

Course Integration Guide

To Accompany

Biology, 8th edition

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TECHNOLOGY LISTING

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(007-252226-7)

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This set of transparency acetates to accompany the text has been expanded to 705 full-color acetates.

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Active Art from this CD-ROM is referenced.

(007-284219-9)

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Set of 100 electron and photomicrograph slides.

(007-239977-5)

CHAPTER 1-A VIEW OF LIFE

1.1	How to Define Life
Transparency	#1 Levels of biological organization
Transparency	#2 Levels of biological organization
IP-CD Active Art	Figure 1.2, Levels of biological organization, 001.ppt
LSA CD-ROM	Intro- <i>Organization</i> : biological_organization.swf

1.2	How the Biosphere Is Organized
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Transparency	#4 A marine ecosystem

1.3	How Living Things Are Classified
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Transparency	#6 Domain Eukarya

1.4	The Process of Science
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Transparency	#8 Wheat biomass
Transparency	#9 A field study
Transparency	#10 Label scientific method diagram
IP-CD Active Art	Figure 1.10, Flow diagram for the scientific method, 002.ppt
LSA CD-ROM	Intro: scientific_method.swf

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2.1	Chemical Elements
Transparency	#11 Elements of Earth's crust and its organisms
Transparency	#12 Model of helium
Transparency	#13 A portion of the periodic table
Transparency	#14 Carbon atom notation
Transparency	#15 Bohr models of atoms
LSA CD-ROM	Intro- <i>General Chemistry</i> : atomic_structure.rm
LSA CD-ROM	Intro- <i>General Chemistry</i> : model_of_helium.swf

ESP	Cells/Chemistry/Atoms
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2.2	Elements and Compounds
Transparency	#16 Formation of sodium chloride
Transparency	#17 Covalently bonded molecules
Transparency	#18 Covalently bonded molecules
Transparency	#19 Water molecule
IP-CD Active Art	Figure 2.7, Formation of sodium chloride, 003.ppt
LSA CD-ROM	Intro- <i>General Chemistry</i> : ionic_bond.rm
LSA CD-ROM	Intro- <i>General Chemistry</i> : ionic_reaction.swf
LSA CD-ROM	Intro- <i>General Chemistry</i> : covalent_bond.rm
LSA CD-ROM	Intro- <i>General Chemistry</i> : water_molecule.swf
ESP	Cells/Chemistry/Bonds

2.3	Chemistry of Water
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Transparency	#27 Hydrogen ion concentration and pH
Transparency	#28 The pH scale
Transparency	#29 Structural formula of methane
Transparency	#30 Electron model of nitrogen to complete
Transparency	#31 Space-filling model of water to fill in
LSA CD-ROM	Intro- <i>General Chemistry</i> : water_as_a_transport_medium.swf
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ESP	Cells/Chemistry/pH

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LSA CD-ROM	Intro- <i>Macromolecule</i> : synthesis_hydrolysis_polymers.swf
ESP	Cells/Chemistry/Organic Chemistry

3.2	Carbohydrates
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IP-CD Active Art	Figure 3.7, Synthesis and degradation of maltose, a disaccharide, 004.ppt
ESP	Cells/Chemistry/Carbohydrates

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ESP	Cells/Chemistry/Lipids

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Transparency	#56 Levels of protein organization
IP-CD Active Art	Figure 3.15, Synthesis and degradation of a peptide, 005.ppt
LSA CD-ROM	Intro: <i>Macromolecule:</i> levels_protein_organization.swf
ESP	Cells/Chemistry/Proteins

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Transparency	#63 Diagrams of bonds
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ESP	Cells/Chemistry/Nucleic Acids

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Transparency	#66 Surface-area-to-volume relationships
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Transparency	#68 Diagram of microscopes
Transparency	#69 Diagram of microscopes
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Slide	5. Blood vessels and cells, transmission electron microscope
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ESP	Cells/Cell Structures/Surface to Volume

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LSA CD-ROM	Cell-Cell Structure and Function: signal_transduction.mov
ESP	Cells/Cell Structures/Prokaryotes

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Transparency	#80 Golgi apparatus
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IP-CD Active Art	Figure 4.13, Endomembrane system, 007.ppt
LSA CD-ROM	<i>Cell-Cell Structure and Function:</i> animal_cell_anatomy.swf
LSA CD-ROM	<i>Cell-Cell Structure and Function:</i> plant_cell_anatomy.swf
LSA CD-ROM	<i>Cell-Cell Structure and Function:</i> rough_endoplasmic_reticulum.swf
LSA CD-ROM	<i>Cell-Cell Structure and Function:</i> Golgi_apparatus.swf
LSA CD-ROM	<i>Cell-Cell Structure and Function:</i> secretion.swf
ESP	Cells/Cell Structures/Eukaryotes
ESP	Cells/Cell Structures/Endomembrane
ESP	Cells/Cell Structures/Energy Organelles
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ESP	Cells/Cell Structures/Animal Cell Review

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ESP	Cells/Cell Membrane/Membrane Structure

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Transparency	#94 Cholesterol in plasma membrane
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Transparency	#97 Membrane protein diversity
Transparency	#98 Membrane protein diversity
IP-CD Active Art	Figure 5.2, Fluid-mosaic model of plasma membrane structure, 008.ppt
ESP	Cells/Cell Membrane/Membrane Structure

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Transparency	#103 Osmosis demonstration
Transparency	#104 Osmosis in animal and plant cells
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IP-CD Active Art	Figure 5.10, Facilitated transport, 012.ppt
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IP-CD Active Art	Figure 5.13, Three methods of endocytosis, 014.ppt
LSA CD-ROM	<i>Cell-Membrane Structure and Function: permeability.swf</i>
LSA CD-ROM	<i>Cell-Membrane Structure and Function: 1_diffusion.swf</i>
LSA CD-ROM	<i>Cell-Membrane Structure and Function: 2_diffusion.rm</i>
LSA CD-ROM	<i>Cell-Membrane Structure and Function: 3_diffusion.swf</i>
LSA CD-ROM	<i>Cell-Membrane Structure and Function: 1_osmosis.swf</i>
LSA CD-ROM	<i>Cell-Membrane Structure and Function: 2_osmosis.rm</i>

LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> 3_osmosis.swf
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> osmosis_comparison.swf
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> active_transport.rm
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> cotransport.swf
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> 1_sodium-pottasium_pump.swf
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> 2_sodium-pottasium_pump.swf
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> 1endocytosis_and_exocytosis.swf
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> 2_endocytosis_and_exocytosis.rm
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> receptor-mediated_endocytosis.swf
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> facilitated_diffusion.swf
LSA CD-ROM	<i>Cell-Membrane Structure and Function:</i> transport_moves_substances.swf
ESP	Cells/Cell Membrane/Diffusion
ESP	Cells/Cell Membrane/Osmosis
ESP	Cells/Cell Membrane/Facilitated Diffusion
ESP	Cells/Cell Membrane/Active Transport
ESP	Cells/Cell Membrane/Exo/Endocytosis

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Transparency	#115 Label plasma membrane diagram
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ESP	Cells/Cell Membrane/Cell Interactions

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Transparency	#118 Muscle cells and energy
Transparency	#119 Cells and entropy
LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : energy_conversion.rm
ESP	Cells/Metabolism/Thermodynamics

6.2	Metabolic Reactions and Energy Transformations
Transparency	#120 The ATP cycle
Transparency	#121 Coupled reaction
Transparency	#122 Coupled reactions
IP-CD Active Art	Figure 6.3, The ATP cycle, 016.ppt
LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : the_ATP_cycle.swf
ESP	Cells/Metabolism/Coupled Reactions

6.3	Metabolic Pathways and Enzymes
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Transparency	#127 Effect of temperature on rate of reaction
Transparency	#128 Effect of pH on rate of reaction
Transparency	#129 Phosphorylation
Transparency	#130 Feedback inhibition
IP-CD Active Art	Figure 6.6, Enzymatic action, 017.ppt
IP-CD Active Art	Figure 6.10, Feedback inhibition, 018.ppt
LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : energy_of_activation.swf
LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : enzymatic_action.swf
LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : enzymes_are_specific.swf
LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : EnzymesActivation_Energies.swf
LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : how_enzymes_work.swf

LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : 1_feedback_inhibition.rm
LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : 2_feedback_inhibition.swf
LSA CD-ROM	Cell- <i>Energy and Enzymes</i> : allosteric_enzyme_regulation.swf
ESP	Cells/Metabolism/Enzymes
ESP	Cells/Metabolism/Pathways

6.4	Oxidation–Reduction and the Flow of Energy
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Transparency	#132 Chemiosmosis
Transparency	#133 Label enzyme action
Transparency	#134 Label chemiosmosis
IP-CD Active Art	Figure 6.12, Chemiosmosis, 019.ppt
LSA CD-ROM	Cell- <i>Cell Respiration</i> : 1_electron_transport_system.swf
LSA CD-ROM	Cell- <i>Cell Respiration</i> : 2_electron_transport_system.swf
LSA CD-ROM	Cell- <i>Cell Respiration</i> : 1electron_transport_chain.swf
LSA CD-ROM	Cell- <i>Cell Respiration</i> : 2electron_transport_chain.swf
LSA CD-ROM	Cell- <i>Cell Respiration</i> : 3_electron_transport_chain.rm
LSA CD-ROM	Cell- <i>Cell Respiration</i> : 4_electron_transport_chain.rm
LSA CD-ROM	Cell- <i>Cell Respiration</i> : chemiosmosis.swf
ESP	Cells/Metabolism/Pathways
ESP	Cells/Respiration/Electron Transport

CHAPTER 7-PHOTOSYNTHESIS

7.1	Photosynthetic Organisms
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Slide	24. Prokaryotic cells, cyanobacterium
ESP	Cells/Photosynthesis/Chloroplast

7.2	Plants as Solar Energy Converters
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Transparency	#136 Photosynthetic pigments and photosynthesis
Transparency	#137 Overview of photosynthesis
LSA CD-ROM	Cell- <i>Photosynthesis</i> : 1_photosynthesis.rm
LSA CD-ROM	Cell- <i>Photosynthesis</i> : 2_photosynthesis.rm
LSA CD-ROM	Cell- <i>Photosynthesis</i> : 3_photosynthetic_pigments.swf
LSA CD-ROM	Cell- <i>Photosynthesis</i> : 4_photosynthesis_summary.swf
LSA CD-ROM	Cell- <i>Photosynthesis</i> : electromagnetic_spectrum.swf
ESP	Cells/Photosynthesis/Light and Pigments

7.3	Light Reactions
Transparency	#138 The light reactions: the noncyclic electron pathway
Transparency	#139 The Calvin cycle reactions: the cyclic electron pathway
Transparency	#140 Organization of a thylakoid
Transparency	#141 Organization of a thylakoid
IP-CD Active Art	Figure 7.5, Noncyclic electron pathway: Electrons move from water to NADP ⁺ , 020.ppt
LSA CD-ROM	Cell- <i>Photosynthesis</i> : light_reactions.swf
LSA CD-ROM	Cell- <i>Photosynthesis</i> : noncyclic_electron_pathway.swf
LSA CD-ROM	Cell- <i>Photosynthesis</i> : organization_of_thylakoid.swf
LSA CD-ROM	Cell- <i>Cell Respiration</i> : two_views_of_ATP_synthase.swf
LSA CD-ROM	Cell- <i>Photosynthesis</i> : light_independent_reactions.swf
ESP	Cells/Photosynthesis/Light Dependent
ESP	Cells/Photosynthesis/Light Independent

7.4	Calvin Cycle Reactions
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Transparency	#143 Reduction of carbon dioxide
Transparency	#144 Regeneration of RuBP
IP-CD Active Art	Figure 7.8, The Calvin cycle reactions, 021.ppt
LSA CD-ROM	Cell- <i>Photosynthesis</i> : the_Calvin_cycle.swf
LSA CD-ROM	Cell- <i>Photosynthesis</i> : carbon_fixation.swf

7.5	Other Types of Photosynthesis
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Transparency	#146 CO ₂ fixation in C ₃ and C ₄ plants
Transparency	#147 CO ₂ fixation in a CAM plant
Transparency	#148 Label chloroplast diagram
Transparency	#149 Label photosynthesis
IP-CD Active Art	Figure 7.10, 7.11, Carbon dioxide fixation in C ₃ , C ₄ , and CAM plants, 022.ppt
ESP	Cells/Photosynthesis/Photorespiration

CHAPTER 8-CELLULAR RESPIRATION

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Transparency	#151 The NAD ⁺ cycle
Transparency	#152 Complete glucose breakdown
ESP	Cells/Respiration/Introduction

8.2	Outside the Mitochondria: Glycolysis
Transparency	#153 Glycolysis
Transparency	#154 Substrate-level phosphorylation
Transparency	#155 Glycolysis
LSA CD-ROM	<i>Cell-Cell Respiration: 1_glycolysis.swf</i>
LSA CD-ROM	<i>Cell-Cell Respiration: 2_glycolysis.swf</i>
LSA CD-ROM	<i>Cell-Cell Respiration: glycolysis_overview.swf</i>
ESP	Cells/Respiration/Glycolysis

8.3	Inside the Mitochondria
Transparency	#156 Mitochondrion structure and function
Transparency	#157 Transition reaction
Transparency	#158 Citric acid cycle
Transparency	#159 Citric acid cycle inputs and outputs
Transparency	#160 The electron transport system
Transparency	#161 Organization of cristae
Transparency	#162 Energy yield of glucose molecule
Transparency	#163 Air pollution
Slide	15. Mitochondrion

IP-CD Active Art	Figure 8.6, Citric acid cycle, 023.ppt
LSA CD-ROM	Cell-Cell Respiration: 1_electron_transport_system.swf
LSA CD-ROM	Cell-Cell Respiration: 2_electron_transport_system.swf
LSA CD-ROM	Cell-Cell Respiration: 1electron_transport_chain.swf
LSA CD-ROM	Cell-Cell Respiration: 2electron_transport_chain.swf
LSA CD-ROM	Cell-Cell Respiration: 3_electron_transport_chain.rm
LSA CD-ROM	Cell-Cell Respiration: 4_electron_transport_chain.rm
LSA CD-ROM	Cell-Cell Respiration: organization_of_cristae.swf
LSA CD-ROM	Cell-Cell Respiration: acetyl- CoA_formation.swf
LSA CD-ROM	Cell-Cell Respiration: 1_Krebs_cycle.swf
LSA CD-ROM	Cell-Cell Respiration: 2_Krebs_cycle_overview.swf
LSA CD-ROM	Cell-Cell Respiration: products_of_Krebs_cycle.swf
LSA CD-ROM	Cell-Cell Respiration: transferring_hydrogen_atoms.swf
ESP	Cells/Respiration/Transition
ESP	Cells/Respiration/Transition
ESP	Cells/Respiration/Electron Transport

8.4	Fermentation
Transparency	#164 Fermentation
Transparency	#165 Fermentation inputs and outputs
IP-CD Active Art	Figure 8.10, Fermentation, 024.ppt
ESP	Cells/Respiration/Fermentation

8.5	Metabolic Pool
Transparency	#166 The metabolic pool concept
Transparency	#167 Label mitochondrion
ESP	Cells/Respiration/Summary
ESP	Cells/Respiration/Other Nutrients

CHAPTER 9-THE CELL CYCLE AND CELLULAR REPRODUCTION

9.1	The Cell Cycle
Transparency	#168 The cell cycle
Transparency	#169 Apoptosis
Transparency	#170 Levels of chromosome structure
Slide	91. Apoptosis
IP-CD Active Art	Figure 9.1, The cell cycle, 025.ppt
LSA CD-ROM	Principles of Inheritance- <i>Cell Division</i> : the_cell_cycle.swf
ESP	Genetics/Cell Division/Introduction

9.2	Mitosis and Cytokinesis
Transparency	#171 Diploid Chromosome Numbers of Some Eukaryotes
Transparency	#172 Duplicated chromosomes
Transparency	#173 Phases of mitosis in animal cells
Transparency	#174 Phases of mitosis in animal cells
Transparency	#175 Cytokinesis in animal cells
Transparency	#176 Cytokinesis in plant cells
Slide	27. Eukaryotic nucleus
Slide	28. Late interphase (animal cell)
Slide	29. Early prophase (animal cell)
Slide	30. Late prophase (animal cell)
Slide	31. Metaphase (animal cell)
Slide	32. Anaphase (animal cell)
Slide	33. Telophase (animal cell)
Slide	34. Prophase (plant cell)
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Slide	38. Cytokinesis (plant cell)
Slide	39. Cytokinesis (animal cell)
LSA CD-ROM	Principles of Inheritance- <i>Cell Division</i> : interphase_mitosis.swf
LSA CD-ROM	Principles of Inheritance- <i>Cell Division</i> : mitosis.rm
LSA CD-ROM	Principles of Inheritance- <i>Cell Division</i> : phases_of_mitosis.swf
LSA CD-ROM	Principles of Inheritance- <i>Cell Division</i> : steps_in_mitosis.swf
LSA CD-ROM	Principles of Inheritance- <i>Cell Division</i> :

	cytokinesis.swf
ESP	Genetics/Cell Division/Chromosomes
ESP	Genetics/Cell Division/Mitosis/Cell Cycle

9.3	The Cell Cycle and Cancer
Transparency	#177 Cancer Cells Versus Normal Cells
Transparency	#178 Causes of cancer
LSA CD-ROM	Principles of Inheritance- <i>Changes in Genetic Message: causes_of_cancer.swf</i>
LSA CD-ROM	Principles of Inheritance- <i>Cell Division: control_of_cell_cycle.swf</i>

9.4	Prokaryotic Cell Division
Transparency	#179 Binary fission
Transparency	#180 Cell division in unicellular organisms
Transparency	#181 Cell division in multicellular organisms
Transparency	#182 Functions of Cell Division
Transparency	#183 Label prophase
LSA CD-ROM	Principles of Inheritance- <i>Cell Division: binary_fission.swf</i>

CHAPTER 10-MEIOSIS AND SEXUAL REPRODUCTION

10.1	Halving the Chromosome Number
Transparency	#184 Homologous chromosomes
Transparency	#185 Overview of meiosis
IP-CD Active Art	Figure 10.2, Overview of meiosis, 026.ppt
LSA CD-ROM	Principles of Inheritance- <i>Meiosis: 1_overview_of_meiosis.swf</i>
LSA CD-ROM	Principles of Inheritance- <i>Meiosis: 2_overview_of_meiosis.swf</i>
LSA CD-ROM	Principles of Inheritance- <i>Meiosis: 3_overview_of_meiosis.swf</i>
LSA CD-ROM	Principles of Inheritance- <i>Meiosis: genetic_diversity.mov</i>

10.2	Genetic Recombination
Transparency	#186 Crossing-over occurs during meiosis

	I
Transparency	#187 Independent assortment
LSA CD-ROM	Principles of Inheritance- <i>Meiosis</i> : recombination.mov
LSA CD-ROM	Principles of Inheritance- <i>Meiosis</i> : 1_crossing-over.swf
LSA CD-ROM	Principles of Inheritance- <i>Meiosis</i> : 2_crossing-over.swf
LSA CD-ROM	Principles of Inheritance- <i>Meiosis</i> : independent_assortment.swf
ESP	Genetics/Cell Division/Recombination

10.3	The Phases of Meiosis
Transparency	#188 Meiosis I
Transparency	#189 Meiosis II
IP-CD Active Art	Figure 10.6, Meiosis I, 027.ppt
IP-CD Active Art	Figure 10.7, Meiosis II, 028.ppt
LSA CD-ROM	Principles of Inheritance- <i>Meiosis</i> : 1_meiosis.rm
LSA CD-ROM	Principles of Inheritance- <i>Meiosis</i> : 2_meiosis_I.swf
LSA CD-ROM	Principles of Inheritance- <i>Meiosis</i> : 3_meiosis_II.swf
LSA CD-ROM	Principles of Inheritance- <i>Meiosis</i> : 4_meiosis_I_and_II.swf
ESP	Genetics/Cell Division/Meiosis

10.4	Comparison of Meiosis with Mitosis
Transparency	#190 Comparison of Meiosis I with Mitosis
Transparency	#191 Comparison of Meiosis II with Mitosis
Transparency	#192 Meiosis compared to mitosis
Slide	28. Late interphase (animal cell)
Slide	29. Early prophase (animal cell)
Slide	30. Late prophase (animal cell)
Slide	31. Metaphase (animal cell)
Slide	32. Anaphase (animal cell)
Slide	33. Telophase (animal cell)
ESP	Genetics/Cell Division/Review of Cell Division

10.5	The Human Life Cycle
Transparency	#193 Life cycle of humans
Transparency	#194 Spermatogenesis and oogenesis in mammals
Transparency	#195 Spermatogenesis and oogenesis in mammals
Transparency	#196 Metaphase question
IP-CD Active Art	Figure 10.10, Spermatogenesis and oogenesis in mammals, 029.ppt
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : oogenesis.rm
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : spermatogenesis.rm
ESP	Genetics/Cell Division/Evolution of Sex

CHAPTER 11-MENDELIAN PATTERNS OF INHERITANCE

11.1	Gregor Mendel
Transparency	#197 Garden pea anatomy and traits
Transparency	#198 Garden pea anatomy and traits
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : MendelsExperimental_design.swf
ESP	Genetics/Classical Genetics/Introduction

11.2	One-Trait Inheritance
Transparency	#199 Monohybrid cross done by Mendel
Transparency	#200 Homologous chromosomes
Transparency	#201 Genotype Versus Phenotype
Transparency	#202 Genetic inheritance in humans
Transparency	#203 Testcross
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : Mendels_monohybrid_cross.swf
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : 1_testcross.swf
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : 2_testcross.swf
ESP	Genetics/Classical Genetics/Monohybrid Cross

11.3	Two-Trait Inheritance
Transparency	#204 Dihybrid cross done by Mendel

Transparency	#205 Segregation and independent assortment
Transparency	#206 Inheritance in fruit flies
Transparency	#207 Testcross
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : gene_segregation.swf
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : MendelsDihybridCross.swf
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : plotting_a_dihybrid_cross.swf
ESP	Genetics /Classical Genetics/Dihybrid Cross

11.4	Human Genetic Disorders
Transparency	#208 Patterns of inheritance
Transparency	#209 Autosomal recessive pedigree chart
Transparency	#210 Autosomal dominant pedigree chart

11.5	Beyond Mendelian Genetics
Transparency	#211 Incomplete dominance
Transparency	#212 Inheritance of blood type
Transparency	#213 Polygenic inheritance
Transparency	#214 Seed color in wheat
Transparency	#215 Coat color in Himalayan rabbits
Transparency	#216 Pedigree chart to label
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : incomplete_dominance.swf
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : sickle-cell_disease.swf
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : 1_epistasis.swf
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : 2_epistasis.swf
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : ABO_blood_types.rm
ESP	Genetics /Classical Genetics/Beyond Mendel

CHAPTER 12-CHROMOSOMAL PATTERNS OF INHERITANCE

12.1	Chromosomal Inheritance
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Transparency	#217 Sex chromosomal inheritance
Transparency	#218 X-linked alleles
Transparency	#219 X-linked alleles
Transparency	#220 <i>Drosophila</i>
Transparency	#221 X-linked inheritance
Transparency	#222 X-linked recessive pedigree chart
Transparency	#223 X-linked inheritance of hemophilia
Transparency	#224 Fragile X syndrome
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : x-linked_inheritance.swf
ESP	Genetics/Chromosomes/Introduction
ESP	Genetics/Chromosomes/Sex Chromosomes

12.2	Gene Linkage
Transparency	#225 Linkage group
Transparency	#226 Crossing-over
Transparency	#227 Chromosome map
Transparency	#228 Complete linkage versus incomplete linkage
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : linkage_groups.swf
ESP	Genetics/Chromosomes/Sex Chromosomes

12.3	Changes in Chromosome Number
Transparency	#229 Polyploidy
Transparency	#230 Nondisjunction followed by fertilization
Transparency	#231 Trisomy 21
Transparency	#232 Syndromes from Abnormal Chromosome Numbers
Transparency	#233 Human karyotype
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : nondisjunction_of.swf
ESP	Genetics/Chromosomes/Abnormal Chromosomes

12.4	Changes in Chromosome Structure
Transparency	#234 Types of chromosomal mutations
Transparency	#235 Inversion
Transparency	#236 Deletion
Transparency	#237 Translocation

Transparency	#238 Pedigree chart
LSA CD-ROM	Principles of Inheritance- <i>Changes in Genetic Message</i> : mutations.rm
LSA CD-ROM	Principles of Inheritance- <i>Changes in Genetic Message</i> : inversion.mov
LSA CD-ROM	Principles of Inheritance- <i>Changes in Genetic Message</i> : gene_conversion.mov
ESP	Genetics/Chromosomes/Abnormal Chromosomes

CHAPTER 13-DNA STRUCTURE AND FUNCTIONS

13.1	The Genetic Material
Transparency	#239 Griffith's transformation experiment
Transparency	#240 Bacteria and bacteriophages
Transparency	#241 Hershey and Chase experiments
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : Griffiths_experiment.swf

13.2	The Structure of DNA
Transparency	#242 Nucleotide composition of DNA
Transparency	#243 Nucleotide composition of DNA
Transparency	#244 Variation in base sequence
Transparency	#245 X-ray diffraction of DNA
Transparency	#246 Watson and Crick model of DNA
Transparency	#247 Watson and Crick model of DNA
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : complementary_base_pairing.swf
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : DNA_structure.rm
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : condensed_DNA.swf
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : antiparallel_DNA_strands.swf
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : DNA_packaging.rm
ESP	Genetics/DNA/DNA Structure

13.3	Replication of DNA
Transparency	#248 Semiconservative replication

	(simplified)
Transparency	#249 Meselson and Stahl's DNA replication experiment
Transparency	#250 Meselson and Stahl's DNA replication experiment
Transparency	#251 DNA replication (in depth)
Transparency	#252 DNA replication (in depth)
Transparency	#252 DNA replication (in depth)
Transparency	#254 Prokaryotic versus eukaryotic replication
Transparency	#255 Label semiconservative replication of DNA
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : 3 DNA replication overview.swf
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : 4 DNA replication steps.swf
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : 1 DNA replication.rm
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : 2 DNA replication.swf
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : semiconservative replication.swf
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : replication comparison.swf
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : 1DNA_repair.swf
LSA CD-ROM	Principles of Inheritance- <i>DNA Genetic Material</i> : 2DNA_repair.rm
ESP	Genetics/DNA/DNA Replication

CHAPTER 14-GENE ACTIVITY: HOW GENES WORK

14.1	The Function of Genes
Transparency	#256 Beadle and Tatum experiment
Transparency	#257 Hemoglobin electrophoresis
Transparency	#258 Sickle-cell disease in humans
Transparency	#259 RNA Structure Compared to DNA Structure
Transparency	#260 Structure of RNA
Transparency	#261 Overview of gene expression
Slide	88. Sickled red blood cells
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : sickle-cell_disease.swf

LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : summary_of_gene_expression.swf
ESP	Genetics /Protein Synthesis/Gene Activity

14.2	The Genetic Code
Transparency	#262 Genetic code is a triplet code
Transparency	#263 Messenger RNA codons

14.3	The First Step: Transcription
Transparency	#264 Transcription
Transparency	#265 RNA polymerase
Transparency	#266 Messenger RNA (mRNA) processing in eukaryotes
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : 1_transcription.rm
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : 2_transcription.swf
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : 3_transcription_factors.swf
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : 4_transcription_of_RNA.swf
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : mRNA_processing_eukaryotes.swf
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : eukaryotic_transcription.mov
ESP	Genetics /Protein Synthesis/Transcription

14.4	The Second Step: Translation
Transparency	#267 Structure of a transfer RNA (tRNA)
Transparency	#268 Ribosome structure and function
Transparency	#269 Protein synthesis-Initiation
Transparency	#270 Protein synthesis-Elongation
Transparency	#271 Protein synthesis-Termination
Transparency	#272 Summary of gene expression in eukaryotes
Transparency	#273 DN molecule segment
Slide	90. Polyribosome
IP-CD Active Art	Figure 14.11, Protein synthesis, 030.ppt
IP-CD Active Art	Figure 14.12, Summary of gene expression

	in eukaryotes, 031.ppt
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : 1_translation.rm
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : 2_translation.swf
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : beginning_translation.swf
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : protein_synthesis.swf
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : translating_a_polypeptide.swf
LSA CD-ROM	Principles of Inheritance- <i>Transcription and Translation</i> : polyribosome.rm
ESP	Genetics/Protein Synthesis/Translation

CHAPTER 15-REGULATION OF GENE ACTIVITY AND GENE MUTATIONS

15.1	Prokaryotic Regulation
Transparency	#274 Operon model
Transparency	#275 The <i>trp</i> operon
Transparency	#276 The <i>lac</i> operon
Transparency	#277 Cyclic AMP (cAMP)
Transparency	#278 Action of CAP
LSA CD-ROM	Principles of Inheritance- <i>Control of Gene Expression</i> : 1_lactose_operon.swf
LSA CD-ROM	Principles of Inheritance- <i>Control of Gene Expression</i> : 2_lactose_operon.swf
LSA CD-ROM	Principles of Inheritance- <i>Control of Gene Expression</i> : 3_lactose_operon.mov
LSA CD-ROM	Principles of Inheritance- <i>Control of Gene Expression</i> : 1regulat_of_E_coli_trp_operon.rm
LSA CD-ROM	Principles of Inheritance- <i>Control of Gene Expression</i> : 2regulat_of_E_coli_lac_operon.rm
LSA CD-ROM	Principles of Inheritance- <i>Control of Gene Expression</i> : trp_attenuation.mov
LSA CD-ROM	Principles of Inheritance- <i>Control of Gene Expression</i> : gene_expression_control.swf
ESP	Genetics/Protein Synthesis/Gene Regulation

15.2	Eukaryotic Regulation
Transparency	#279 Levels of gene expression control
Transparency	#280 X-inactivation in mammalian females
Transparency	#281 Levels of chromatin structure
Transparency	#282 Levels of chromatin structure
Transparency	#283 Lampbrush chromosomes
Transparency	#284 Transcription factors
Transparency	#285 Processing of mRNA transcripts
Slide	89. Barr bodies
Slide	92. Lampbrush chromosomes
LSA CD-ROM	Principles of Inheritance- <i>Control of Gene Expression</i> : transcription_factors_2.swf
ESP	Genetics/Protein Synthesis/Gene Regulation

15.3	Genetic Mutations
Transparency	#286 Point mutation
Transparency	#287 A metabolic pathway in cells
Transparency	#288 Carcinogenesis
Transparency	#289 Thymine dimers
Transparency	#290 Transposon
Transparency	#291 Label operon diagram
ESP	Genetics/Protein Synthesis/Translation

CHAPTER 16-BIOTECHNOLOGY AND GENOMICS

16.1	DNA Cloning
Transparency	#292 Cloning a human gene
Transparency	#293 Recombinant DNA technology
Transparency	#294 Polymerase chain reaction (PCR)
IP-CD Active Art	Figure 16.1, Cloning a human gene, 032.ppt
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : cloning_of_a_gene.swf
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : 1_polymerase_chain_reaction.rm
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : 2_polymerase_chain_reaction.swf
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : DNA_sequencing.mov

LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : amplifying_DNA_sequence.swf
ESP	Genetics/Recombinant DNA/Technology

16.2	Biotechnology Products
Transparency	#295 Transgenic mammals
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : probes.mov
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : southern_hybridization.mov
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : colony_hybridization.mov
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : electrophoresis.mov
ESP	Genetics/Recombinant DNA/Applications

16.3	The Human Genome Project
Transparency	#296 Genetic map of chromosome 17
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : genomic_library.swf
ESP	Genetics/Recombinant DNA/Applications

16.4	Gene Therapy
Transparency	#297 Ex vivo gene therapy in humans
Transparency	#298 DNA cut by restriction enzyme
Transparency	#299 Label gene therapy diagrams
LSA CD-ROM	Principles of Inheritance- <i>Biotechnology</i> : ex_vivo_gene.swf
ESP	Genetics/Recombinant DNA/Applications

CHAPTER 17-DARWIN AND EVOLUTION

17.1	History of Evolutionary Thought
Transparency	#300 Voyage of the HMS <i>Beagle</i>
Transparency	#301 Contrast of Worldviews
ESP	Evolution/History/Introduction
ESP	Evolution/History/Voyage of the Beagle

17.2	Darwin's Theory of Evolution
Transparency	#302 Formation of sedimentary rock
Transparency	#303 A glyptodont compared to an armadillo
Transparency	#304 Biogeographical regions
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : rock_formation.swf
ESP	Evolution /History/Natural Selection

17.3	Evidence for Evolution
Transparency	#305 Evolutionary history of <i>Equus</i>
Transparency	#306 Phyletic gradualism versus punctuated equilibrium
Transparency	#307 Significance of structural similarities
Transparency	#308 Significance of biochemical differences
LSA CD-ROM	Evolution- <i>Evolution</i> : evolutionary_history_of_Equus.swf
LSA CD-ROM	Evolution- <i>Evolution</i> : biochemical_differences.swf
ESP	Evolution /History/Evidence for Evolution

CHAPTER 18-PROCESS OF EVOLUTION

18.1	Evolution in a Genetic Context
Transparency	#309 Darwin's finches are quite varied
Transparency	#310 Punnett square for a population
Transparency	#311 Calculating gene pool frequencies using the Hardy-Weinberg equation
Transparency	#312 Industrial melanism and microevolution
Transparency	#313 Gene flow
Transparency	#314 Genetic drift
LSA CD-ROM	Evolution- <i>Population Genetics</i> : forces_of_microevolution.swf
LSA CD-ROM	Evolution- <i>Evolution</i> : microevolution.swf
LSA CD-ROM	Evolution- <i>Population Genetics</i> : Hardy-Weinberg_equilibrium.rm
LSA CD-ROM	Evolution- <i>Evolution</i> : genetic_drift.swf
ESP	Evolution /Processes/Natural Selection
ESP	Evolution /Processes/Other Processes
ESP	Evolution /Processes/Variation

ESP	Evolution /Speciation/Introduction
ESP	Evolution /History of Life/Evolutionary Trends

18.2	Natural Selection
Transparency	#315 Directional selection
Transparency	#316 Stabilizing selection
Transparency	#317 Disruptive selection
Transparency	#318 Diploidy and the heterozygote
Transparency	#319 Sickle-cell disease
Transparency	#320 Effects of the sickle-cell genotypes
Slide	88. Sickled red blood cells
LSA CD-ROM	Principles of Inheritance- <i>Genetics</i> : sickle-cell_disease.swf
ESP	Evolution /Processes/Natural Selection
ESP	Evolution /Processes/Types of Selection
ESP	Evolution /Processes/Variation

18.3	Speciation
Transparency	#321 Reproductive Isolating Mechanisms
Transparency	#322 Temporal isolation
Transparency	#323 Allopatric versus sympatric speciation
Transparency	#324 Adaptive radiation in Hawaiian honeycreepers
Transparency	#325 Distribution of phenotypes diagrams
LSA CD-ROM	Evolution- <i>Evolution</i> : speciation.swf
LSA CD-ROM	Evolution- <i>Evolution</i> : allopatric_speciation.swf
ESP	Evolution /Speciation/Introduction
ESP	Evolution /Speciation/Allopatric Speciation
ESP	Evolution /Speciation/Sympatric Speciation

CHAPTER 19-ORIGIN AND HISTORY OF LIFE

19.1	Origin of Life
Transparency	#326 Stanley Miller's apparatus and experiment
Transparency	#327 Origin of the first cell(s)
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : chemical_evolution.swf

ESP	Evolution /History of Life/Origin of Life
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19.2	History of Life
Transparency	#328 The Geological Timescale
Transparency	#329 Prokaryote fossil of the Precambrian
LSA CD-ROM	Evolution- <i>Evolution</i> : molecular_clock.rm
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : transition_to_land.rm
ESP	Evolution /History of Life/Fossils
ESP	Evolution /History of Life/Key Events

19.3	Factors That Influence Evolution
Transparency	#330 Continental drift
Transparency	#331 Plate tectonics
Transparency	#332A Mass extinctions
Transparency	#332B Mass extinctions
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : continental_drift.swf
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : 1_plate_tectonics.swf
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : 2_plate_tectonics.rm
ESP	Evolution /History of Life/Continental Drift
ESP	Evolution /History of Life/Extinctions

CHAPTER 20-CLASSIFICATION OF LIVING THINGS

20.1	Taxonomy
Transparency	#333 Taxonomy hierarchy
Transparency	#334 Hierarchy of the Taxa to Which Humans Are Assigned
ESP	Evolution /Speciation/Constructing Phylogenies

20.2	Phylogenetic Trees
Transparency	#335 Classification and phylogeny
Transparency	#336 Classification and phylogeny
Transparency	#337 Evolution of orb web
Transparency	#338 Ancestry of giant pandas

Transparency	#339 Genetic data
LSA CD-ROM	Animal Biology- <i>Animal General Biology: classification_and_phylogeny.swf</i>
LSA CD-ROM	Animal Biology- <i>Animal General Biology: genetic_data.swf</i>
LSA CD-ROM	Evolution- <i>Evolution: molecular_clock.rm</i>
ESP	Evolution /Speciation/Constructing Phylogenies
ESP	Diversity /Classification/Phylogeny

20.3	Systematics Today
Transparency	#340 Constructing a cladogram
Transparency	#341 Terms Used in Cladistics
Transparency	#342 Alternate, simplified cladograms
Transparency	#343 Traditional versus cladistics view of reptilian phylogeny
ESP	Evolution /Speciation/Constructing Phylogenies

20.4	Classification Systems
Transparency	#344 The traditional five-kingdom system of classification
Transparency	#345 Relationship of bacteria, Archaea, and Eukarya
Transparency	#346 Major Distinctions Among the Three Domains of Life
Transparency	#347 Classification Criteria for the Three Domains
Transparency	#348 Phylogenetic tree to label
Transparency	#349 Cladogram questions
LSA CD-ROM	Animal Biology- <i>Animal General Biology: five-kingdom_classification.swf</i>
ESP	Diversity /Classification/Hierarchies
ESP	Diversity /Classification/Kingdoms
ESP	Diversity /Classification/Three Domains
ESP	Diversity /Classification/Phylogeny

CHAPTER 21-VIRUSES, BACTERIA, AND ARCHAEA

21.1	The Viruses
Transparency	#350 Summary of viral structure

Transparency	#351 DNA virus with polyhedral capsid and fiber at each corner
Transparency	#352 DNA virus with polyhedral head and a helical tail
Transparency	#353 RNA virus with a helical capsid
Transparency	#354 RNA virus with a helical capsid, spiked envelope
Transparency	#355 Comparison of Viruses and Prokaryotes
Transparency	#356 Lytic and lysogenic cycles in prokaryotes
Transparency	#357 Reproduction of the retrovirus HIV-1
Slide	93. Adenovirus
IP-CD Active Art	Figure 21.3, Lytic and lysogenic cycles in prokaryotes, 033.ppt
LSA CD-ROM	Diversity- <i>Viruses</i> : life_cycle_of_HIV.swf
LSA CD-ROM	Diversity- <i>Viruses</i> : reproduction_of_HIV-1.swf
LSA CD-ROM	Diversity- <i>Prokaryotes</i> : lytic_lysogenic_cycles.swf
ESP	Diversity/Viruses/Characteristics
ESP	Diversity/Viruses/Life Cycles

21.2	The Prokaryotes
Transparency	#358 Pasteur's experiment
Transparency	#359 Flagella
Transparency	#360 Summary of prokaryotic cell structure
Transparency	#361 Binary fission diagram
Slide	22. Flagellum cross section
Slide	23. Prokaryotic cells, nonphotosynthetic bacterium
Slide	24. Prokaryotic cells, cyanobacterium
Slide	97. Endospore
LSA CD-ROM	Diversity- <i>Prokaryotes</i> : prokaryote_structure.swf
LSA CD-ROM	Principles of Inheritance- <i>Cell Division</i> : binary_fission.swf

21.3	The Bacteria
Transparency	#362 Major Phylogenetic Groups of Bacteria
Transparency	#363 Major Phylogenetic Groups of

	Bacteria
Transparency	#364 Diversity among the cyanobacteria
Slide	23. Prokaryotic cells, nonphotosynthetic bacterium
Slide	24. Prokaryotic cells, cyanobacterium
Slide	94. Bacillus bacterium
Slide	95. Coccus bacterium
Slide	96. Spirillum bacterium
ESP	Diversity/Bacteria/Characteristics
ESP	Diversity/Bacteria/Diversity

21.4	The Archaea
Transparency	#365 Viral Diseases in Humans
Transparency	#366 Bacterial Diseases in Humans
Transparency	#367 Bacteriophage reproductive cycles

CHAPTER 22-THE PROTISTS

22.1	General Biology of Protists
Transparency	#368 Origin of the eukaryotic cell
Transparency	#369 Classification table: Kingdom Protista
ESP	Diversity/Protists/Characteristics

22.2	Diversity of Protists
Transparency	#370 Reproduction in <i>Chlamydomonas</i>
Transparency	#371 <i>Spirogyra</i>
Transparency	#372 Brown algae
Transparency	#373 Common life cycles in sexual reproduction
Transparency	#374 Dinoflagellates
Transparency	#375 <i>Euglena</i>
Transparency	#376 Zooflagellates
Transparency	#377 Some Protozoans
Transparency	#378 Protists with pseudopods
Transparency	#379 Ciliates
Transparency	#380 Life cycle of <i>Plasmodium vivax</i>
Transparency	#381 Plasmodial slime molds
Transparency	#382 Diagram <i>Chlamydomonas</i> life cycle
Slide	98. <i>Paramecium</i> , S.E.M.
LSA CD-ROM	Diversity-Protists: Chlamydomonas.swf

LSA CD-ROM	Diversity- <i>Protists</i> : Plasmodium_vivax_life_cycle.swf
LSA CD-ROM	Diversity- <i>Protists</i> : sarcodines.swf
ESP	Diversity /Protists/Protozoa
ESP	Diversity /Protists/Photosynthetic
ESP	Diversity /Protists/Fungus-like

CHAPTER 23-THE FUNGI

23.1	Characteristics of Fungi
Transparency	#383 Mycelium of fungi
Transparency	#384 Fungal sexual reproduction
ESP	Diversity /Fungi/Characteristics

23.2	Evolution of Fungi
Transparency	#385 Classification table: Kingdom Fungi
Transparency	#386 Certain Protists Compared to Fungi
Transparency	#387 Black bread mold, <i>Rhizopus stolonifer</i>
Transparency	#388 Sac fungi
Transparency	#389 Sac fungi
Transparency	#390 Ascus with ascospores
Transparency	#391 Club fungi
Transparency	#392 Club fungi
Transparency	#393 Basidium with basidiospores
LSA CD-ROM	Diversity- <i>Fungi</i> : bread_mold_life_cycle.swf
LSA CD-ROM	Diversity- <i>Fungi</i> : club_fungi.swf
ESP	Diversity /Fungi/Diversity

23.3	Symbiotic Relationships of Fungi
Transparency	#394 Lichen morphology
Transparency	#395 Label black bread mold diagram
Transparency	#396 Label life cycle of a mushroom
LSA CD-ROM	Diversity- <i>Fungi</i> : lichen_morphology.swf
ESP	Diversity /Fungi/Diversity

CHAPTER 24-EVOLUTION AND DIVERSITY OF PLANTS

24.1	Evolutionary History of Plants
Transparency	#397 <i>Chara</i>
Transparency	#398 Evolutionary history of plants
Transparency	#399 Alternation of generations
Transparency	#400 Reduction in the size of the gametophyte
IP-CD Active Art	Figure 24.3, Alternation of generations, 034.ppt
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : alternation_of_generations.swf
ESP	Diversity/Plants/Introduction
ESP	Diversity/Plants/Summary

24.2	Nonvascular Plants
Transparency	#401 Evolutionary tree: Nonvascular plants
Transparency	#402 Hornwort (<i>Anthoceros</i> sp.)
Transparency	#403 Liverwort, <i>Marchantia</i>
Transparency	#404 Moss life cycle
LSA CD-ROM	Diversity- <i>Plant Diversity</i> : moss_life_cycle.swf
ESP	Diversity/Plants/Non-vascular Plants

24.3	Vascular Plants
Transparency	#405 Cooksonian fossil

24.4	Seedless Vascular Plants
Transparency	#406 Evolutionary tree: Seedless vascular plants
Transparency	#407 Club moss, <i>Lycopodium</i>
Transparency	#408 Horsetail, <i>Equisetum</i>
Transparency	#409 Whisk fern, <i>Psilotum</i>
Transparency	#410 Evolution of megaphylls
Transparency	#411 Fern life cycle
IP-CD Active Art	Figure 24.16, Fern life cycle, 035.ppt
LSA CD-ROM	Diversity- <i>Plant Diversity</i> : fern_life_cycle.swf
ESP	Diversity/Plants/Vascular-seedless I
ESP	Diversity/Plants/Vascular-seedless II

24.5	Seed Plants

24.6	Gymnosperms
Transparency	#412 Evolutionary tree: Gymnosperms
Transparency	#413 Pine life cycle
Transparency	#414 Swamp forest of the Carboniferous period
Slide	99. Pine megaspore and pollen grains
IP-CD Active Art	Figure 24.18, Pine life cycle, 036.ppt
LSA CD-ROM	Diversity-Plant Diversity: pine_life_cycle.swf
ESP	Diversity/Plants/Gymnosperms

24.7	Angiosperms
Transparency	#415 Evolutionary tree: Angiosperms
Transparency	#416 Monocots and Eudicots
Transparency	#417 Other Flower Terminology
Transparency	#418 Generalized flower
Transparency	#419 Flowering plant life cycle
Transparency	#420 Flowering plant life cycle
Transparency	#421 Alternation of generations diagram
LSA CD-ROM	Diversity-Plant Diversity: flowering_plant_life_cycle.swf
LSA CD-ROM	Plant Biology-Plant General Biology: alternation_of_generations.swf
ESP	Diversity/Plants/Angiosperms

CHAPTER 25-STRUCTURE AND ORGANIZATION OF PLANTS

25.1	Plant Organs
Transparency	#422 Organization of plant body
ESP	Plants/Plant Organs/Introduction

25.2	Monocot Versus Eudicot Plants
Transparency	#423 Flowering plants are either monocots or eudicots
Transparency	#424 Eudicot venation: Pinnate or palmate
IP-CD Active Art	Figure 25.3, Flowering plants are either monocots or eudicots, 037.ppt

ESP	Diversity/Plants/Summary
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25.3	Plant Tissues
Transparency	#425 Xylem structure
Transparency	#425 Phloem structure
Slide	40. Dermal tissue
Slide	41. Ground tissue, parenchyma cells
Slide	42. Ground tissue, sclerenchyma cells
Slide	43. Vascular tissue, xylem
Slide	44. Vascular tissue, phloem
Slide	45. Vascular cylinder
ESP	Plants/Plant Tissues/Meristems
ESP	Plants/Plant Tissues/Ground Tissue
ESP	Plants/Plant Tissues/Dermal Tissue
ESP	Plants/Plant Tissues/Vascular Tissue

25.4	Organization of Roots
Transparency	#427 Eudicot root tip
Transparency	#428 Eudicot root tip
Slide	46. Branch root
Slide	47. Cross section of monocot root
LSA CD-ROM	Plant Biology- <i>Plant Structure</i> : dicot root tip.swf
ESP	Plants/Plant Organs/Roots

25.5	Organization of Stems
Transparency	#429 Shoot tip and primary meristems
Transparency	#430 Diagrams of secondary growth of stems
Transparency	#431 Diagrams of secondary growth of stems
Transparency	#432 Tree trunk
Transparency	#433 Stem diversity
Slide	48. Stem tip
Slide	49. Herbaceous dicot stem
Slide	50. Monocot stem
IP-CD Active Art	Figure 25.17, Stem diversity, 038.ppt
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : girth_increase_woody_dicts.rm
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : secondary_growth_of_stems.swf

ESP	Plants/Plant Organs/Stems
ESP	Plants/Plant Organs/Secondary Growth

25.6	Organization of Leaves
Transparency	#434 Leaf structure
Transparency	#435 Classification of leaves
Transparency	#436 Label root
Transparency	#437 Label leaf
Slide	51. Leaf structure
IP-CD Active Art	Figure 25.19, Classification of leaves, 039.ppt
LSA CD-ROM	Plant Biology- <i>Plant Structure</i> : leaf_structure.swf
ESP	Plants/Plant Organs/Leaves

CHAPTER 26-NUTRITION AND TRANSPORT IN PLANTS

26.1	Plant Nutrition and Soil
Transparency	#438 Some Essential Inorganic Nutrients in Plants
Transparency	#439 Absorbing minerals
Transparency	#440 Simplified soil profile
ESP	Ecology/Biosphere/Soils

26.2	Water and Mineral Uptake
Transparency	#441 Water and mineral uptake
IP-CD Active Art	Figure 26.5, Water and mineral uptake, 040.ppt
LSA CD-ROM	Plant Biology- <i>Plant Transport</i> : water_and_mineral_uptake.swf
LSA CD-ROM	Plant Biology- <i>Plant Transport</i> : absorbing_minerals.swf
ESP	Plants/Transport & Nutrition/Uptake by Roots
ESP	Plants/Transport & Nutrition/Water Movement

26.3	Transport Mechanisms in Plants
Transparency	#442 Plant transport system
Transparency	#443 Water potential and turgor pressure

Transparency	#444 Cohesion-tension model of xylem transport
Transparency	#445 Opening and closing of stomata
Transparency	#446 Pressure-flow model
Transparency	#447 Pressure-flow model of phloem transport
Transparency	#448 Experiment demonstrating transpiration
Transparency	#449 Label H ₂ O and K ⁺ ions in stomata
Transparency	#450 Pressure-flow diagram
Slide	52. Tracheids
Slide	53. Vessel elements
Slide	54. Open stomate
Slide	55. Closed stomate
IP-CD Active Art	Figure 26.11, Cohesion-tension model of xylem transport, 041.ppt
IP-CD Active Art	Figure 26.14, Pressure-flow model of phloem transport, 042.ppt
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : effect of water on leaves.rm
LSA CD-ROM	Plant Biology- <i>Plant Structure</i> : opening_closing_stomata.swf
LSA CD-ROM	Plant Biology- <i>Plant Transport</i> : cohesion-tension_model.swf
LSA CD-ROM	Plant Biology- <i>Plant Transport</i> : pressure-flow_model.swf
LSA CD-ROM	Plant Biology- <i>Plant Transport</i> : vascular_system_of_plants.rm
ESP	Plants /Transport & Nutrition/Uptake by Roots
ESP	Plants /Transport & Nutrition/Water Movement
ESP	Plants /Transport & Nutrition/Nutrients

CHAPTER 27-CONTROL OF GROWTH AND RESPONSES IN PLANTS

27.1	Plant Responses
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : demonstrating_phototropism.swf
ESP	Plants /Plant Response/Introduction
ESP	Plants /Plant Response/Plant Movement

27.2	Plant Hormones
Transparency	#451 Demonstrating phototropism
Transparency	#452 Auxin structure and mode of action
Transparency	#453 Gibberellic acid structure and mode of action
Transparency	#454 Structure of zeatin
Transparency	#455 Control of stoma opening
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : auxin_and_plant_growth.swf
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : auxin_mode_of_action.swf
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : gibberellin_mode_of_action.swf
LSA CD-ROM	Plant Biology- <i>Plant Structure</i> : opening_closing_stomata.swf
ESP	Plants/Plant Response/Hormones

27.3	Photoperiodism
Transparency	#456 Photoperiodism and flowering
Transparency	#457 Phytochrome conversion cycle
Transparency	#458 Label stoma diagram
ESP	Plants/Plant Response/Photoperiod

CHAPTER 28-REPRODUCTION IN PLANTS

28.1	Reproductive Strategies
Transparency	#459 Alternation of generations in flowering plants
Transparency	#460 Anatomy of a flower
Transparency	#461 Simple and fused carpels
Transparency	#462 Life cycle of a flowering plant
IP-CD Active Art	Figure 28.1, Alternation of generations in flowering plants, 043.ppt
IP-CD Active Art	Figure 28.5, Life cycle of a flowering plant, 044.ppt
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : alternation_of_generations.swf
LSA CD-ROM	Diversity- <i>Plant Diversity</i> : flowering_plant_life_cycle.swf
LSA CD-ROM	Plant Biology- <i>Plant General Biology</i> : fertilization.swf

ESP	Plants/Reproduction/Angiosperms
ESP	Plants/Reproduction/Gamete Formation
ESP	Plants/Reproduction/Fertilization
ESP	Diversity/Plants/Life Cycles
ESP	Diversity/Plants/Gamete Formations
ESP	Diversity/Plants/Fertilization

28.2	Seed Development
Transparency	#463 Development of a eudicot embryo
Transparency	#464 Monocot versus eudicot
IP-CD Active Art	Figure 28.7, Development of a eudicot embryo, 045.ppt
LSA CD-ROM	Plant Biology- <i>Plant General Biology: development_dicot_embryo.swf</i>
ESP	Plants/Reproduction/Embryos and Seeds
ESP	Diversity/Plants/Embryos and Seeds

28.3	Fruit Types and Seed Dispersal
Transparency	#465 Pea flower and development of a pea pod
Transparency	#466 Kinds of Fruit
Transparency	#467 Common garden bean seed structure and germination
Transparency	#468 Corn kernel structure and germination
Transparency	#469 Overall appearance of <i>Arabidopsis thaliana</i>
IP-CD Active Art	Figure 28.11, Common garden bean seed structure and germination, 046.ppt
IP-CD Active Art	Figure 28.12, Corn kernel structure and germination, 047.ppt
LSA CD-ROM	Plant Biology- <i>Plant Structure: bean_structure_germination.swf</i>
ESP	Plants/Reproduction/Embryos and Seeds
ESP	Plants/Reproduction/Fruits
ESP	Plants/Reproduction/Germination
ESP	Diversity/Plants/Embryos and Seeds
ESP	Diversity/Plants/Fruits
ESP	Diversity/Plants/Germination

28.4	Asexual Reproduction in Plants
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Transparency	#470 Transgenic crops of the future
ESP	Plants/Reproduction/Asexual
ESP	Diversity/Plants/Asexual Reproduction

CHAPTER 29-INTRODUCTION TO INVERTEBRATES

29.1	Evolution of Animals
Transparency	#471 Phylogenetic tree of the animal kingdom
LSA CD-ROM	Diversity- <i>Introductory Material</i> : symmetry_in_nature.rm
LSA CD-ROM	Diversity- <i>Invertebrates</i> : animal_phylogenetic_tree.swf
ESP	Diversity/Invertebrates/Characteristics

29.2	Multicellularity
Transparency	#472 Phylogenetic tree: Sponges
Transparency	#473 Simple sponge anatomy
Transparency	#474 Classification table: Kingdom Animalia
LSA CD-ROM	Diversity- <i>Invertebrates</i> : simple_sponge_anatomy.swf
ESP	Diversity/Invertebrates/Sponges

29.3	True Tissue Layers
Transparency	#475 Radial and bilateral symmetry in animals
Transparency	#476 Phylogenetic tree: Cnidarians
Transparency	#477 Cnidarian diversity
Transparency	#478 Anatomy of <i>Hydra</i>
Transparency	#479 <i>Hydra</i> movement
Transparency	#480 <i>Obelia</i> structure and life cycle
LSA CD-ROM	Diversity- <i>Introductory Material</i> : symmetry_in_nature.rm
LSA CD-ROM	Diversity- <i>Invertebrates</i> : anatomy_of_Hydra.swf
LSA CD-ROM	Diversity- <i>Invertebrates</i> : Obelia_structure_life_cycle.swf
ESP	Diversity/Invertebrates/Radial Phyla

29.4	Bilateral Symmetry
Transparency	#481 Sac and tube-within-a-tube body plans
Transparency	#482 Phylogenetic tree: Flatworms
Transparency	#483 Planarian anatomy
Transparency	#484 Transmission of Schistosomiasis
Transparency	#485 Life cycle of a tapeworm, <i>Taenia</i>
Transparency	#486 Free-living Flatworms Versus Parasitic Flatworms
Transparency	#487 Acoelomate, pseudocoelomate, and coelomates comparison
Slide	100. Planarian, <i>Dugesia</i>
ESP	Diversity/Invertebrates/Bilateral/No Coelom

29.5	Tube-within-a-Tube
Transparency	#488 Phylogenetic tree: Roundworms and rotifers
Transparency	#489 Roundworm anatomy
Transparency	#490 Label cnidarian polyp diagram
LSA CD-ROM	Diversity- <i>Invertebrates</i> : roundworm_anatomy.swf
ESP	Diversity/Invertebrates/Pseudocoelomates

CHAPTER 30-THE PROTOSTOMES

30.1	Advantages of Coelom in Protostomes and Deuterostomes
Transparency	#491 Protostomes compared to deuterostomes
Transparency	#492 Classification table: Kingdom Animalia
IP-CD Active Art	Figure 30.1. Protostomes compared to deuterostomes, 048.ppt

30.2	Molluscs
Transparency	#493 Phylogenetic tree: Molluscs
Transparency	#494 Body plan of molluscs
Transparency	#495 Bivalve diversity
Transparency	#496 Cephalopod diversity
Transparency	#497 Gastropod diversity

Transparency	#498 Torsion in gastropods
LSA CD-ROM	Diversity- <i>Invertebrates</i> : bivalve_diversity.swf
ESP	Diversity/Invertebrates/Molluscs

30.3	Annelids
Transparency	#499 Phylogenetic tree: Annelids
Transparency	#500 Polychaete diversity
Transparency	#501 Earthworm, <i>Lumbricus</i>
LSA CD-ROM	Diversity- <i>Invertebrates</i> : earthworm_morphology.swf
ESP	Diversity/Invertebrates/Annelids

30.4	Arthropods
Transparency	#502 Phylogenetic tree: Arthropods
Transparency	#503 Arthropod skeleton and eye
Transparency	#504 Biramous appendages on crustaceans
Transparency	#505 Male crayfish, <i>Cambarus</i>
Transparency	#506 Two types of insect mouthparts
Transparency	#507 Female grasshopper, <i>Romalea</i>
Transparency	#508 Centipede and millipede
Transparency	#509 Chelicerate diversity
Transparency	#510 Label grasshopper diagram
LSA CD-ROM	Diversity- <i>Invertebrates</i> : crayfish_morphology.swf
LSA CD-ROM	Diversity- <i>Invertebrates</i> : grasshopper_morphology.swf
ESP	Diversity/Invertebrates/Arthropods

CHAPTER 31-THE DEUTEROSTOMES

31.1	Echinoderms
Transparency	#511 Phylogenetic tree: Echinoderms
Transparency	#512 Echinoderms
LSA CD-ROM	Diversity- <i>Invertebrates</i> : echinoderms.swf
ESP	Diversity/Invertebrates/Echinoderms

31.2	Chordates
Transparency	#513 Phylogenetic tree: Chordates
Transparency	#514 Four basic characteristics of

	chordates
Transparency	#515 Lancelet, <i>Branchiostoma</i>
Transparency	#516 Sea squirt, <i>Halocynthia</i>
Transparency	#517 Phylogenetic tree: Invertebrate chordates
Transparency	#518 Phylogenetic tree of the chordates
LSA CD-ROM	Diversity- <i>Invertebrates</i> : lancelet_morphology.swf
LSA CD-ROM	Diversity- <i>Vertebrates</i> : chordate_phylogenetic_tree.swf
ESP	Diversity/Invertebrates/Chordates

31.3	Vertebrates
Transparency	#519 Phylogenetic tree: Vertebrates
Transparency	#520 Phylogenetic tree: Fishes
Transparency	#521 Evolution of jaws
Transparency	#522 Ray-finned fishes
Transparency	#523 Lobe-finned fish versus amphibian
Transparency	#524 Phylogenetic tree: Amphibians
Transparency	#525 Locomotion of salamanders and newts
Transparency	#526 Vertebrate circulatory systems
Transparency	#527 Phylogenetic tree: Reptiles
Transparency	#528 Phylogenetic tree
Transparency	#529 Reptilian diversity
Transparency	#530 Reptilian anatomy
Transparency	#531 Viper characteristics
Transparency	#532 Bird anatomy and flight
Transparency	#533 Bird anatomy and flight
Transparency	#534 Phylogenetic tree: Birds
Transparency	#535 Phylogenetic tree: Mammals
Transparency	#536 Label chordate embryo
LSA CD-ROM	Diversity- <i>Vertebrates</i> : ray-finned_fishes.swf
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : evolution_of_fish_jaws.rm
LSA CD-ROM	Diversity- <i>Vertebrates</i> : reptilian_diversity.swf
ESP	Diversity/Vertebrates/Introduction
ESP	Diversity/Vertebrates/Fish
ESP	Diversity/Vertebrates/Amphibians
ESP	Diversity/Vertebrates/Reptiles
ESP	Diversity/Vertebrates/Birds
ESP	Diversity/Vertebrates/Mammals

CHAPTER 32-HUMAN EVOLUTION

32.1	Evolution of Primates
Transparency	#537 Evolution of primate hand
Transparency	#538 Binocular vision
Transparency	#539 Phylogenetic tree of primates
Transparency	#540 Monkey skeleton compared to <i>Proconsul</i> skeleton
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : binocular_vision.swf
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : skeleton_comparison.swf
ESP	Evolution /Human Evolution/Primates

32.2	Evolution of Hominids
Transparency	#541 Classification table: Primates
Transparency	#542 Human evolution
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : origin_of_modern_humans.swf
ESP	Evolution /Human Evolution/Hominid History

32.3	Evolution of Modern Humans
Transparency	#543 Evolution of modern humans
Transparency	#544 Out of Africa diagram to label
LSA CD-ROM	Evolution- <i>Origin and History of Life</i> : origin_of_modern_humans.swf
ESP	Evolution /Human Evolution/Hominid History

CHAPTER 33-ANIMAL ORGANIZATION AND HOMEOSTASIS

33.1	Types of Tissues
Transparency	#545 Levels of organization
Transparency	#546 Types of epithelial tissues in vertebrates
Transparency	#547 Blood, a liquid tissue
Transparency	#548 Components of Blood Plasma

Transparency	#549 Muscular tissue
Transparency	#550 Neurons and neuroglia
Slide	56. Simple squamous epithelium
Slide	57. Pseudostratified ciliated columnar epithelium
Slide	58. Cuboidal epithelium
Slide	59. Columnar epithelium
Slide	60. Loose connective tissue
Slide	61. Adipose tissue
Slide	62. Hyaline cartilage
Slide	63. Compact bone
Slide	64. Skeletal muscle
Slide	65. Smooth muscle
Slide	66. Cardiac muscle
Slide	71. Neuron and neuroglia cells
ESP	Animals /Body Organization/Body Organization

33.2	Organs and Organ Systems
Transparency	#551 Human skin anatomy
Transparency	#552 Mammalian body cavities
Transparency	#553 Organ systems and life processes
LSA CD-ROM	Animal Biology- <i>Animal General Biology</i> : human_skin_anatomy.swf
LSA CD-ROM	Animal Biology- <i>Animal General Biology</i> : mammalian_body_cavities.swf
ESP	Animals /Body Organization/Tissues

33.3	Homeostasis
Transparency	#554 Negative feedback
Transparency	#555 Homeostasis and body temperature regulation
Transparency	#556 Label tissues
IP-CD Active Art	Figure 33.9, Negative feedback, 049.ppt
LSA CD-ROM	Animal Biology- <i>Animal General Biology</i> : homeostasis_and_temperature_control.swf
ESP	Animals /Body Organization/Homeostasis

CHAPTER 34-CIRCULATION

34.1	Transport in Invertebrates
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Transparency	#557 Open versus closed circulatory systems
Slide	98. <i>Paramecium</i> , S.E.M.
Slide	100. Planarian, <i>Dugesia</i>
ESP	Animals /Transport/Transport Systems

34.2	Transport in Vertebrates
Transparency	#558 Transport in birds and mammals
Transparency	#559 Comparison of circulatory circuits in vertebrates
Slide	70. Artery and vein
Slide	72. Blood capillary
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : circulatory_circuits.swf
ESP	Animals /Transport/Transport Systems

34.3	Transport in Humans
Transparency	#560 External heart anatomy
Transparency	#561 External heart anatomy
Transparency	#562 Internal view of the heart
Transparency	#563 Internal view of the heart
Transparency	#564 Cardiac cycle
Transparency	#565 Conduction system of the heart
Transparency	#566 Path of blood
Transparency	#567 Velocity and blood pressure related to vascular cross-sectional area
Transparency	#568 Cross section of a valve in a vein
Transparency	#569 Coronary arteries and plaque
IP-CD Active Art	Figure 34.8, Path of blood (Part 1), 050.ppt
IP-CD Active Art	Figure 34.8, Path of blood (Part 2), 051.ppt
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : path_of_blood.swf
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : 1_cardiac_conduction_system.swf
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : 2_cardiac_cycle_sounds.mov
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : detail_cardiac_cycle_sounds.rm
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : electrical_cardiac_cycle.mov
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : heart_electrical_activity.swf
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> :

	muscular_cardiac_cycle.rm
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : ns_cardiac_cycle_blood_flow.mov (normal_speed)
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : sm_cardiac_cycle_blood_flow.mov (slow_motion)
ESP	Animals /Transport/Human Heart
ESP	Animals /Transport/Vessels and Pressure

34.4	Cardiovascular Disorders
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : myocardial_infarction.rm
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : 1_valvular_insufficiency.mov
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : 2_valvular_stenosis.mov
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : stroke.rm
ESP	Animals /Transport/Vessels and Pressure

34.5	Blood, a Transport Medium
Transparency	#570 Composition of blood
Transparency	#571 Blood clotting
Transparency	#572 Body Fluids
Transparency	#573 Capillary exchange
Transparency	#574 Capillary bed
Transparency	#575 Capillary exchange diagram to label
Transparency	#576 Label heart diagram
Slide	73. Macrophage
Slide	74. Blood clot
IP-CD Active Art	Figure 34.12, Blood clotting, 052.ppt
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : capillary_bed.swf
ESP	Animals /Transport/Blood

CHAPTER 35-LYMPH TRANSPORT AND IMMUNITY

35.1	The Lymphatic System
Transparency	#577 Lymphatic system
Transparency	#578 The lymphoid organs
LSA CD-ROM	Animal Biology- <i>Immune System</i> :

	lymphatic_system.rm
ESP	Animals /Lymph and Immunity/Lymph System

35.2	The Immune System
Transparency	#579 Inflammatory reaction
Transparency	#580 Action of the complement system against a bacterium
Transparency	#581 Clonal selection theory as it applies to B cells
Transparency	#582 Antibodies
Transparency	#583 Structure of the most common antibody (IgG)
Transparency	#584 Antibody diversity
Transparency	#585 Clonal selection theory as it applies to T cells
Transparency	#586 Cell-mediated immunity
Transparency	#587 Stages of an HIV-1 infection
Slide	73. Macrophage
Slide	75. Cytotoxic T cell attacking cancer cell
IP-CD Active Art	Figure 35.7, Clonal selection theory as it applies to T cells, 053.ppt
LSA CD-ROM	Animal Biology- <i>Immune System</i> : immune_system.swf
LSA CD-ROM	Animal Biology- <i>Immune System</i> : immune_response.swf
LSA CD-ROM	Animal Biology- <i>Immune System</i> : inflammatory_reaction.swf
LSA CD-ROM	Animal Biology- <i>Immune System</i> : 1_clonal_selection.rm
LSA CD-ROM	Animal Biology- <i>Immune System</i> : 2_clonal_selection_theory.swf
LSA CD-ROM	Animal Biology- <i>Immune System</i> : 3_clonal_selection_theory.swf
LSA CD-ROM	Animal Biology- <i>Immune System</i> : T-cell_function.rm
LSA CD-ROM	Animal Biology- <i>Immune System</i> : phagocytic_cells.rm
LSA CD-ROM	Animal Biology- <i>Immune System</i> : complement_proteins.rm
LSA CD-ROM	Animal Biology- <i>Immune System</i> : antiviral_defense.rm
ESP	Animals /Lymph and Immunity/Nonspecific Immunity

ESP	Animals /Lymph and Immunity/Specific Immunity
ESP	Animals /Lymph and Immunity/Abnormalities

35.3	Induced Immunity
Transparency	#588 Active immunity due to immunizations
Transparency	#589 Production of monoclonal antibodies
LSA CD-ROM	Animal Biology- <i>Immune System</i> : vaccination.rm
LSA CD-ROM	Animal Biology- <i>Immune System</i> : monoclonal_antibodies.swf
LSA CD-ROM	Animal Biology- <i>Circulatory System</i> : ABO-blood_types.rm
ESP	Animals /Lymph and Immunity/Nonspecific Immunity
ESP	Animals /Lymph and Immunity/Specific Immunity

35.4	Immunity Side Effects
Transparency	#590 Blood typing
Transparency	#591 Hemolytic disease of the newborn
Transparency	#592 Label IgG molecule
IP-CD Active Art	Figure 35.13, Hemolytic disease of the newborn, 054.ppt

CHAPTER 36-DIGESTION AND NUTRITION

36.1	Digestive Tracts
Transparency	#593 Incomplete digestive tract of a planarian
Transparency	#594 Complete digestive tract of an earthworm
Transparency	#595 Nutritional mode of a clam compared to a squid
Transparency	#596 Dentition among mammals
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : dental_caries.rm
ESP	Animals /Digestion/Introduction
ESP	Animals /Digestion/Mouth and Esophagus

36.2	Human Digestive Tract
Transparency	#597 Path of Food
Transparency	#598 The human digestive tract
Transparency	#599 Swallowing
Transparency	#600 Peristalsis in the digestive tract
Transparency	#601 Anatomy of the stomach
Transparency	#602 Major Digestive Enzymes
Transparency	#603 Anatomy of intestinal lining
Transparency	#604 Hormonal control of digestive gland secretions
Transparency	#605 Hepatic portal system
Slide	67. Wall of esophagus
Slide	68. Gastric glands
Slide	69. Intestinal villi
IP-CD Active Art	Figure 36.10, Hepatic portal system, 055.ppt
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : human_digestive_tract.swf
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : 1_digestion.rm
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : 2_digestion_(mouth_to_stomach).rm
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : 3_digestion_(stomach).rm
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : digestion_(stomach_to_small_intestine).rm
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : stomach_digestion.rm
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : small_intestine_digestion.rm
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : anatomy_of_intestinal_lining.swf
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : ulcers.rm
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : formation_of_gallstones.rm
ESP	Animals/Digestion/Human Digestion
ESP	Animals/Digestion/Mouth and Esophagus
ESP	Animals/Digestion/Stomach
ESP	Animals/Digestion/Small Intestine
ESP	Animals/Digestion/Accessory Organs
ESP	Animals/Digestion/Enzymes and Hormones

ESP	Animals/Digestion/Large Intestine
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36.3	Nutrition
Transparency	#606 Ideal American diet
Transparency	#607 Vitamins: Their Role in the Body and Their Food Sources
Transparency	#608 Minerals: Their Role in the Body and Their Food Sources
Transparency	#609 Label digestive experiment results
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : ideal_American_diet.swf
LSA CD-ROM	Animal Biology- <i>Digestive System</i> : nutritional_mode_comparison.swf
ESP	Animals/Digestion/Nutrition

CHAPTER 37-RESPIRATION

37.1	Gas Exchange Surfaces
Transparency	#610 Respiration in terrestrial vertebrates
Transparency	#611 Animal shapes and gas exchange
Transparency	#612 Anatomy of gills in bony fishes
Transparency	#613 Tracheae of insects
Transparency	#614 Respiration in amphibians compared to reptiles
Transparency	#615 Respiratory system in birds
IP-CD Active Art	Figure TA 37.1, Respiration in terrestrial vertebrates, 056.ppt
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : gill_anatomy.swf
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : external_and_internal_respiration.swf
ESP	Animals/Respiration/Gas Exchange Systems

37.2	Human Respiratory System
Transparency	#616 The human respiratory tract
Transparency	#617 Path of Air
Transparency	#618 Inspiration versus expiration
Transparency	#619 External and internal respiration
Transparency	#620 Hemoglobin saturation in relation to temperature and acidity

IP-CD Active Art	Figure 37.7, Inspiration versus expiration, 057.ppt
IP-CD Active Art	Figure 37.8, External and internal respiration, 058.ppt
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : human_respiratory_tract.swf
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : 1_breathing.rm
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : 2_breathing.swf
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : 1_gas_exchange.mov
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : 2_gas_exchange_during_respiration.swf
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : respiration.rm
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : inspiration_versus_expiration.swf
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : external_and_internal_respiration.swf
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : hemoglobin.rm
ESP	Animals /Respiration/Human Breathing
ESP	Animals /Respiration/Gas Exchange

37.3	Respiration and Health
Transparency	#621 Common bronchial and pulmonary diseases
Transparency	#622 Label human respiratory system
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : asthma.mov
LSA CD-ROM	Animal Biology- <i>Respiratory System</i> : smoking_risks.rm
ESP	Animals /Respiration/Disorders

CHAPTER 38-BODY FLUID REGULATION AND EXCRETION

38.1	Body Fluid Regulation
Transparency	#623 Excretory functions
Transparency	#624 Body fluid regulation in bony fishes
LSA CD-ROM	Animal Biology- <i>Excretory System</i> : fluid_regulation_bony_fish.swf

LSA CD-ROM	Animal Biology- <i>Excretory System</i> : osmoregulation.swf
ESP	Animals /Osmoregulation/Introduction

38.2	Nitrogenous Waste Products
Transparency	#625 Nitrogenous Waste Excretion
Transparency	#626 Nitrogenous wastes
ESP	Animals /Osmoregulation/Nitrogenous Wastes

38.3	Organs of Excretion
Transparency	#627 Excretory organs in animals
ESP	Animals /Osmoregulation/Introduction

38.4	Urinary System in Humans
Transparency	#628 The human urinary system
Transparency	#629 Macroscopic and microscopic anatomy of the kidney
Transparency	#630 Nephron anatomy
Transparency	#631 Steps in urine formation
Transparency	#632 Countercurrent mechanism
Transparency	#633 The renin-angiotensin-aldosterone system
Transparency	#634 Maintaining the acid-base balance
Transparency	#635 Label nephron
Slide	76. Nephron, glomerulus
Slide	77. Nephron, convoluted tubules
Slide	78. Nephron, collecting duct
IP-CD Active Art	Figure 38.9, Steps in urine formation, 059.ppt
LSA CD-ROM	Animal Biology- <i>Excretory System</i> : activities_along_a_nephron.swf
LSA CD-ROM	Animal Biology- <i>Excretory System</i> : human_urinary_system.swf
LSA CD-ROM	Animal Biology- <i>Excretory System</i> : 1_kidney_function.rm
LSA CD-ROM	Animal Biology- <i>Excretory System</i> : 2_kidney_function.mov
LSA CD-ROM	Animal Biology- <i>Excretory System</i> : urine_formation.swf
LSA CD-ROM	Animal Biology- <i>Excretory System</i> :

	countercurrent_mechanism.swf
LSA CD-ROM	Animal Biology- <i>Excretory System</i> : reabsorption_of_water.swf
ESP	Animals /Osmoregulation/Human Excretion
ESP	Animals /Osmoregulation/Kidney Function

CHAPTER 39-NEURONS AND NERVOUS SYSTEMS

39.1	Evolution of the Nervous System
Transparency	#636 Evolution of the nervous system
Transparency	#637 Evolution of the nervous system
Transparency	#638 Organization of the nervous system in humans
Transparency	#639 Organization of the nervous system in humans
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : human_nervous_system.swf
ESP	Animals /Nervous System/Introduction
ESP	Animals /Nervous System/Human

39.2	Nervous Tissue
Transparency	#640 Neuron anatomy
Transparency	#641 Resting and action potential of the axomembrane
Transparency	#642 Resting and action potential of the axomembrane
Transparency	#643 Synapse structure and function
Transparency	#644 Synapse structure and function
Transparency	#645 Integration
Slide	71. Neuron and neuroglial cells
Slide	76. nephron, glomerulus
Slide	77. Nephron, convoluted tubules
Slide	78. Nephron, collecting duct
Slide	79. Axon and myelin sheath
Slide	80. Synapse structure
IP-CD Active Art	Figure 39.4, Resting and action potential of the axomembrane, 060.ppt
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : nerve_impulse.swf
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : action_potential.rm

LSA CD-ROM	Animal Biology- <i>Nervous System</i> : ActionPotential_generation.swf
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : synapse_structure_function.swf
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : transmission_across_a_synapse.swf
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : membrane_potential.rm
ESP	Animals /Nervous System/Nervous Tissue
ESP	Animals /Nervous System/Action Potential
ESP	Animals /Nervous System/Synapse

39.3	Central Nervous System: Brain and Spinal Cord
Transparency	#646 The human brain
Transparency	#647 The lobes of a cerebral hemisphere
Transparency	#648 The limbic system
Slide	81. Spinal cord
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : human_brain.swf
ESP	Animals /Nervous System/Central
ESP	Animals /Nervous System/Human

39.4	Peripheral Nervous System
Transparency	#649 Nerve
Transparency	#650 Cranial and spinal nerves
Transparency	#651 Reflex arc showing the path of a spinal reflex
Transparency	#652 Autonomic system structure and function
Transparency	#653 Comparison of Somatic Motor and Autonomic Motor Pathways
Transparency	#654 Sympathetic division of autonomic system
Transparency	#655 Parasympathetic division of autonomic system
Transparency	#656 Label reflex arc
Slide	81. Spinal cord
IP-CD Active Art	Figure 39.11, A reflex arc showing the path of a spinal reflex, 061.ppt
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : 1_reflex_arc.swf
LSA CD-ROM	Animal Biology- <i>Nervous System</i> :

	2_reflex_arc.rm
LSA CD-ROM	Animal Biology- <i>Nervous System</i> : drug_addiction.swf
ESP	Animals /Nervous System/Peripheral
ESP	Animals /Nervous System/Human

CHAPTER 40-SENSE ORGANS

40.1	Chemical Senses
Transparency	#657 Taste buds in humans
Transparency	#658 Olfactory cell location and anatomy
Transparency	#659 Olfactory cell location and anatomy
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : taste_buds_in_humans.swf
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : human_olfactory_cells.swf
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : taste.rm
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : smell.rm
ESP	Animals /Sense Organs/Introduction

40.2	Sense of Vision
Transparency	#660 Compound eye
Transparency	#661 Anatomy of the human eye
Transparency	#662 Functions of the Parts of the Eye
Transparency	#663 Focusing of the human eye
Transparency	#664 Photoreceptors in the eye
Transparency	#665 Structure and function of the retina
Slide	82. Rods and cones
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : human_eye_anatomy.swf
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : vision.rm
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : visual_pathway.swf
ESP	Animals /Sense Organs/Light Receptors

40.3	Senses of Hearing and Balance
Transparency	#666 Anatomy of the human ear
Transparency	#667 Mechanoreceptors for hearing
Transparency	#668 Functions of the Parts of the Ear
Transparency	#669 Mechanoreceptors for equilibrium

Transparency	#670 Mechanoreceptors for equilibrium
Transparency	#671 Lateral line receptor
Transparency	#672 Statocysts
Transparency	#673 Label human eye
Slide	83. Stereocilia
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : human_ear_anatomy.swf
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : sense_of_balance.rm
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : hearing.rm
LSA CD-ROM	Animal Biology- <i>Sensory Systems</i> : rotational_acceleration.rm
ESP	Animals /Sense Organs/Mechanoreceptors

CHAPTER 41-SUPPORT SYSTEMS AND LOCOMOTION

41.1	Diversity of Skeletons
Transparency	#674 Locomotion in an earthworm
Transparency	#675 The vertebrate endoskeleton
ESP	Animals /Support and Locomotion/Introduction

41.2	The Human Skeletal System
Transparency	#676 Anatomy of a long bone
Transparency	#677 The human skeleton
Transparency	#678 The skull
Transparency	#679 The rib cage
Transparency	#680 Bones of the pectoral girdle, the arm, and the hand
Transparency	#681 Bones of the pelvic girdle, the leg, and the foot
Transparency	#682 Knee joint
Slide	62. Hyaline cartilage
Slide	63. Compact bone
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : long_bone_anatomy.swf
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : knee_joint.swf
ESP	Animals /Support and Locomotion/Bone Structure
ESP	Animals /Support and Locomotion/Skeleton

41.3	The Human Muscular System
Transparency	#683 Human musculature
Transparency	#684 Antagonistic muscle pairs
Transparency	#685 Skeletal muscle fiber structure and function
Transparency	#686 Skeletal muscle fiber structure and function
Transparency	#687 Muscle Contraction
Transparency	#688 Neuromuscular junction
Transparency	#689 The role of calcium and myosin in muscle contraction
Transparency	#690 The role of calcium and myosin in muscle contraction
Transparency	#691 Label muscle fiber
Slide	84. Neuromuscular junction
IP-CD Active Art	Figure 41.13, Skeletal muscle fiber structure and function, 062.ppt
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : actin-myosin_crossbridges.rm
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : calcium_and_myosin.swf
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : 1_muscle_contraction.swf
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : 2_muscle_contraction.swf
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : detailed_striated_muscle_contraction.rm
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : muscle_cont_action_potential.mov
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : striated_muscle_contraction.rm
LSA CD-ROM	Animal Biology- <i>Support and Movement</i> : walking.rm
ESP	Animals /Support and Locomotion/Muscles
ESP	Animals /Support and Locomotion/Muscle Cell Function

CHAPTER 42-HORMONES AND THE ENDOCRINE SYSTEM

42.1	Chemical Signals
Transparency	#692 Chemical signals

Transparency	#693 Cellular activity of hormones
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : cellular_activity_hormones.swf
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : hormonal_communication.swf
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : two_types_of_hormones.swf
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : steroid_hormones.swf
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : second_messengers.swf
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : 2_peptide_hormone_action.rm
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : 2_peptide_hormones.swf
ESP	Animals /Endocrine System/Introduction

42.2	Human Endocrine System
Transparency	#694 The endocrine system
Transparency	#695 Principal Endocrine Glands and Hormones
Transparency	#696 Negative feedback control
Transparency	#697 Hypothalamus and the pituitary
Transparency	#698 Regulation of blood calcium level
Transparency	#699 Adrenal glands
Transparency	#700 Regulation of blood pressure and volume
Transparency	#701 Regulation of blood glucose level
Transparency	#702 The effects of anabolic steroid use
Transparency	#703 Melatonin production
Transparency	#704 Label negative feedback control
IP-CD Active Art	Figure 42.9, Regulation of blood calcium level, 063.ppt
IP-CD Active Art	Figure 42.11, Regulation of blood pressure and volume, 064.ppt
IP-CD Active Art	Figure 42.14, Regulation of blood glucose level, 065.ppt
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : endocrine_system.rm
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : parathyroid_hormone.rm
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : sodium_and_blood_pressure.swf
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> :

	1_glucose_regulation.swf
LSA CD-ROM	Animal Biology- <i>Endocrine System</i> : 2_glucose_regulation.mov
ESP	Animals /Endocrine System/Human System Overview
ESP	Animals /Endocrine System/The Hypothalamus
ESP	Animals /Endocrine System/Endocrine

CHAPTER 43-REPRODUCTION

43.1	How Animals Reproduce
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : fertilization_of_a_sea_star_egg.swf
ESP	Animals /Reproduction/Introduction

43.2	Male Reproductive System
Transparency	#705 The male reproductive system
Transparency	#706 Male Reproductive System
Transparency	#707 Penis anatomy
Transparency	#708 Testis and sperm
Transparency	#709 Hormonal control of testes
Slide	85. Seminiferous tubule, c.s.
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : male_reproductive_system.swf
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : penile_erection.rm
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : circumcision.rm
ESP	Animals /Reproduction/Human Male System

43.3	Female Reproductive System
Transparency	#710 Female Reproductive Organs
Transparency	#711 Female reproductive system
Transparency	#712 Ovarian cycle
Transparency	#713 Ovarian and Uterine Cycles (Simplified)
Transparency	#714 Hormonal control of ovaries

Transparency	#715 Female hormone levels during the ovarian and uterine cycles
Slide	86. Graafian follicle
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : 1_female_reproductive_system.rm
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : 2_female_reproductive_system.rm
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : menstruation.rm
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : ovarian_cycle.swf
ESP	Animals /Reproduction/Human Female System
ESP	Animals /Development/Hormones and Pregnancy

43.4	Control of Reproduction
Transparency	#726 Anatomy of the breast
Transparency	#727 Common Birth Control Methods
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : tubal_ligation.rm
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : vasectomy.rm

43.5	Sexually Transmitted Diseases
Transparency	#718 Label male reproductive system

CHAPTER 44-DEVELOPMENT

44.1	Early Developmental Stages
Transparency	#719 Fertilization
Transparency	#720 Embryonic germ layers
Transparency	#721 Lancelet early development
Transparency	#722 Comparative animal development
Transparency	#723 Amount of Yolk in Eggs Versus Location of Development
Transparency	#724 Development of neural tube and coelom in a frog embryo
Transparency	#725 Chordate embryo, cross section

IP-CD Active Art	Figure 44.2, Lancelet early development, 066.ppt
IP-CD Active Art	Figure 44.3, Comparative animal development, 067.ppt
IP-CD Active Art	Figure 44.4, Development of neural tube and coelom in a frog embryo, 068.ppt
ESP	Animals/Development/Fertilization
ESP	Animals/Development/Early Development

44.2	Developmental Processes
Transparency	#726 Cytoplasmic segregation
Transparency	#727 Cytoplasmic influence on development
Transparency	#728 Control of nervous system development
Transparency	#729 Development of <i>C. elegans</i> , a nematode
Transparency	#730 Induction can occur sequentially
Transparency	#731 Pattern formation in <i>Drosophila</i>
Transparency	#732 Homeotic genes
ESP	Animals/Development/Cell Differentiation
ESP	Animals/Genes and Development/Introduction
ESP	Animals/Genes and Development/Induction
ESP	Animals/Genes and Development/Pattern Formation

44.3	Human Embryonic and Fetal Development
Transparency	#733 Extraembryonic membranes
Transparency	#734 Human development before implantation
Transparency	#735 Human embryonic development
Transparency	#736 Human embryo at beginning of fifth week
Transparency	#737 Anatomy of the placenta in a fetus at six to seven months
Transparency	#738 Three methods for genetic defect testing before birth
Transparency	#739 Three methods for genetic defect testing before birth
Transparency	#740 Three stages of parturition

Transparency	#741 Label extraembryonic membranes
Slide	87. Human embryo at 5 th week, S.E.M.
IP-CD Active Art	Figure 44.12, Human development before implantation, 069.ppt
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : human_development.swf
LSA CD-ROM	Animal Biology- <i>Reproduction and Development</i> : human_embryonic_development.swf
ESP	Animals /Development/Human Development
ESP	Animals /Development/Hormones and Pregnancy

CHAPTER 45-ANIMAL BEHAVIOR

45.1	Behavior Has a Genetic Basis
Transparency	#742 Inheritance of migratory behavior in Blackcap Warblers, <i>Sylvia</i>
Transparency	#743 Feeding behavior of garter snakes, <i>Thamnophis elegans</i>
LSA CD-ROM	Ecology- <i>Behavior</i> : migratory_behavior.swf
ESP	Animals /Behavior/Introduction
ESP	Animals /Behavior/Nature/Nurture
ESP	Animals /Behavior/Innate Behavior
ESP	Animals /Behavior/Adaptive Learning

45.2	Behavior Undergoes Development
Transparency	#744 Feeding (pecking) behavior of Laughing Gull chicks, <i>Larus atricilla</i>
Transparency	#745 Song learning by White-crowned Sparrows, <i>Zonotrichia leucophrys</i>
IP-CD Active Art	Figure 45.4, Song learning by White-crowned Sparrows, <i>Zonotrichia leucophrys</i> , 070.ppt
LSA CD-ROM	Ecology- <i>Behavior</i> : pecking_behavior.swf
ESP	Animals /Behavior/Innate Behavior
ESP	Animals /Behavior/Learning

45.3	Behavior Is Adaptive
Transparency	#746 Raggiana Bird of Paradise

Transparency	#747 Robotic female bowerbird
Transparency	#748 Female choice and male dominance among baboons
ESP	Animals/Behavior/Mating
ESP	Animals/Behavior/Aggression

45.4	Animal Societies
Transparency	#749 Communication among bees
LSA CD-ROM	Ecology- <i>Behavior</i> : communication_among_bees.swf
ESP	Animals/Behavior/Communication
ESP	Animals/Behavior/Navigation

45.5	Sociobiology and Animal Behavior
ESP	Animals/Behavior/Altruism and Sociality

CHAPTER 46-ECOLOGY OF POPULATIONS

46.1	Scope of Ecology
Transparency	#750 Ecological levels
Transparency	#751 Patterns of dispersion within a population
ESP	Ecology/Populations/Characteristics

46.2	Characteristics of Populations
Transparency	#752 Factors determining future size of population
Transparency	#753 Model for exponential growth
Transparency	#754 Model for logistic growth
Transparency	#755 A Life Table for a Bluegrass Cohort
Transparency	#756 Survivorship curves
Transparency	#757 U.S. age distributions
LSA CD-ROM	Ecology- <i>Population Ecology</i> : exponential_population_growth.rm
LSA CD-ROM	Ecology- <i>Population Ecology</i> : age_distributions.swf
LSA CD-ROM	Ecology- <i>Population Ecology</i> : U.S. age_distribution.swf
ESP	Ecology/Populations/Growth
ESP	Ecology/Populations/Population Growth

ESP	Ecology/Populations/Life History
ESP	Ecology/Populations/Population Dynamics
ESP	Ecology/Populations/Human Population

46.3	Regulation of Population Size
Transparency	#758 Density-dependent effect
Transparency	#759 Great Tit, <i>Parus major</i>
ESP	Ecology/Populations/Size Regulation

46.4	Life History Patterns
Transparency	#760 Map of Great South Bay

46.5	Human Population Growth
Transparency	#761 World population growth
Transparency	#762 Age structure diagrams (1998)
Transparency	#763 Environmental impact caused by MDCs and LDCs
LSA CD-ROM	Ecology- <i>Population Ecology</i> : world_population_growth.swf
LSA CD-ROM	Ecology- <i>Population Ecology</i> : age_distributions.swf
LSA CD-ROM	Ecology- <i>Population Ecology</i> : stages_of_population_growth.rm
LSA CD-ROM	Ecology- <i>Population Ecology</i> : resource_consumption.swf
ESP	Ecology/Populations/Human Population

CHAPTER 47-COMMUNITY ECOLOGY

47.1	Concept of the Community
Transparency	#764 Community structure
Transparency	#765 Species richness of communities
Transparency	#766 Model of island biogeography
LSA CD-ROM	Ecology- <i>Community Ecology</i> : species_richness.swf
ESP	Ecology/Communities/Introduction

47.2	Structure of the Community
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Transparency	#767 Feeding niches for wading birds
Transparency	#768 Species Interactions
Transparency	#769 Competition between two laboratory populations of <i>Paramecium</i>
Transparency	#770 Character displacement in finches on the Galápagos Islands
Transparency	#771 Niche specialization among five species of coexisting warblers
Transparency	#772 Competition between two species of barnacles
Transparency	#773 Predator-prey interaction between <i>Paramecium caudatum</i> and <i>Didinium nasutum</i>
Transparency	#774 Predator-prey populations cycle
Transparency	#775 Predator-prey interaction between a lynx and a snowshoe hare
Transparency	#776 The life cycle of a deer tick
IP-CD Active Art	Figure 47.5, Competition between two laboratory populations of <i>Paramecium</i> , 071.ppt
LSA CD-ROM	Ecology-Community Ecology: feeding_niches.swf
LSA CD-ROM	Ecology-Community Ecology: predator-prey_interaction.swf
ESP	Ecology/Communities/Organization
ESP	Ecology/Behavior/Species Interactions
ESP	Ecology/Behavior/Interspecific Competition
ESP	Ecology/Behavior/Exploitation
ESP	Ecology/Behavior/Mutualism

47.3	Community Development
Transparency	#777 Secondary succession in a forest
LSA CD-ROM	Ecology-Community Ecology: primary_succession.swf
LSA CD-ROM	Ecology-Community Ecology: secondary_succession.swf
ESP	Ecology/Communities/Succession

47.4	Community Biodiversity
Transparency	#778 The intermediate disturbance hypothesis
Transparency	#779 Effect of a keystone predator

Transparency	#780 Label community composition
ESP	Ecology/Communities/Biodiversity
ESP	Ecology/Communities/Measuring a Community
ESP	Diversity/Biodiversity/Species

CHAPTER 48-ECOSYSTEMS AND HUMAN INTERFERENCES

48.1	The Nature of Ecosystems
Transparency	#781 Biosphere
Transparency	#782 Nature of an ecosystem
Transparency	#783 Energy balances
LSA CD-ROM	Ecology- <i>Ecosystems</i> : ecosystem_organization.swf
ESP	Ecology/Ecosystems/Introduction
ESP	Ecology/Ecosystems/Energy Flow

48.2	Energy Flow
Transparency	#784 Grazing food web
Transparency	#785 Detrital food web
Transparency	#786 Ecological pyramid
Transparency	#787 Ecological inverted pyramid
ESP	Ecology/Ecosystems/Energy Flow
ESP	Ecology/Ecosystems/Energy and Nutrient Relations

48.3	Global Biogeochemical Cycles
Transparency	#788 Model for chemical cycling
Transparency	#789 The hydrologic (water) cycle
Transparency	#790 Earth's radiation balances
Transparency	#791 The nitrogen cycle
Transparency	#792 Thermal inversion
Transparency	#793 The phosphorus cycle
Transparency	#794 Sources of surface water pollution
Transparency	#795 Ozone shield depletion
Transparency	#796 Label trophic levels
Transparency	#797 Label ecosystem
LSA CD-ROM	Ecology- <i>Ecosystems</i> : 1_water_cycle.swf
LSA CD-ROM	Ecology- <i>Ecosystems</i> : 2_water_cycle.swf
LSA CD-ROM	Ecology- <i>Ecosystems</i> : 1_carbon_cycle.swf
LSA CD-ROM	Ecology- <i>Ecosystems</i> : 2_carbon_cycle.swf

LSA CD-ROM	Ecology- <i>Ecosystems</i> : 3_carbon_cycle.rm
LSA CD-ROM	Ecology- <i>Ecosystems</i> : 1_nitrogen_cycle.swf
LSA CD-ROM	Ecology- <i>Ecosystems</i> : 2_nitrogen_cycle.swf
LSA CD-ROM	Ecology- <i>Ecosystems</i> : 3_nitrogen_cycle.rm
LSA CD-ROM	Ecology- <i>Ecosystems</i> : acid_rain.rm
LSA CD-ROM	Ecology- <i>Ecosystems</i> : phosphorus_cycle.swf
LSA CD-ROM	Ecology- <i>Ecosystems</i> : ozone_layer_depletion.rm
LSA CD-ROM	Ecology- <i>Ecosystems</i> : deoxygenation_of_lakes.rm
ESP	Ecology /Ecosystems/Nutrient Cycles

CHAPTER 49-THE BIOSPHERE

49.1	Climate and the Biosphere
Transparency	#798 Distribution of solar energy
Transparency	#799 Global wind circulation
Transparency	#800 Formation of a rain shadow
LSA CD-ROM	Ecology- <i>Biosphere</i> : solar_energy_distribution.swf
LSA CD-ROM	Ecology- <i>Biosphere</i> : rainshadow_effect.rm
LSA CD-ROM	Ecology- <i>Biosphere</i> : rain_shadow_formation.swf
LSA CD-ROM	Ecology- <i>Biosphere</i> : global_wind_circulation.swf
LSA CD-ROM	Ecology- <i>Biosphere</i> : global air circulation.rm
LSA CD-ROM	Ecology- <i>Biosphere</i> : earth's_seasons.swf
LSA CD-ROM	Ecology- <i>Biosphere</i> : four_seasons.rm
ESP	Ecology /Biosphere/Climate
ESP	Ecology /Biosphere/Temperature Relations

49.2	Terrestrial Communities
Transparency	#801 Pattern of biome distribution
Transparency	#802 Pattern of biome distribution
Transparency	#803 Climate and biomes
Transparency	#804 The tundra
Transparency	#805 The taiga
Transparency	#806 Temperate deciduous forest
Transparency	#807 Levels of life in a tropical rain forest
Transparency	#808 Animals of the tropic rain forest

Transparency	#809 Temperate grassland
Transparency	#810 The savanna
Transparency	#811 The desert
ESP	Ecology/Biosphere/Land Biomes

49.3	Aquatic Communities
Transparency	#812 Freshwater and saltwater communities
Transparency	#813 Lake stratification
Transparency	#814 Zones of a lake
Transparency	#815 Estuary structure and function
Transparency	#816 Ocean currents
Transparency	#817 La Niña and El Niño
Transparency	#818 Marine environment
Transparency	#819 Ocean inhabitants
IP-CD Active Art	Figure 49B, La Niña and El Niño, 072.ppt
LSA CD-ROM	Ecology-Biosphere: lake_stratification.swf
LSA CD-ROM	Ecology-Biosphere: El_Niño_southern_oscillation.rm
ESP	Ecology/Biosphere/Aquatic Systems
ESP	Ecology/Biosphere/Water Relations

CHAPTER 50-CONSERVATION BIOLOGY

50.1	Conservation Biology and Biodiversity
Transparency	#820 Conservation biology is composed of many subfields
Transparency	#821 Number of described species
Transparency	#822 Eagles and bears feed on spawning salmon
LSA CD-ROM	Ecology-Biosphere: community_disruption.swf
ESP	Ecology/Human Impact/Biodiversity
ESP	Diversity/Biodiversity/Species
ESP	Ecology/Ecosystems/Landscape Ecology
ESP	Ecology/Human Impact/Introduction

50.2	Value of Biodiversity
Transparency	#823 Indirect value of ecosystem
ESP	Ecology/Human Impact/Biodiversity
ESP	Diversity/Biodiversity/Species

50.3	Causes of Extinction
Transparency	#824 Habitat loss
Transparency	#825 Global warming
LSA CD-ROM	Ecology-Biosphere: 1_global_warming.swf
LSA CD-ROM	Ecology-Biosphere: 2_global_warming.swf
ESP	Ecology /Human Impact/Air
ESP	Ecology /Human Impact/Water
ESP	Ecology /Human Impact/Land

50.4	Conservation Techniques
Transparency	#826 Edge effect
Transparency	#827 Restoration of the Everglades
Transparency	#828 Label causes of extinction graph
LSA CD-ROM	Ecology-Biosphere: restoration_of_the_everglades.swf