| A | 50000kg | B | 50g |
| C | 50kg | D | 5Gg |
| **- the measure of the quantity of matter, is** | | | |
| A | Weight | B | Volume |
| C | Mass | D | Gravity |
| **- temperature scale in the metric system is** | | | |
| A | Celsius | B | Kelvin |
| C | Rankine | D | Fahrenheit |
| **- the boiling point of water in the Fahrenheit scale is** | | | |
| A | 212°F | B | 100°F |
| C | 373°F | D | 0°F |

| | | | |
|---|---|---|---|
| **- the absolute zero in the Fahrenheit scale is** | | | |
| A | -459°F | B | 100°F |
| C | 373°F | D | 0°F |
| **- convert 220°F to °C** | | | |
| A | 104.44 °C | B | 140 °C |
| C | 10.44 °C | D | 14 °C |
| **- convert 40°C to °F** | | | |
| A | 104 °F | B | 140 °F |
| C | 40 °F | D | 32.045 °F |
| **- convert 28K to °C** | | | |
| A | 245 °C | B | -245 °C |
| C | 301 °C | D | 209 °C |
| **- convert 62°C to K** | | | |
| A | -211K | B | 211K |
| C | 335K | D | 365K |
| **- convert 55°F to kelvin** | | | |
| A | 286K | B | -260K |
| C | 260K | D | No relation |
| **- which of the following increase the size of a unit** | | | |
| A | Deci | B | Nano |
| C | Mega | D | Femto |
| **- which of the following decrease the size of a unit** | | | |
| A | Peta | B | Femto |
| C | Giga | D | Tera |
| **- Density compares the…… of an object to its……** | | | |
| A | Volume, length | B | Length, volume |
| C | Mass, volume | D | Volume, mass |
| **- a solution has a density of 1.22g/mL. find the volume if m= 900kg (1mL=1cm$^3$)** | | | |
| A | 0.73cm$^3$ | B | 737.7cm$^3$ |
| C | 0.73g | D | 737.7g |
| **- 4.34g is the same mass as** | | | |
| A | 434$\mu$g | B | 4340mg |
| C | 43.4cg | D | 434kg |
| **- how many minutes are in 22.8h?** | | | |
| A | 13.68min | B | 1368min |
| C | 82080min | D | 82.080min |

| Chemistry .. MCQs .. Chapter 2 | | | |
|---|---|---|---|
| **- matter is neither created nor destroyed in a chemical reaction, but transform from one form to another. this is the definition of** | | | |
| A | Law of definite proportions | B | Law of multiple proportion |
| C | Law of conservation of matter | D | Law of conservation of energy |
| **- total mass of used reactants _____ total mass of products produced** | | | |
| A | More than | B | Less than |
| C | Equal to | D | Equal or more than |
| **- total number of reactant atoms _____ total number of product atoms** | | | |
| A | More than | B | Less than |
| C | Equal to | D | Equal or more than |
| **- if the reactants' mass ($H_2O + Na$) is 18.68g, the mass of products will be** | | | |
| A | 12.45g | B | 18.68g |
| C | 47.12g | D | Cannot be determined |
| **- law of conservation of mass was found out by** | | | |
| A | Jozeph Prust | B | Antonie Lavoisir |
| C | James Chadwick | D | Jhon Dalton |
| **- law of definite proportion was found out by** | | | |
| A | Jozeph Prust | B | Antonie Lavoisir |
| C | James Chadwick | D | Jhon Dalton |
| **- water samples from different sources are follow_____** | | | |
| A | Law of definite proportions | B | Law of multiple proportion |
| C | Law of conservation of matter | D | Law of conservation of energy |
| **- the reaction between Fe and O is follow _____** | | | |
| A | Law of definite proportions | B | Law of multiple proportion |
| C | Both | D | None |
| **- Dalton proposes that an element's atoms are identical in_____** | | | |
| A | Size | B | Chemical properties |
| C | Mass | D | All of these |
| **- the scientist who discover the electrons and determine its charge is** | | | |
| A | J.J. Thomson | B | Antonie Lavoisir |
| C | James Chadwick | D | Jhon Dalton |
| **- Cathode ray tube experiment was done by** | | | |
| A | J.J. Thomson | B | Milickan |
| C | James Chadwick | D | Jhon Dalton |

| | | | |
|---|---|---|---|
| **- Oil drop experiment was done by** | | | |
| A | J.J. Thomson | B | Robert Milickan |
| C | James Chadwick | D | Jhon Dalton |
| **- Who is the scientist who determined the mass and charge of electrons** | | | |
| A | J.J. Thomson | B | Robert Milickan |
| C | James Chadwick | D | Jhon Dalton |
| **- the gold foil experiment was done by** | | | |
| A | J.J. Thomson | B | Milickan |
| C | Rutherford | D | Dmitri Mendeleev |
| **- the gold foil experiment led to the discovery of** | | | |
| A | The nucleus | B | The electrons |
| C | The cell | D | The elements |
| **- which of the following is a subatomic particle?** | | | |
| A | Proton | B | Electron |
| C | Neutron | D | All of them |
| **- which of the following is right about Protons?** | | | |
| A | Positively charged | B | Negatively charged |
| C | Located in the atom's empty space | D | All answers are right |
| **- which of the following is right about Electrons?** | | | |
| A | Positively charged | B | Negatively charged |
| C | Located in the atom's nucleus | D | All answers are right |
| **- which of the following is right about Neutrons?** | | | |
| A | Positively charged | B | Negatively charged |
| C | Located in the atom's nucleus | D | All answers are right |
| **- neutron was the last discovered particle in the atom because_____** | | | |
| A | It's neutral (has no charge) | B | It's invisible |
| C | It's smaller than the electron | D | All answers are correct |
| **- the atomic number is the number of _____ in the atom.** | | | |
| A | Electrons | B | Neutrons |
| C | Protons | D | The sum of them |
| **- the fingerprint of an element is its_____** | | | |
| A | Atomic number | B | Atomic weight |
| C | Electrons number | D | Name |
| **- an element's symbol has _____ letters.** | | | |
| A | One or Two | B | One or more |
| C | More than two | D | Only one |

| | | | |
|---|---|---|---|
| **- isotopes are identified by their** | | | |
| A | Atomic number | B | Atomic mass |
| C | Elements | D | All are correct |
| **- neutral atoms will have the same number of** | | | |
| A | Protons as Neutrons | B | Neutrons as Electrons |
| C | Electrons as Protons | D | Protons, electrons, and neutrons |
| **- which of the following are isotopes** | | | |
| A | $C_6^{12}.C_7^{12}.C_8^{12}$ | B | $C_6^{12}.C_6^{12}.C_6^{12}$ |
| C | $C_6^{12}.C_6^{13}.C_6^{14}$ | D | $C_6^{12}.O_6^{12}.Fe_6^{12}$ |
| **- when calculating the atom's mass, we can neglect the _____ mass** | | | |
| A | Protons | B | Neutrons |
| C | Electrons | D | Electrons and protons |
| **- when calculating the atom's charge, we can neglect the _____ charge** | | | |
| A | Protons | B | Neutrons |
| C | Electrons | D | Electrons and protons |
| **- for $(F_{26}^{56})^{+3}$ find the number of Protons (P), Electrons (e), and Neutrons (N)** | | | |
| A | P= 26, e= 23, N= 30 | B | P= 26, e= 26, N= 30 |
| C | P= 26, e= 23, N= 26 | D | P= 56, e= 23, N= 30 |
| **- which of the following is right about neutral atoms?** | | | |
| A | Electrons = protons | B | Electrons = neutrons |
| C | Neutrons = protons | D | Electrons > protons |
| **- when neutral atoms lose electrons, it become_____** | | | |
| A | Cation | B | Anion |
| C | Both | D | None |
| **- negatively charged atoms are called** | | | |
| A | Cation | B | Anion |
| C | Both | D | None |
| **- Mendeleev arrange the elements in order of increasing _____** | | | |
| A | Atomic number | B | Atomic mass |
| C | Properties | D | Alphabet |
| **- in the modern table, elements are arranged from left to right in order of** | | | |
| A | Increasing atomic number | B | Increasing mass number |
| C | Decreasing atomic number | D | Decreasing mass number |
| **- in the modern table, each vertical column is called** | | | |
| A | Period | B | Group/family |
| C | Main-group | D | Transition elements |

| | | | |
|---|---|---|---|
| **- in the modern table, each horizontal row is called** | | | |
| A | Period | B | Group/family |
| C | Main-group | D | Transition elements |
| **- which of the following properties isn't a metal property?** | | | |
| A | Reflective surface | B | Conduct heat and electrical current |
| C | Lose electrons and form cations | D | Can be found in all three states |
| **- which of the following isn't true about nonmetals property?** | | | |
| A | Poor conductors of heat | B | Gain electrons to become anions |
| C | Solids are brittle | D | Ductility |
| **- which of the following can exhibit properties of metals and/or nonmetals?** | | | |
| A | Nobel gases | B | Transition metals |
| C | Actinides | D | Metalloid/semimetal |
| **- metalloids are usually act as** | | | |
| A | Metals | B | Nonmetals |
| C | Actinides | D | Lanthanides |
| **- group 1A elements are called** | | | |
| A | Halogens | B | Nobel gases |
| C | Alkali metals | D | Alkali earth metals |
| **- group 2A elements are called** | | | |
| A | Halogens | B | Nobel gases |
| C | Alkali metals | D | Alkali earth metals |
| **- when atoms lose or gain electrons they form** | | | |
| A | Elements | B | Ions |
| C | Isotopes | D | None |
| **- the letter A in 3A represent _____** | | | |
| A | Transition group | B | Main group |
| C | Ions | D | Isotopes |
| **- the atomic mass for each element is represented by** | | | |
| A | Its highest isotope atomic mass | B | Its lowest isotope atomic mass |
| C | Its isotopes average atomic mass | D | Its property |
| **- how many grams of $CO_2$ are in $6.75x10^{30}$ molecules?** | | | |
| A | $1.1x10^{7}$ g | B | $4.8x10^{8}$ g |
| C | 4.93 g | D | 110 g |
| **- how many grams are in $10^{30}$ molecules of Iodine?** | | | |
| A | $4.2x10^{8}$ g | B | $1.6x10^{6}$ g |
| C | 256 g | D | $6.022x10^{23}$ g |

| | | | |
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| **- 0.100 mole of lithium weighs** | | | |
| A | 3 g | B | 0.694 g |
| C | 0.3 g | D | 6.94 g |
| **- how many moles and atoms of Zinc are in a sample weighing 34.9g ?** | | | |
| A | 0.533 mole, $8.85 \times 10^{-25}$ atoms | B | 1.87 mole, $1.13 \times 10^{24}$ atoms |
| C | 0.533 mole, $3.21 \times 10^{23}$ atoms | D | 1.87 mole, $1.13 \times 10^{-24}$ atoms |
| **- each group/column's elements have** | | | |
| A | Similar properties | B | Different properties |
| C | Nothing in common | D | Same atomic mass |
| **- each period/row's elements have** | | | |
| A | Similar properties | B | Different properties |
| C | Nothing in common | D | Same atomic mass |
| **- Na, P this pair of elements have** | | | |
| A | Similar properties | B | Different properties |
| C | Nothing in common | D | Same atomic mass |
| **- how many protons, electrons, and neutrons in an oxygen ion?** | | | |
| A | P= 8, e= 10, N= 8 | B | P= 8, e= 8, N= 8 |
| C | P= 8, e= 6, N= 8 | D | P= 8, e= 8, N= 6 |
| **- Germanium has these properties EXCEPT** | | | |
| A | Solid at room temperature | B | Semiconductor of electricity |
| C | Is a metalloid | D | Insulator |
| **- which of the following can be easily broken?** | | | |
| A | Nickle | B | Technetium |
| C | Bromine | D | Potassium |
| **- which of the following is right about GOLD** | | | |
| A | Semiconductor | B | Can be found in all three states |
| C | Gain electrons to become anion | D | Can be shaped |
| **- energy levels and sublevels fill from lowest energy to high, this is** | | | |
| A | Hound principal | B | Aufbau principal |
| C | Pauli principal | D | None |
| **- which of the following configurations is correct** | | | |
| A | $1s\ 2s\ 3s\ 4s\ 5s$ | B | $1s\ 2s\ 2p\ 3p$ |
| C | $1s\ 2s\ 2p\ 3s\ 3p\ 4s$ | D | $1s\ 2p\ 3d\ 4f$ |
| **- the valence electrons represent the _____** | | | |
| A | Group's number | B | Period's number |
| C | Protons' number | D | Neutrons' number |

| | | | |
|---|---|---|---|
| **- the periodic number is the same as the _____ number** | | | |
| A | Energy level | B | Orbital type |
| C | Valence electrons | D | Protons |
| **- which of the following is the right configuration for lithium?** | | | |
| A | $1s^2 2s^2 2p^1$ | B | $1s^2 2s^1$ |
| C | $1s^2 2p^1$ | D | $1s^2 2s^2 2p^6$ |
| **-** ↑↓ ↑↓ ↑↓ ↑↓ **in this figure arrows represent** | | | |
| A | Neutrons | B | Atoms |
| C | Electrons | D | Protons |
| **- which of the following violate Hund's rule?** | | | |
| A | ↑↓ ↑↓ ↑↓ ↓ | B | ↑↓ ↑↓ ↑↓ |
| C | ↑↓ ↑↓ ↑↓ ↑↑ | D | ↓↑ ↑↓ ↑ ↑↓ |
| **- which of the following is a violation for Pauli's rule?** | | | |
| A | ↑↓ ↑↓ ↑↓ ↓ | B | ↑↓ ↑↓ ↑↓ |
| C | ↑↓ ↑↓ ↑↓ ↑↑ | D | ↓↑ ↑↓ ↑ ↑↓ |
| **- for ($1s^2 2s^2 2p^6\ 3s^2 3p^5$) the valence electrons are** | | | |
| A | 2 | B | 5 |
| C | 7 | D | 3 |
| **- valence electrons are responsible for** | | | |
| A | Boiling | B | Making ions |
| C | The atom's behavior | D | All answers are correct |
| **- which of the following is wrong** | | | |
| A | ↑↓ ↑ ↑ ↓ ↑ | B | ↑ ↑ ↑↓ ↑ ↑ |
| C | ↑ ↑ ↓ ↑ ↓↑ | D | ↓ ↑ ↑ ↑ ↑↑ |
| ↓ ↑ ↑↑ ↑ ↑ **This configuration violates _____ rule.** | | | |
| A | Huok | B | Pauli |
| C | Hound | D | Aufbau |
| **- how many valence electrons are in (carbon)?** | | | |
| A | 3 | B | 2 |
| C | 5 | D | 4 |
| **- how many valence electrons are in (Al)?** | | | |
| A | 2 | B | 3 |
| C | 4 | D | 5 |
| **- which of the following has 8 valence electrons?** | | | |
| A | Ar | B | Br |
| C | As | D | Ac |

| | | | |
|---|---|---|---|
| **- for ions, electrons are added or removed to the** | | | |
| A | Lowest energy level | B | Valence shell |
| C | S orbital type only | D | Nobel gases |
| **- which of these elements' ions have fewer electrons than protons?** | | | |
| A | Sr | B | Xe |
| C | Te | D | TI |
| **- which of these elements has the smallest atomic radius?** | | | |
| A | O | B | S |
| C | Se | D | Po |
| **- which of these elements has the largest atomic radius?** | | | |
| A | K | B | Ca |
| C | Ga | D | Ge |
| **- the net positive charge that is attracting a particular electron is called** | | | |
| A | The effective nuclear charge | B | The ionic radius |
| C | Ionization energy | D | Electron affinity |
| **- Ion size _____ down the column.** | | | |
| A | Decrease | B | Increase |
| C | Does not change | D | Not related |
| **- cations are _____ the neutral atom.** | | | |
| A | Same as | B | Larger than |
| C | Smaller than | D | Not related |
| **- anions are _____ the neutral atom.** | | | |
| A | Same as | B | Larger than |
| C | Smaller than | D | Not related |
| **- the energy heeded to remove an electron from an atom or ion is called** | | | |
| A | The effective nuclear charge | B | The ionic radius |
| C | Ionization energy | D | Electron affinity |
| **- which of the following is NOT correct** | | | |
| A | Li atom is larger than Li ion | B | Fr atom is larger than Fr ion |
| C | At ion is smaller than At atom | D | Br atom is smaller than Br ion |
| **- which of the following orders is correct for IE?** | | | |
| A | Mg > Si > P > Cl | B | Cl > P > Si > Mg |
| C | Si > P > Cl > Mg | D | P > Si > Mg > Cl |
| **- which of the following orders is correct for IE?** | | | |
| A | N < P < As < Bi | B | Bi > As > P > N |
| C | Bi < As < P < N | D | As > P < N < Bi |

| | | | |
|---|---|---|---|
| **- the metallic character _____ across a period.** | | | |
| A | Increase | B | Decrease |
| C | Stay the same | D | Undefined |
| **- the willingness to accept electrons into the valence shell is called** | | | |
| A | The effective nuclear charge | B | The ionic radius |
| C | Ionization energy | D | Electron affinity |
| **- which of the following elements is the most stable one?** | | | |
| A | Ba | B | Pb |
| C | Po | D | Rn |
| **- which of the following elements is the most stable one?** | | | |
| A | H | B | Li |
| C | Na | D | K |
| **- which group/family has the lowest EA?** | | | |
| A | Halogens | B | Alkali metals |
| C | Noble gases | D | Alkaline earth metals |

PICs may help you: -