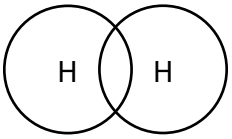
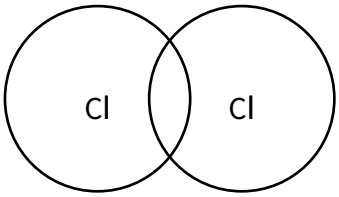
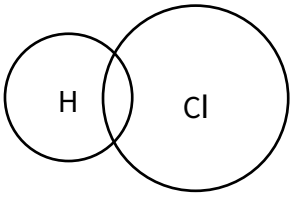
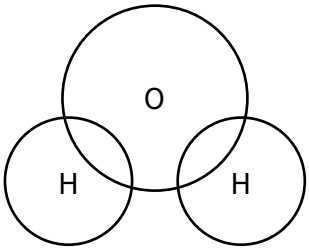
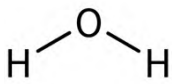
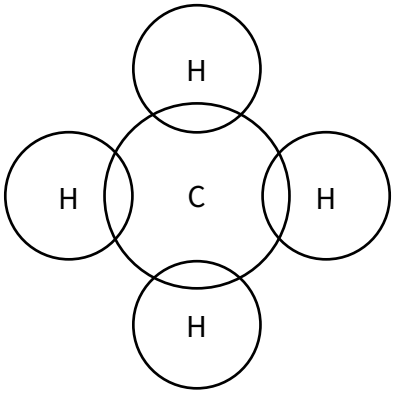
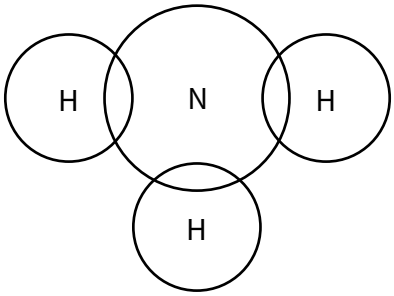
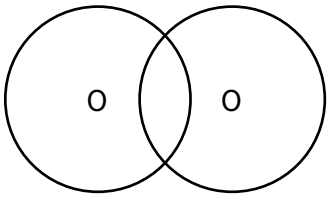
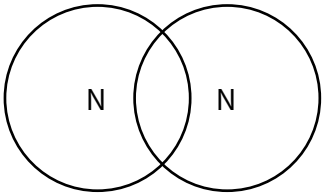
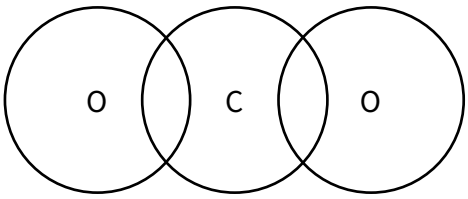
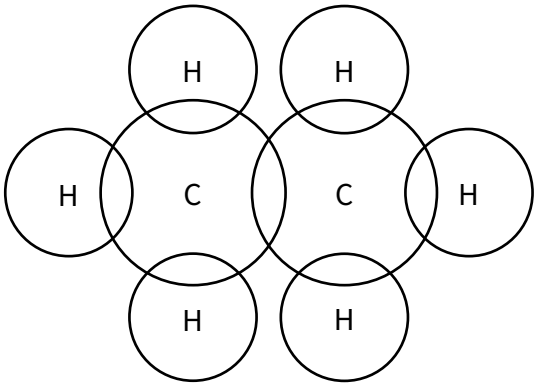
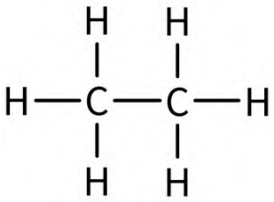
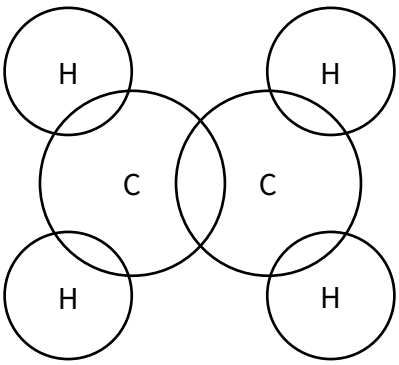
Covalent bonding: dot and cross diagrams

Your task

1. Correctly complete the diagrams in the table using dots and crosses.
2. Write in the displayed formula for each substance. Three have been done for you.

Substance	Molecular formula	Dot and cross diagram	Displayed formula
hydrogen	H_2		
chlorine	Cl_2		
hydrogen chloride	HCl		
water	H_2O		
methane	CH_4		

Substance	Molecular formula	Dot and cross diagram	Displayed formula
ammonia	NH_3		
oxygen	O_2		
nitrogen	N_2		
carbon dioxide	CO_2		
ethane	C_2H_6		
ethene	C_2H_4		

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ANSWERS

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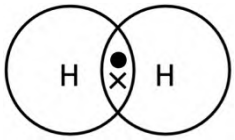
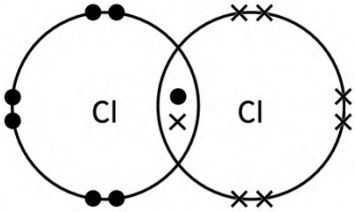
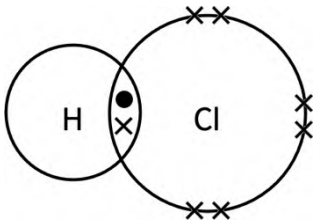
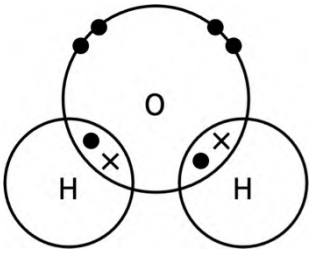
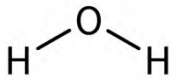
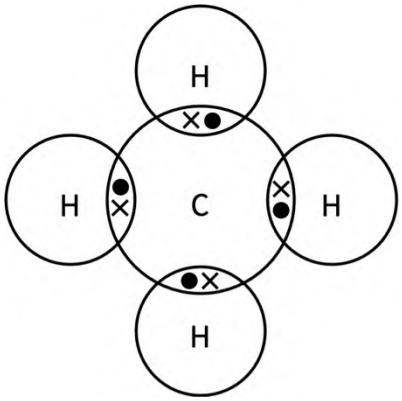
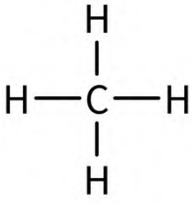
hydrogen	H_2		H—H
chlorine	Cl_2		Cl—Cl
hydrogen chloride	HCl		H—Cl
water	H_2O		
methane	CH_4		

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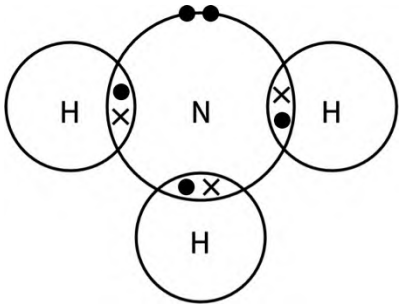
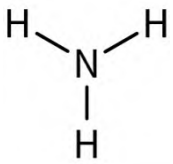
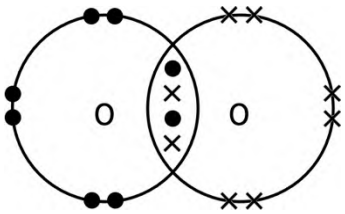
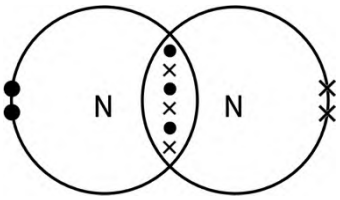
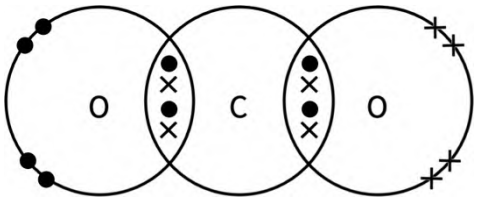
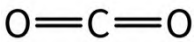
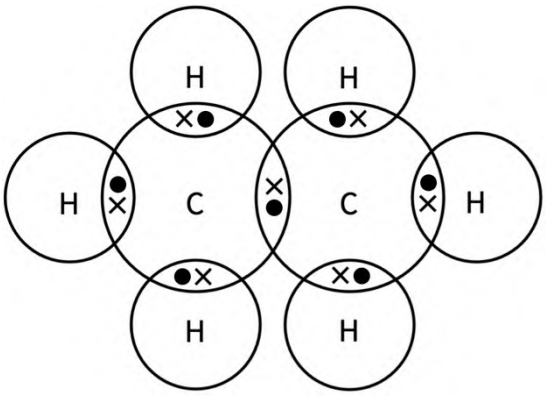
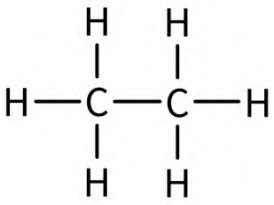
ammonia	NH_3		
oxygen	O_2		
nitrogen	N_2		
carbon dioxide	CO_2		
ethane	C_2H_6		
ethene	C_2H_4