

# 11. Group 17

## 11.1 Physical properties of the Group 17 elements

### Paper 2

#### Marking Scheme

## Q1.

(a)	halogen	colour at 293 K	All three correct for one mark	1
	chlorine	green		
	bromine	brown		
	iodine	(dark) grey		
(b)	<b>M1</b> (it / volatility) decreases <b>M2</b> more electrons in molecules <b>M3</b> (so) increased strength of instantaneous dipole – induced dipole forces (of attraction)			3

## Q2.

(a)(i)	<b>M1:</b> (Volatility) decreases (down the group)	2
	<b>M2:</b> more electrons so greater intermolecular forces / intermolecular attractions <b>OR</b> more electrons so greater VdW <b>between molecules</b>	

## Q3.

(a)	<i>trend in volatility down the group</i> decrease (in volatility)	1
	<i>identification of specific IMF increasing</i> increasing (strength of) induced dipole (id) (interactions between molecules)	1
	<i>explanation in terms of electrons</i> increasing number of electrons	1

## Q4.

(b)	<b>M1:</b> decreases (down the group) <b>M2:</b> increasing induced dipoles <b>M3:</b> greater number of electrons	3
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