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| T/F: Atoms of different elements have different numbers of protons. (True) | T/F: In an atom, an electron closest to the nucleus is in the highest energy level. (False) | T/F: If an atom has 2 electrons in its outer energy level, it will gain 2 electrons to become more stable. (False) |
| T/F: A polar molecule is one that exists only at low temperatures. (False) | T/F: It is easier to remove an electron from the outer energy level than from an inner energy level. (True) | Draw a nitrogen atom and label the parts. |
| Name the 3 types of particles that are found in atoms. (protons, neutrons, electrons) | Where are electrons located in an atom? (outside the nucleus) | What are dot diagrams used for? (to represent valence electrons) |
| What is the maximum number of electrons that can be in the second level? (8) | What is the maximum number of electrons that can be in the first energy level? (2) | Which of the following elements is most likely to form covalent bonds instead of ionic bonds, out of chlorine, sodium, and silicon? (silicon – 4 valence electrons) |
| Is H2O made up of covalent bonds or ionic bonds? (covalent) | What do we call a bond in which two pairs of electrons are shared? (double covalent bond) | Is the bond in F2 polar or nonpolar? (nonpolar) |
| Are the bonds in H2O between hydrogen and oxygen polar or nonpolar? (polar) | Name a group number that is already stable without forming bonds. (18) | Will sodium and chlorine form an ionic or a covalent bond? (ionic) |
| In the formula C6H12O6, which element has the largest number of atoms? (hydrogen) | Draw the electron dot diagram for calcium. (2 valence electrons) | Which element is most likely to form a negative ion, lithium or chlorine? (chlorine) |
| Which element is most likely to form a positive ion, magnesium or fluorine? (magnesium) | What is the center of an atom called? (nucleus) | What is a charged atom that has **gained** one or more electrons called? (negative ion) |
| What is a charge atom that has **lost** one or more electrons called? (positive ion) | When a positive and negative ion join together, what is the result? (ionic compound) | What is the 2 called in the formula CO2, and what does it mean? (subscript, means 2 oxygen atoms) |
| What kind of molecule forms when one of the atoms has a stronger pull on the electrons being shared? (polar) | Draw the electron dot diagram for NH3. | In what type of bond to atoms share pairs of electrons? (covalent) |
| In what type of bond does one atom “donate” electrons to another atom? (ionic) | Why do some atoms form positive ions and some atoms form negative ions? (some atoms need to gain electrons to become stable, and others need to lose electrons in their outer layer) | What are malleable and ductile, metals or nonmetals? (metals) |
| Which is a better conductor of heat and electricity, metals or nonmetals? (metals) | What will a Potassium atom do to become more stable? (give up its 1 valence electron) | What will a Flourine atom do to become more stable? (gain 1 valence electron so it has 8) |
| What is a valence electron? (electron in an atom’s outermost energy level) | What is an electron, and where in the atom is it found? (negatively charged particle found around the outside of the atom) | What is a proton, and where in the atom is it found? (positively charged particle, in nucleus) |
| What is a neutron, and where in the atom is it found? (particle with no charge in nucleus) | What is an element with properties similar to metals **and** nonmetals called? (metalloid) | What tells you how many protons an element will have? (atomic number) |
| What are rows in the periodic table called? Do these elements have similar or changing properties? (periods, properties change across the row) | What are columns in the periodic table called? Do these elements have similar or changing properties? (groups, similar properties) | What are shiny, metals or nonmetals? (metals) |
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