

SchoolNova Chem2 Class 5 Homework

1. Draw all resonance structures of the sulfate ion, SO_4^{3-}

2. One curious idea for fighting climate change and ocean acidification simultaneously is to add calcium hydroxide, Ca(OH)_2 , to the ocean.

a) Write the chemical equation for dissolved carbon dioxide reacting with water and explain why this leads to ocean acidification.

b) Write the chemical equation(s) for aqueous Ca(OH)_2 reacting with carbonic acid.

c) Explain why the above reaction(s) might be expected to increase the pH of ocean water and enable the ocean to absorb more carbon dioxide from the atmosphere.

3. How many moles of oxygen (O_2) are required to completely oxidize 1 mole of glucose ($\text{C}_6\text{H}_{12}\text{O}_6$) to carbon dioxide and water? Write the chemical equation and balance it.