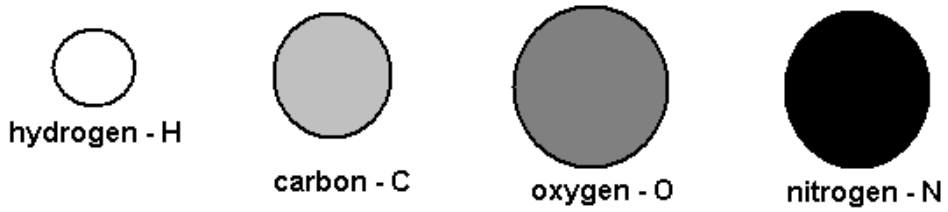
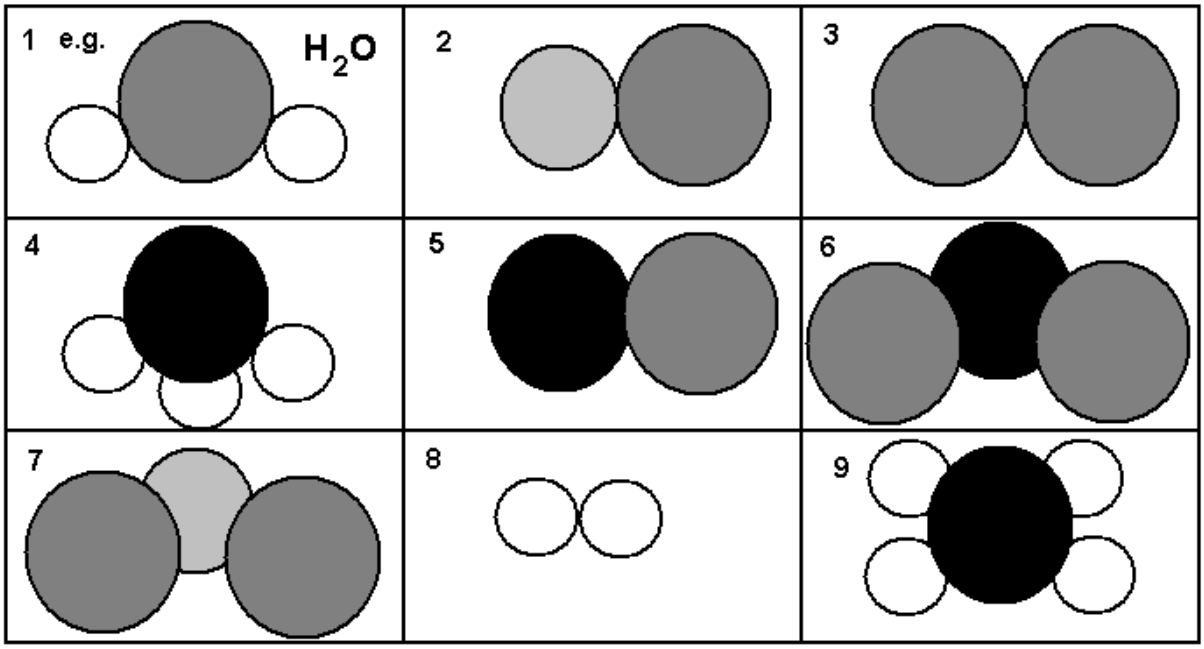
Grade 8 Natural Science Worksheet

Molecule models

Part One: Write the chemical formulas

Use the model key for each element and write the chemical formula for each molecule.





[16 marks]

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Part Two: Draw the model for the formulae

Use the same model key and draw the model for each of the formulae given.

1 NH_4	2 NO	3 H_2
4 NH_3	5 H_2O	6 NO_2
7 O_2	8 CO	9 CO_2

Part Three: Create 3D models of molecules

The above drawings are all 2 dimensional (2D) models of the actual molecules.

Use different coloured jelly tots and toothpicks and create 3D models of the above molecules.

Your partner will assess your models and you will assess your partner's.

[20 marks]

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Checklist for assessing jelly tot models

Criteria	Yes [1]	No [0]
Learner has used colours of jelly tots consistently to represent each element.		
Learner has created 3D models using jelly tots to represent elements and toothpicks to represent bonds.		
Learner's models are accurate and correct.	Allocate 2 marks per completely correct model; 1 mark if partially correct; 0 if wrong. **Total: /18**	

Part Four: Research on the names of the molecules

Do some research and find out the names of each of the molecules you have made models of.

[16 marks]

[Total: 50 marks]

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Suggested Solutions

Question number	Possible marks	Solution
1	16	2. CO 3. O_2 4. NH_3 5. NO 6. NO_2 7. CO_2 8. H_2 9. NH_4
2	18	See table in Appendix of Assessment Tools.
3	20	See checklist in Appendix of Assessment Tools – peer assessment.
4	16	1. H_2O - water 2. CO – carbon monoxide 3. O_2 – oxygen 4. NH_3 – ammonia 5. NO – nitrogen oxide 6. NO_2 – nitrogen oxide 7. CO_2 – carbon dioxide 8. H_2 – hydrogen

Appendix of Assessment Tools

Table for drawing the models of the formulae given

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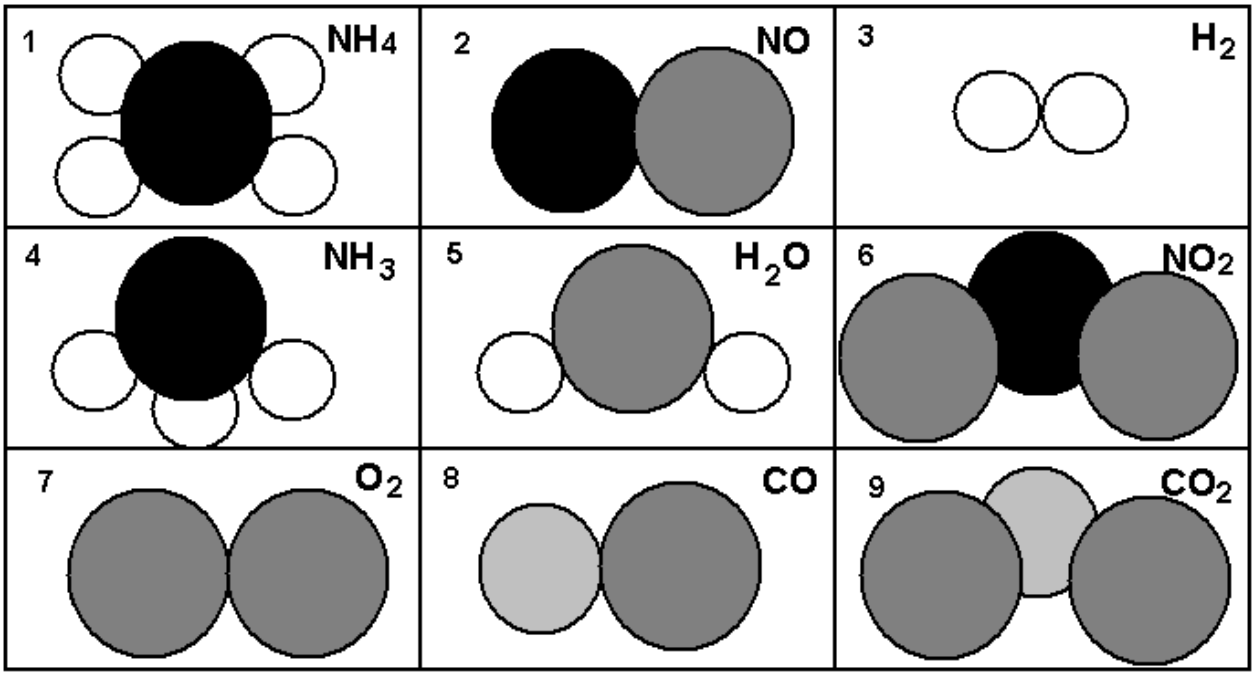

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