

### Assignment: VSEPR Theory and Predicting Molecular Geometry

Number of electron pairs around central atom	Chemical Formula	Lewis Structure	Around the Central Atom		VESPR Notation	Molecular Shape	
			# BP	# LP		Sketch	Name
6	TeF <sub>6</sub>		6	0	AX <sub>6</sub>		Square bipyramidal
4	CHF <sub>3</sub>		4	0	AX <sub>4</sub>		tetrahedral
4	NH <sub>3</sub>		3	1	AX <sub>3</sub> E		trigonal pyramidal
6	XeF <sub>4</sub>		4	2	AX <sub>4</sub> E <sub>2</sub>		square planar

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			# BP	# LP		Sketch	Name
5	BrCl <sub>3</sub>		3	2	AX <sub>3</sub> E <sub>2</sub>		T-shaped.
5	RnF <sub>2</sub>		2	3	AX <sub>2</sub> E <sub>3</sub>		linear.
6	ClF <sub>5</sub>		5	1	AX <sub>5</sub> E		square pyramidal
3	BF <sub>3</sub>		3	0	AX <sub>3</sub>		trigonal planar

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			# BP	# LP		Sketch	Name
4	SeF <sub>2</sub>		2	2	AX <sub>2</sub> E <sub>2</sub>		Bent
1	H <sub>2</sub>	H-H	1	0	A <sub>2</sub>	H-H	linear.
5	AsF <sub>5</sub>		5	0	AX <sub>5</sub>		trigonal bipyramidal
5	TeF <sub>4</sub>		4	1	AX <sub>4</sub> E		see-saw

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			# BP	# LP		Sketch	Name
2	CS <sub>3</sub>	S=C=S	2	0	AX <sub>2</sub>	S=C=S	linear.
3	CCl <sub>2</sub> O	O=C <sub>2</sub> Cl <sub>2</sub>	3	0	AX <sub>3</sub>	O=C <sub>2</sub> Cl <sub>2</sub>	trigonal planar
2	HCN	H-C≡N:	2	0	AX <sub>2</sub>	H-C≡N	linear