

Ready Notes

to accompany

FIFTH EDITION

BIOLOGY



RAVEN
JOHNSON

Ready Notes

to accompany

Biology

Fifth Edition

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Chapter 1

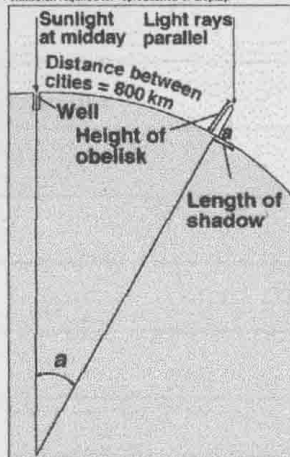
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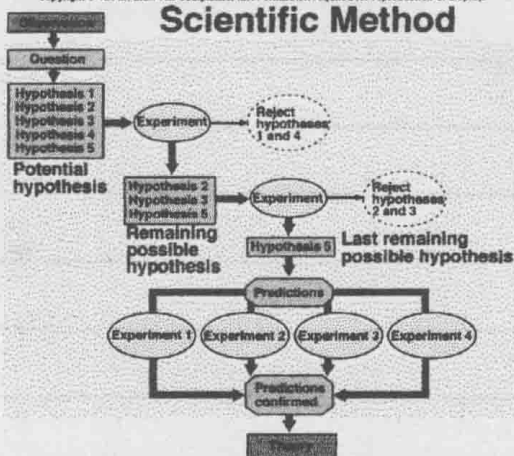
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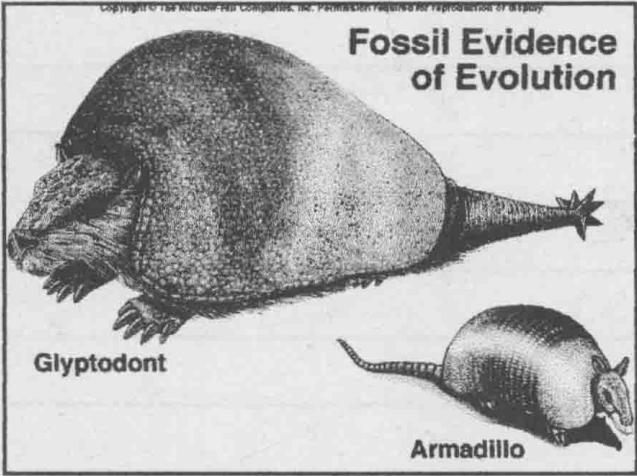
Deductive Reasoning: Estimating the Earth's Circumference

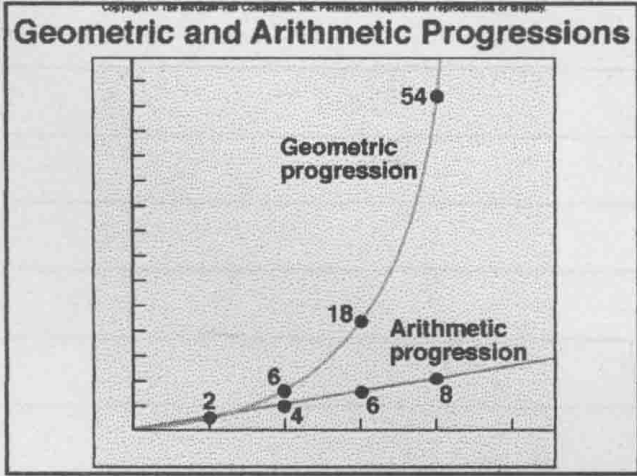


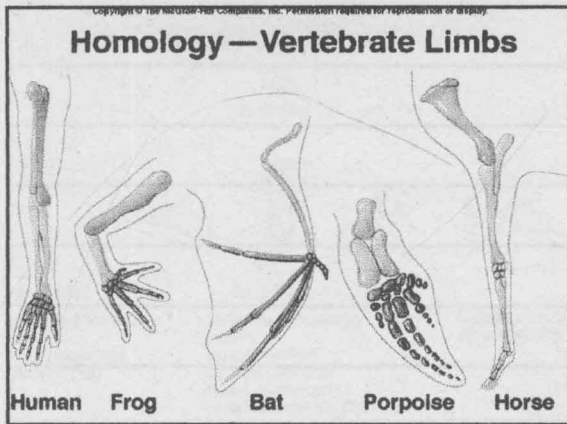
Scientific Method











Chapter 2

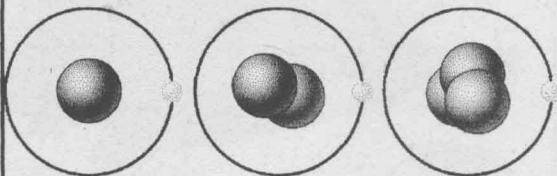
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Atoms

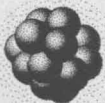


Hydrogen (H)

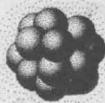
Deuterium (^2H)

Tritium (^3H)

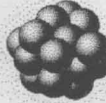
Carbon Isotopes



Carbon - 12
6 Protons
6 Neutrons
6 Electrons

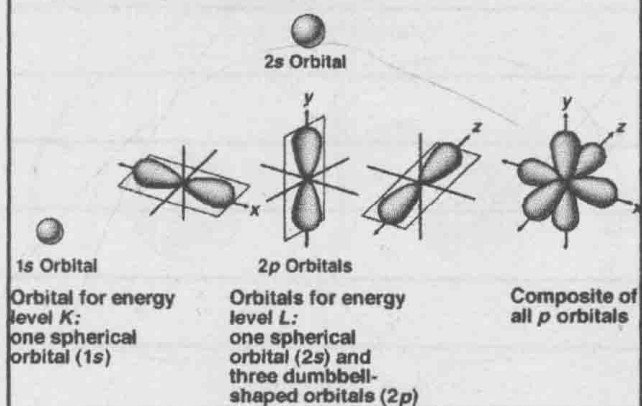


Carbon - 13
6 Protons
7 Neutrons
6 Electrons

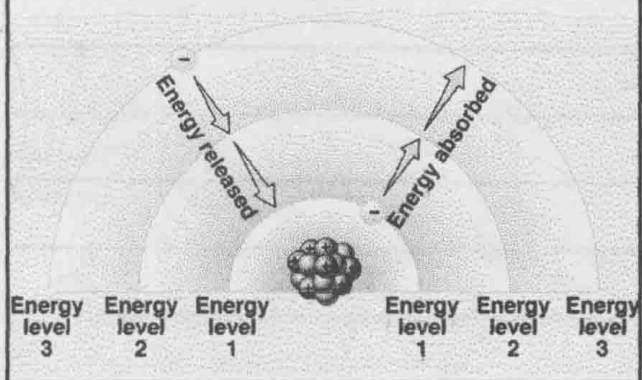


Carbon-14
6 Protons
8 Neutrons
6 Electrons

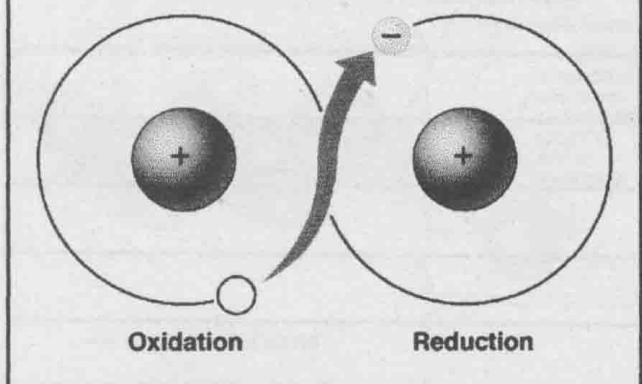
Electron Orbitals



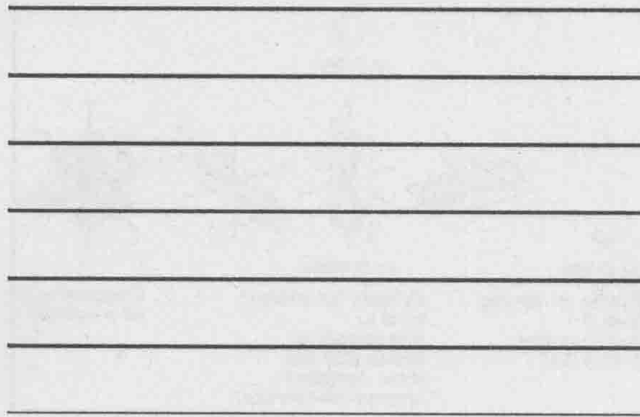
Atomic Energy Levels



Oxidation and Reduction

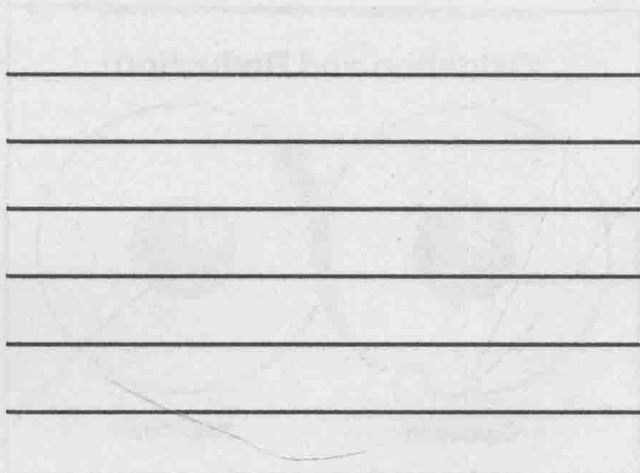


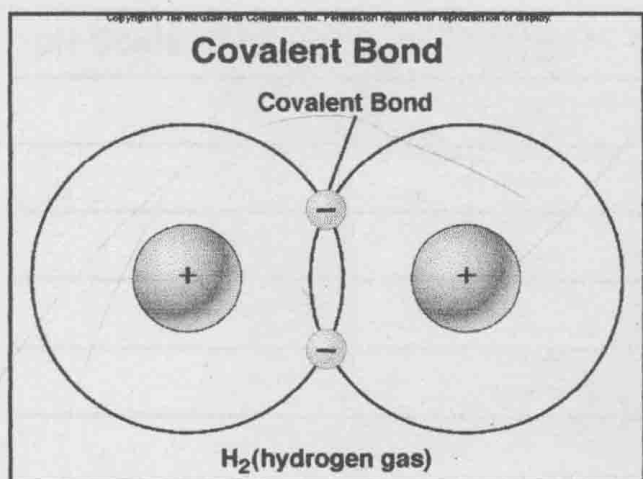
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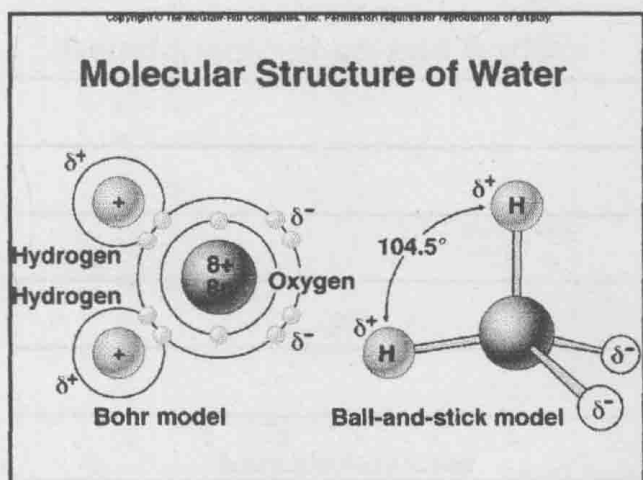


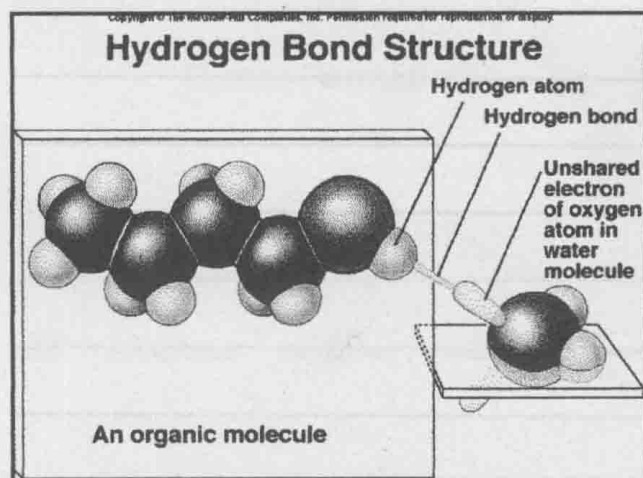
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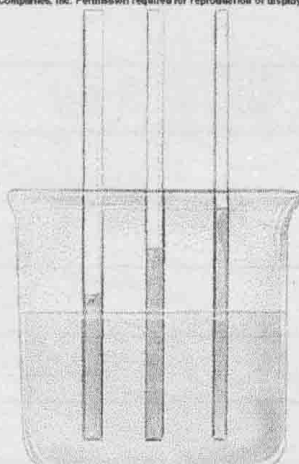






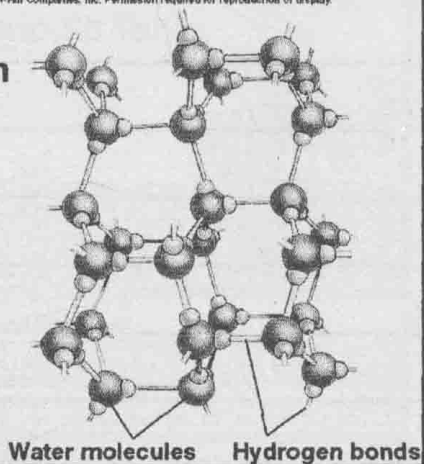
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Capillary Action

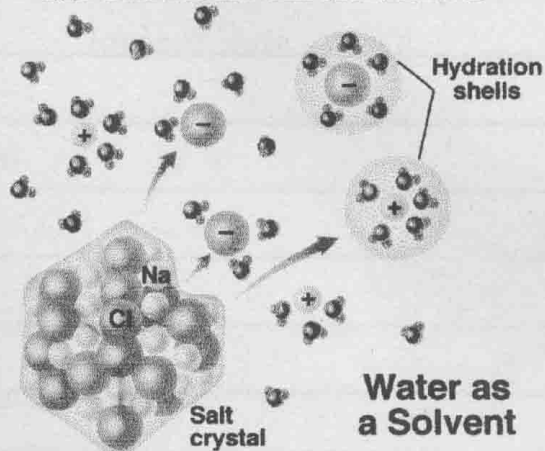


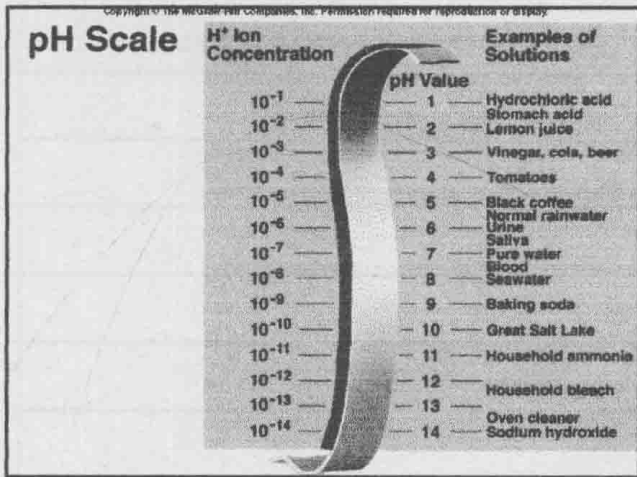
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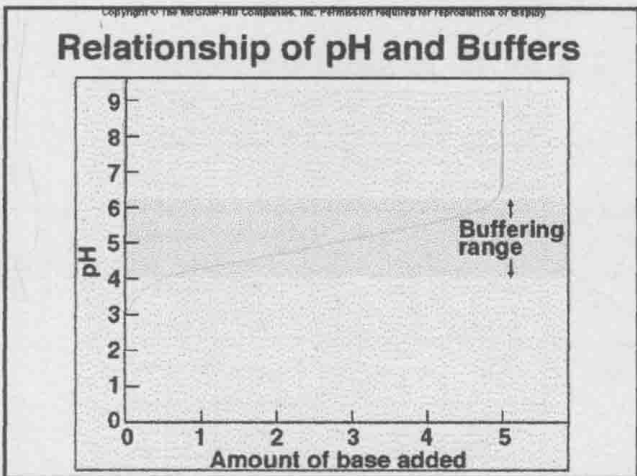
Hydrogen Bonds in an Ice Crystal

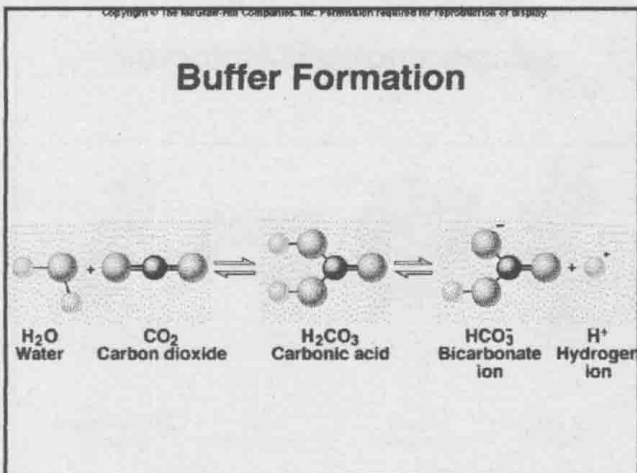


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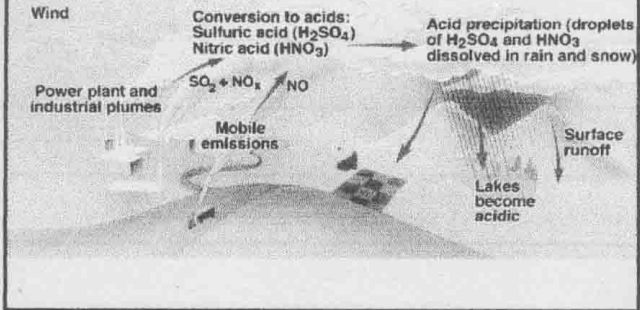








Formation of Acid Precipitation



Chapter 3

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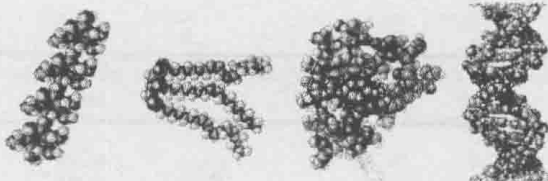
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Primary Functional Groups

Group	Chemical formula	Structural Formula	Ball-and-Stick Model	Found in:
Hydroxyl	-OH	-OH	O-H	Alcohols
Carbonyl	C=O			Formaldehyde
Carboxyl	-COOH			Vinegar
Amino	-NH ₂			Ammonia
Sulfhydryl	-SH	-S-H	S-H	Rubber
Phosphate	-PO ₄			ATP
Methyl	-CH ₃			Methane gas

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Biological Macromolecules



Carbohydrate
(starch)

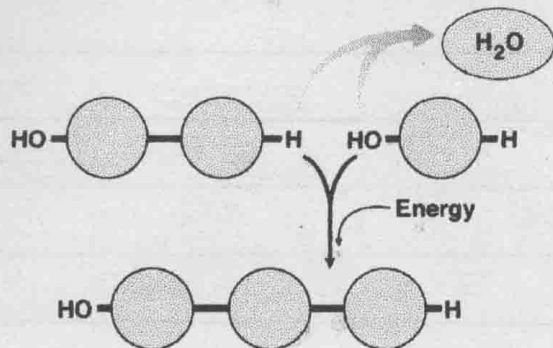
Lipid
(triacylglycerol)

Protein
(enzyme)

Nucleic acid
(DNA)

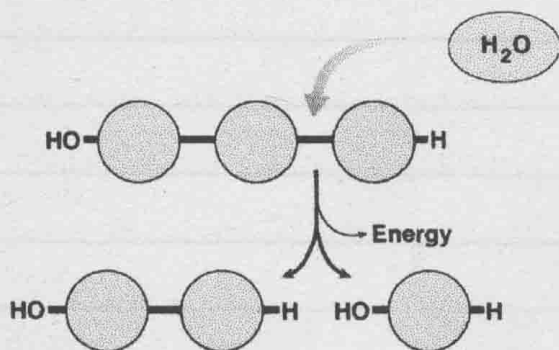
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Dehydration Synthesis



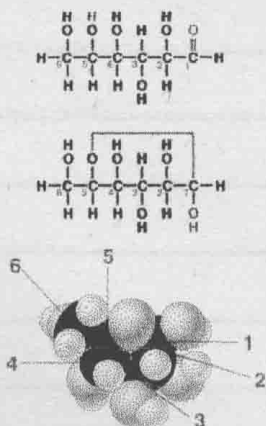
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Hydrolysis

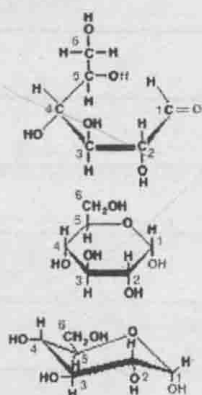


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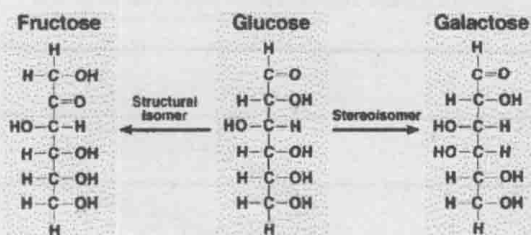
Glucose Molecular Structure (1)



Glucose Molecular Structure (2)



Isomers and Stereoisomers



Disaccharides

