

		7. State one information that can be found on the SDS.		13. Write the electron configuration of oxygen and determine the 4 quantum numbers of the 8 th electron. _____ ____/____/____/____	states that electrons are filled singularly first before any pairing can occur.
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WEEK 3

<u>Atomic structure and bonding:</u>	<u>Trends in periodic table:</u>	<u>Chemical Bonding:</u>	<u>Polarity of Molecules:</u>	<u>Intermolecular attraction:</u>
<p>18. a. Use the electron configuration for Chromium and draw the orbital diagram. $1s^2 2s^2 2p^6 3s^2 3p^6 3d^5 4s^1$</p> <p>19. Write the abbreviated electron configuration for Manganese.</p>	<p>21. Explain why O^{2-} ion has a larger radius than oxygen atom.</p> <p>22. Provide explanations for the following: The 1st ionisation energy of boron is lower than the 1st ionisation energy of beryllium.</p>	<p>24. Differentiate between ionic and covalent bond.</p> <p>25. Draw the Lewis structure of and determine the shape of the molecule: a. NO_3^- b. CO_3^{2-}</p>	<p>27. Explain why : O_2 is a non-polar molecule but NH_3 is a polar molecule.</p> <p>28. Show the formation of dative bonds in the following compounds: a. NH_3 and BF_3 b. H_2O and H^+</p>	<p>29. Name the type of intermolecular attraction present in the following substances. a. Two iodine molecules _____ b. A solution of $CaCl_2$ and water _____</p> <p>30. Explain: The boiling point of straight chain alkanes increases with increase in the number of carbon atoms.</p> <p>31. Arrange the following compounds from the weakest to the strongest intermolecular attraction. HBr, Br_2, HI, HF</p>
<p><u>Trends in periodic table:</u></p> <p>20. Describe the trends in atomic radii across the</p>	<p>23. a. Explain the trends in electronegativity across the period and down the</p>	<p>26. How many pi and sigma bonds are there in ethyne.</p>		

	period and down the group in a Periodic Table.	group in a periodic table. b. Arrange the elements in the order of increasing electronegativity: Mg, Si, F, K, N			
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