

Unit 4 – Introduction to Bonding

C2.1a Explain the changes in potential energy (due to electrostatic interactions) as a chemical bond forms and use this to explain why bond breaking always requires energy.

C2.1b Describe energy changes associated with chemical reactions in terms of bonds broken and formed (including intermolecular forces).

C2.1b.a I can explain why bond breaking requires energy.

C2.1b.b I can explain the changes in potential energy as chemical bonds form.

C2.1b.c I can describe the strength of single, double, and triple covalent bonds between atoms.

C2.1b.d I can explain why molecules have to absorb energy in order to break chemical bonds.

C3.2b Describe the relative strength of single, double, and triple covalent bonds between nitrogen atoms.

C3.3c Explain why it is necessary for a molecule to absorb energy in order to break a chemical bond.

C4.4a Explain why at room temperature different compounds can exist in different phases.

C4.4b Identify if a molecule is polar or non-polar given a structural formula for the compound.

C5.8A Draw structural formulas for up to ten carbon chains of simple hydrocarbons.

C5.8B Draw isomers for simple hydrocarbons.

C5.8C Recognize that proteins, starches, and other large biological molecules are polymers.