Exercise on Covalent Bonding

Draw Lewis Dot Diagrams of the atoms, State how many electrons each atom needs, draw extra atoms where necessary to account for the composition of the covalent compounds, draw a Lewis Dot Diagram of the resulting covalent compound and finally, state how many electrons are shared in each bond and whether the bond is single, double or triple.

.F	needs!	⇒	FXFX	one single land	F2
.Cl2	*CT* nœds!	⇒	:celes	one single land	Clz
.0: needs2	xO\$ needs 2	⇒		one double bond	0,
.N° needs 3	N"	⇒	(XXX)VX	one triple bond	N ₂
H needs 1	# H needs l	⇒	HXH	one single bond	H ₂

(All of the above covalent compounds exist as gases at room temperature. Since each gas contains two atoms, they are referred to as diatomic gases. This is the naturally occurring state of each of these elements.)

.C.* needs 4	xox needo2 .: x 2	⇒		two double bonds	CO ₂
H madel	xŏx meeds 2	⇒	H	two single londs	H20
H nædol	xC1\$ needs I	\Rightarrow	HX CLX	one single bond	Hee
needs 4	needs 1 ×4	⇒	HOCEH	four single londs	CH4