

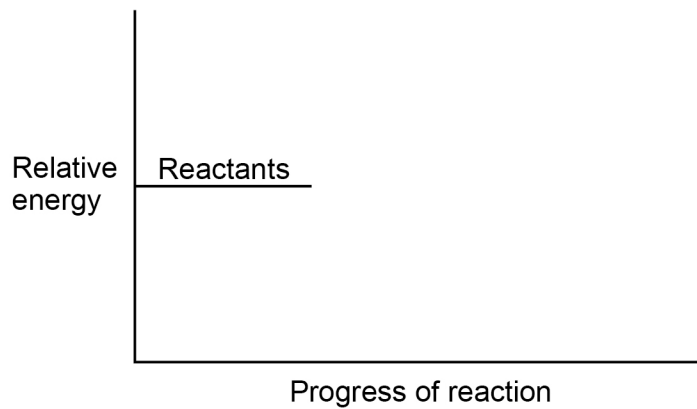
0 2 . 3

The reaction between sodium and chlorine is an exothermic reaction.

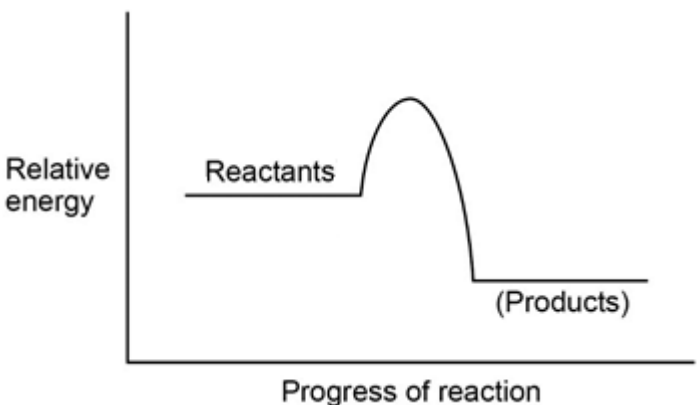
Complete the reaction profile for the reaction between sodium and chlorine.

[2 marks]

Figure 3



Question	Answers	Extra information	Mark	AO / Spec. Ref.
02.1	(difference) sodium has one and chlorine has seven electrons in <u>outer</u> level / shell or number of electrons	number of electrons must be correct if quoted	1	AO2 5.1.1.7 5.1.2.1
	(similarity) both have three / same number of levels / shells or have electrons in third level / shell or both have incomplete (outer) levels / shells	allow both have 2 electrons in inner shell or both have 8 electrons in second shell or both are one electron away from full outer level / shell	1	
02.2	sodium (atom) loses one (outer shell electron) chlorine (atom) gains one (electron)	allow marks from suitable diagram(s) allow moves / transfers for loses do not accept sodium ion loses do not accept chloride transfer of 1 electron from chlorine to sodium max 2 marks reference to sharing or covalent bonding max 3 marks	1 1 1 1	AO1 5.2.1.2

Question	Answers	Extra information	Mark	AO / Spec. Ref.
02.3	 <p>ignore labels</p> <p>any curve / line going up and then down</p> <p>products <u>line</u> below reactants</p> <p>allow curve to start / finish anywhere along reactant / product lines</p>		<p>1</p> <p>1</p>	AO1 5.5.1.2
Total			8	