



Chem!stry

Name: ()

Class:

Date: / /

Uncovering Misconceptions and Misunderstandings for Atomic Structure and Bonding

- Indicate whether you agree or disagree with each of the following statements by placing ticks and crosses in the appropriate boxes:

Statement:	I Agree:	I Disagree:
1. The atomic number of a chemical element is defined as the number of electrons in a single atom.	True <input type="checkbox"/>	False <input type="checkbox"/>
2. Sodium chloride is composed of Na – Cl molecules.	True <input type="checkbox"/>	False <input type="checkbox"/>
3. Simple covalent compounds have low melting points because covalent bonds are weak.	True <input type="checkbox"/>	False <input type="checkbox"/>
4. A single covalent bond is a shared pair of electrons between two atoms.	True <input type="checkbox"/>	False <input type="checkbox"/>
5. In covalent bonds, electrons are always shared evenly between the two atoms.	True <input type="checkbox"/>	False <input type="checkbox"/>
6. A positive metal ion is only attracted towards the negative non-metal ion that it donated an electron(s) to.	True <input type="checkbox"/>	False <input type="checkbox"/>
7. Positive ions are called cations and negative ions are called anions.	True <input type="checkbox"/>	False <input type="checkbox"/>
8. Isotopes are different forms of the same chemical element with different arrangements of atoms.	True <input type="checkbox"/>	False <input type="checkbox"/>
9. Magnesium oxide is composed of magnesium atoms and oxygen atoms.	True <input type="checkbox"/>	False <input type="checkbox"/>
10. Compounds are either ionic or covalent. They never contain a mixture of the two types of bond.	True <input type="checkbox"/>	False <input type="checkbox"/>
11. Metals only conduct electricity in the solid phase.	True <input type="checkbox"/>	False <input type="checkbox"/>
12. In a neutral atom, the number of protons equals the number of electrons.	True <input type="checkbox"/>	False <input type="checkbox"/>
13. Metals in their solid state conduct electricity due to the flow of mobile ions.	True <input type="checkbox"/>	False <input type="checkbox"/>
14. In an ionic compound, a single positive ion is only attracted towards a single negative ion and vice-versa.	True <input type="checkbox"/>	False <input type="checkbox"/>
15. Ionic compounds conduct electricity when molten due to the flow of delocalised electrons.	True <input type="checkbox"/>	False <input type="checkbox"/>
16. The number of neutrons within the nucleus of an atom affects its chemical properties.	True <input type="checkbox"/>	False <input type="checkbox"/>
17. In a neutral atom, the number of protons equals the number of neutrons.	True <input type="checkbox"/>	False <input type="checkbox"/>
18. Allotropes are atoms containing the same number of protons but a different number of neutrons.	True <input type="checkbox"/>	False <input type="checkbox"/>
19. The number of neutrons within the nucleus of an atom affects its physical properties.	True <input type="checkbox"/>	False <input type="checkbox"/>
20. During a chemical reaction the total number of electrons that are lost by a metal must equal the total number of electrons that are gained by the non-metal.	True <input type="checkbox"/>	False <input type="checkbox"/>
21. Regular crystal lattice structures are only found in ionic compounds.	True <input type="checkbox"/>	False <input type="checkbox"/>
22. The fact that metals are malleable and ductile is evidence that metallic bonds are weak.	True <input type="checkbox"/>	False <input type="checkbox"/>

- Scan the QR code below for the answers to this assignment.



http://www.chemist.sg/chemical_bonding/misconceptions_ans.pdf