

SALTERS ADVANCED CHEMISTRY
"CHECK YOUR NOTES" : THE OCEANS

1	Factors that determine the relative solubility of a solute in aqueous and non-aqueous solvents.	<input type="checkbox"/>
2	The meaning and use of the terms: <i>enthalpy change of solution</i> , <i>lattice enthalpy</i> , <i>enthalpy of solvation (hydration)</i> .	<input type="checkbox"/>
3	The solution of an ionic solid in terms of an enthalpy cycle involving enthalpy change of solution, lattice enthalpy and enthalpies of solvation (hydration) of ions.	<input type="checkbox"/>
4	The effect of atomic number, charge and hydration on the radii of anions and cations.	<input type="checkbox"/>
5	The relationship between ionic size and properties.	<input type="checkbox"/>
6	The Born-Haber cycle for simple ionic compounds.	<input type="checkbox"/>
7	Entropy as a measure of the number of ways that molecules and their associated energy quanta can be arranged.	<input type="checkbox"/>
8	The process of dissolving in terms of energy and entropy factors.	<input type="checkbox"/>
9	The tendency of a process to occur in terms of entropy changes in the system (ΔS_{sys}) and surroundings (ΔS_{surr}), and the requirement that the total entropy change (ΔS_{total}) should be positive.	<input type="checkbox"/>
10	Calculations of entropy changes using the expression: $\Delta S_{\text{total}} = \Delta S_{\text{sys}} + \Delta S_{\text{surr}}$	<input type="checkbox"/>
11	Calculation of entropy changes for a reaction, given entropies of reactants and products.	<input type="checkbox"/>
12	Comparison of the following properties of water with those of other liquids, and other hydrides of Group 6 elements, and the relationship of these properties to molecular structure: specific heating capacity, enthalpy change of vaporisation, and density changes on melting.	<input type="checkbox"/>
13	The influence of oceans on climate in terms of the characteristic properties of water (Storyline O3).	<input type="checkbox"/>
14	The meaning and use of the following terms: <i>strong acid</i> , <i>strong base</i> , <i>pH</i> .	<input type="checkbox"/>
15	The ionic product of water, K_w .	<input type="checkbox"/>
16	Calculation of the pH of solutions of strong acids and strong bases.	<input type="checkbox"/>
17	The meaning and use of the following terms: <i>weak acid</i> , <i>acidity constant K_a</i> , <i>pK_a</i> .	<input type="checkbox"/>
18	Calculation of the pH of solutions of weak acids.	<input type="checkbox"/>
19	How buffer solutions work, and their applications.	<input type="checkbox"/>
20	Calculation of the pH of a buffer solution.	<input type="checkbox"/>
21	The meaning of the term <i>solubility product</i> for simple ionic compounds of formula $X^{n+}Y^{n-}$.	<input type="checkbox"/>
22	The use of solubility products to perform calculations concerning dissolving and precipitation processes.	<input type="checkbox"/>
23	Acid-base and precipitation processes in the oceans in terms of K_a and K_{sp} (Storyline O4).	<input type="checkbox"/>
24	The global influence of the processes occurring when carbon dioxide dissolves in water (Storyline O4).	<input type="checkbox"/>