



# **Switched-On**

SCHOOLHOUSE® 2011 EDITION

## Curriculum Catalog

### Biology

## Welcome to Switched-On Schoolhouse!

We are excited that you are including Switched-On Schoolhouse as part of your program of instruction, and we look forward to serving you and your students.

Switched-On Schoolhouse comes complete with a full, multimedia-rich curriculum for grades 3-12 in five core subjects and electives.

Thanks for choosing us!

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## Table of Contents – Biology

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UNIT 1: TAXONOMY: KEY TO ORGANIZATION.....	1
UNIT 2: CHEMISTRY OF LIFE.....	1
UNIT 3: CELLS.....	1
UNIT 4: CELL DIVISION AND REPRODUCTION.....	1
UNIT 5: GENETICS: GOD’S PLAN OF INHERITANCE.....	2
UNIT 6: MICROBIOLOGY.....	2
UNIT 7: PLANTS: GREEN FACTORIES.....	2
UNIT 8: HUMAN ANATOMY AND PHYSIOLOGY.....	2
UNIT 9: ECOLOGY, POLLUTION, AND ENERGY.....	3
UNIT 10: PRINCIPLES AND APPLICATIONS OF BIOLOGY.....	3

Don't forget to review the Science Lab Materials List for Biology!

**UNIT 1: TAXONOMY: KEY TO ORGANIZATION****Assignment Titles**

1. The History of Taxonomy	11. Quiz 3
2. Quiz 1	12. Taxonomy and Origins
3. Binomial Nomenclature	13. Models of Origin
4. Concept of Species	14. Project: Research
5. Quiz 2	15. Project: Origins
6. Plant and Animal Classification	16. Quiz 4
7. Experiment: Fruit	17. Special Project
8. Activity: Keying Plants	18. Test
9. Activity: Keying Animals	19. Alternate Test
10. Search For A System	

**UNIT 2: CHEMISTRY OF LIFE****Assignment Titles**

1. Molecular Basis of Life	13. Organic Compounds
2. Quiz 1	14. Carbohydrates
3. Properties of Compounds	15. Experiment: Starch
4. Experiment: Static Electricity	16. Lipids
5. Covalent Bonding	17. Nucleic Acids
6. Experiment: Temperature	18. Quiz 4
7. Importance of Inorganic Compounds	19. Enzymes
8. Experiment: Water Properties	20. Experiment: Digestion
9. Experiment: Indicators	21. Quiz 5
10. Quiz 2	22. Special Project
11. Chemical Reactions	23. Test
12. Quiz 3	24. Alternate Test

**UNIT 3: CELLS****Assignment Titles**

1. The Cell-An Introduction	10. Organelles
2. The Microscope	11. Production of Needed Material
3. Experiment: Microscope	12. Quiz 2
4. Experiment: Cheek Cells	13. Cells in Organisms
5. Experiment: Onion Cells	14. Experiment: Tissues
6. Quiz 1	15. Quiz 3
7. Cell Design	16. Special Project
8. Cell Membrane Function	17. Test
9. Experiment: Osmosis	18. Alternate Test

**UNIT 4: CELL DIVISION AND REPRODUCTION****Assignment Titles**

1. Cell Division	15. Experiment: Tissue Structure
2. Meiosis	16. Quiz 3
3. Stages of Mitosis	17. Sexual Reproduction in Animals
4. Experiment: Mitosis	18. Experiment: Tissue Structure
5. Quiz 1	19. Metamorphosis
6. Asexual Reproduction	20. Quiz 4
7. Experiment: Fragmentation	21. Sexual Reproduction in Plants
8. Plants	22. Life Cycles of Ferns and Pines
9. Experiment: Bulb Structure	23. Experiment: Ferns and Pines
10. Practical Applications in Plants	24. Experiment: Flowers
11. Experiment: Cuttings	25. Quiz 5
12. Quiz 2	26. Special Project
13. Sexual Reproduction	27. Test
14. Fertilization	28. Alternate Test

## Biology (cont.)

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### UNIT 5: GENETICS: GOD'S PLAN OF INHERITANCE

#### Assignment Titles

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|--|------------------------------------|
| 1. Genetics: God's Plan of Inheritance | 11. Molecular Genetics             |
| 2. Probabilities                       | 12. Experiment: Molecular Genetics |
| 3. Experiment: Probability             | 13. Quiz 3                         |
| 4. Cross Predictions                   | 14. Human Genetics                 |
| 5. Application of Mendelian Genetics   | 15. Factors Studied                |
| 6. Quiz 1                              | 16. Inherited Diseases             |
| 7. Chromosome Basis of Heredity        | 17. Quiz 4                         |
| 8. Chromosomes in Meiosis              | 18. Special Project                |
| 9. Sex Chromosomes                     | 19. Test                           |
| 10. Quiz 2                             | 20. Alternate Test                 |

### UNIT 6: MICROBIOLOGY

#### Assignment Title

- |   |   |
|---|---|
| 1. Microbial Taxonomy                       | 12. Eubacteria  |
| 2. Fungi                                    | 13. Activity: Pathogenic Bacteria Report                      |
| 3. Experiment: Fungus All Around (Part 1)   | 14. Archaea   |
| 4. Experiment: Fungus All Around (Part 2)   | 15. Viruses, Prions, and Viroids                              |
| 5. Quiz 1: Microbial Taxonomy and Fungi     | 16. Experiment: Algae Observations                            |
| 6. Animal-life Protists                     | 17. Quiz 4: Eubacteria, Archaea, Viruses, Prions, and Viroids |
| 7. Experiment: Protozoan Culture            | 18. Special Project   |
| 8. Quiz 2: Animal-life Protists             | 19. Test: Microbiology  |
| 9. Plant-life Protists (Algae)              | 20. Alternate Test: Microbiology                              |
| 10. Fungus-like Protists                    |   |
| 11. Quiz 3: Plant- and Fungus-like Protists |   |

### UNIT 7: PLANTS: GREEN FACTORIES

#### Assignment Title

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|----------------------------|-----------------------------------|
| 1. How Is a Plant Made?    | 10. Photosynthesis: A Closer Look |
| 2. Parts of the Plant Cell | 11. Experiment: Terrarium         |
| 3. Anatomy and Morphology  | 12. Respiration                   |
| 4. Quiz 1                  | 13. Quiz 3                        |
| 5. How do Plants Grow?     | 14. How do Plants Help People?    |
| 6. Experiment: Seeds       | 15. Quiz 4                        |
| 7. Developmental Anatomy   | 16. Special Project               |
| 8. Quiz 2                  | 17. Test                          |
| 9. How do Plants Work?     | 18. Alternate Test                |

### UNIT 8: HUMAN ANATOMY AND PHYSIOLOGY

#### Assignment Title

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|------------------------------|--|
| 1. Digestive System          | 12. Quiz 2                                 |
| 2. Excretory System          | 13. Environmental Interactions             |
| 3. Respiratory System        | 14. Sensory Systems: The Eye               |
| 4. Circulatory System        | 15. Sensory Systems: Hearing, Taste, Touch |
| 5. The Heart                 | 16. Endocrine System                       |
| 6. Experiment: Heart Rate    | 17. Immune System and Disease              |
| 7. Quiz 1                    | 18. Quiz 3                                 |
| 8. Body Framework            | 19. Special Project                        |
| 9. Muscular System           | 20. Test                                   |
| 10. Experiment: Muscle Types | 21. Alternate Test                         |
| 11. Reproductive System      |  |

## Biology (cont.)

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### UNIT 9: ECOLOGY, POLLUTION, AND ENERGY

#### Assignment Title

1. Principles of Ecology	11. Quiz 2
2. Environmental Factors	12. Pollution Affects Ecology
3. Food Chains	13. Pollution Problems
4. Quiz 1	14. Quiz 3
5. Ecological Relationships	15. Energy Affects Ecology
6. Communities and Habitats	16. Essay: Stewardship
7. Experiment: Habitats	17. Quiz 4
8. Experiment: Biomes	18. Special Project
9. Experiment: Quadrats	19. Test
10. Experiment: Inventory	20. Alternate Test

### UNIT 10: PRINCIPLES AND APPLICATIONS OF BIOLOGY

#### Assignment Title

1. Study of Life	8. Applications of Biology
2. Definition of Life	9. Green Revolution
3. Quiz 1	10. Quiz 3
4. Basic Principles of Life	11. Special Project
5. Control System	12. Test
6. Environment of Life	13. Alternate Test
7. Quiz 2	