Answers to section 6 1 ionic bonding yciltd

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What is an ionic bond answers? An Ionic bond is the bond formed by the complete transfer of valence electron to attain stability. This type of bonding leads to the formation of two oppositely charged ions – positive ions known as cations and negative ions known as anions.

What is the result of a sodium atom transferring an electron to a chlorine atom? An electron is transferred from sodium to chlorine. Sodium becomes a positive ion and chlorine becomes a negative ion. The positive and negative ions attract each other and form the ionic compound sodium chloride.

What type of electron configuration makes an atom stable and not likely to react? This outermost shell is known as the valence shell, and the electrons found in it are called valence electrons. In general, atoms are most stable, least reactive, when their outermost electron shell is full.

What makes an atom stable or not likely to react? Atom stability is determined by the number of protons in the nucleus and the number of electrons in its orbitals. Atoms become more stable when they have the same number of protons and electrons, or the same number of protons and neutrons.

How do you answer ionic bonding? Ionic bonding is the complete transfer of valence electron(s) between atoms. It is a type of chemical bond that generates two oppositely charged ions. In ionic bonds, the metal loses electrons to become a positively charged cation, whereas the nonmetal accepts those electrons to become a negatively charged anion.

What causes an ionic bond quizlet? An ionic bond is the force of attraction that holds together oppositely charged ions. It forms when atoms of a metal transfer

electrons to atoms of a nonmetal. When this happens, the atoms become oppositely charged ions.

Are electrons in ionic bonds _____? Electrons are transferred from one atom to another, thus forming ions, in an ionic bond, whereas they are shared unevenly in a polar covalent bond, whereas they are shared evenly in a nonpolar covalent bond.

What is the charge of Na after bonding? Tell students that when an atom gains or loses an electron, it becomes an ion. Sodium loses an electron, leaving it with 11 protons, but only 10 electrons. Since it has 1 more proton than electrons, sodium has a charge of +1, making it a positive ion.

How does sodium transfer electrons? A sodium atom transfers an electron to a chlorine atom (Fig. 2.24 A). During this process, the sodium has lost an electron to become a positive Na+ cation and chlorine has gained an electron to become a Cl– anion (Fig. 2.24 B).

How to know if an ion is stable or unstable? If the outer shell is filled, the atom is stable. Atoms with unfilled outer shells are unstable, and will usually form chemical bonds with other atoms to achieve stability.

How do you tell if an atom is stable or reactive? An atom is stable if the forces among the particles that makeup the nucleus are balanced. An atom is unstable (radioactive) if these forces are unbalanced; if the nucleus has an excess of internal energy. Instability of an atom's nucleus may result from an excess of either neutrons or protons.

How do you know if an atom is stable from electron configuration?

What are two ways an atom can achieve a stable electron configuration? Atoms react to attain stable configuration for stability. This can be done by sharing, losing and gaining electrons.

What makes an atom unstable simple? When the atoms of an element have extra neutrons or protons it creates extra energy in the nucleus and causes the atom to become unbalanced or unstable. Whether radioactive elements can become stable and if so, how. The unstable nucleus of radioactive atoms emit radiation.

What does the shape of an ionic crystal depend on? The shape of an ionic crystal depends on factors such as the size and charge of the ions, coordination number, and lattice energy. These factors influence the arrangement of ions in the lattice and result in different crystal shapes for different ionic compounds.

Which element is most likely to gain electrons in a chemical reaction? Nonmetals, which are found in the right-hand region of the periodic table, have relatively large ionization energies and therefore tend to gain electrons.

Why are cations positive? Cations are positively-charged ions (atoms or groups of atoms that have more protons than electrons due to having lost one or more electrons). Anions are negatively-charged ions (meaning they have more electrons than protons due to having gained one or more electrons).

What are the factors affecting the formation of cation and anion? Ionisation energy and electron gain enthalpy affect the formation of cation and anion respectively. For the formation of a cation, an element will lose an electron. Lowering the ionization energy easy will be the isolation of the ion from the gaseous atom.

What forms an ionic bond? Ionic bonds are formed between two or more atoms by the transfer of one or more electrons between atoms. Electron transfer produces negative ions called anions and positive ions called cations.

Which ion has a positive charge? Ions with a positive charge are called cations. Ions with a negative charge are called anions.

What makes ionic bonds stay together? In ionic bonding, electrons are transferred from one atom to another resulting in the formation of positive and negative ions. The electrostatic attractions between the positive and negative ions hold the compound together.

Which bond is stronger? Generally, ionic bonds are much stronger than covalent bonds. In ionic bonds, there is complete transfer of electrons between elements to form a stable compound.

Is ionic bond positive or negative? When a metal combines with a non-metal, the resulting bond is an ionic bond. The metal loses electrons and becomes positively

charged and the non-metal gains electrons and becomes negatively charged. Positively charged ions are called cations, negatively charges ion are called anions.

What element pairs form ionic bonds? Ionic bonds occur between metals and non-metals on the periodic table. Turn to your periodic table and examine the three columns headed by Li (ignore hydrogen, if it is there), Be, and B.

What and what is an ionic bond? An ionic bond can be formed after two or more atoms loss or gain electrons to form an ion. Ionic bonds occur between metals, losing electrons, and nonmetals, gaining electrons.

What describes an ionic bond? ionic bond, type of linkage formed from the electrostatic attraction between oppositely charged ions in a chemical compound. Such a bond forms when the valence (outermost) electrons of one atom are transferred permanently to another atom.

What is an ionic bond quizizz? Ionic bonds form when ions share electrons.

What is an ionic bond chegg? An ionic bond is a type of chemical bond formed through an electrostatic attraction between two oppositely charged ions.

What is ionic bonding with an example? An ionic bond is a type of chemical bond formed between a cation and an anion. In an ionic bond, one or more electrons are transferred from a cation to an anion. An example of an ionic bond is sodium chloride, abbreviated as NaCl.

How to calculate an ionic bond?

How do you identify an ionic bond? The elements in the compound are metal and non-metal, then the bonding will be ionic. This bonding takes place between these groups (group 1 , 2 or 3 and group 5 , 6 , or 7) . The naming of compound is done as the name of metal will be in the first place while non-metal will be second.

How to tell if a compound is ionic or covalent?

What represents an ionic bond? Ionic bonds are powerful chemical bonds generally formed between positively charged metal ions and negatively charged nonmetal ions. Common table salt (NaCl) is an example of an ionic compound

formed when a positively charged sodium ion (Na+) bonds with a negatively charged chlorine ion (Cl-).

How to form ionic compounds? Ionic compounds usually form when a metal reacts with a nonmetal, where the metallic atoms lose an electron or electrons, becoming cations (positively charged ions), and the nonmetallic atoms gain an electron or electrons, becoming anions (negatively charged ions).

Which describes ionic bonding best? The answer is (d) An ionic bond involves a metal that transfers one or more electrons to a nonmetal. Ionic bonds are formed when atoms transfer electrons from their valence shells to other atoms. This transfer is usually observed when metals transfer electrons to nonmetals.

Which type of elements become cations? Cations can be formed from metal elements, as well as nonmetal elements. If a metal element forms an ion, it always forms a cation. Some metals always form the same type of cation. For example, sodium always forms a +1 cation and magnesium always forms a +2 cation.

What accurately describes ionic bonds? Ionic bonds are bonds in which there is a complete transfer of electrons between two elements. They are formed between two elements with a large difference in electronegativity, like a metal and nonmetal. Molecules with similar electronegativities share their electrons and form covalent bonds.

What is an ionic bond quizlet? ionic bond (definition) bond formed when one or more electrons are transfered from one atom to another. ionic bond (description) a chemical bond resulting from the attraction between oppositely charged ions.

What is an ionic bond best described as? An ionic bond is best described as: the transfer of electrons from one atom to another. A covalent bond is best described as: the sharing of electrons between atoms.

What is shown in an ionic bond? Ionic bonding is a type of chemical bond in which valence electrons are lost from one atom and gained by another. This exchange results in a more stable, noble gas electronic configuration for both atoms involved. An ionic bond is based on attractive electrostatic forces between two ions of opposite charge.

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