

Activities Index

Career Focus

- Unit 1: Ask a Sustainability Expert, p. 1-48
- Unit 2: Ask a Paleontologist, p. 2-55
- Unit 3: Ask a Research Scientist, p. 3-30
- Unit 4: Ask an Athletic Therapist, p. 4-124
- Unit 5: Ask an Endocrinologist, p. 5-97
- Unit 6: Ask a Sexual and Reproductive Health Coordinator, p. 6-58
- Unit 7: Ask a Cancer Geneticist, p. 7-112
- Unit 8: Ask a Science Journalist, p. 8-58

Connections Features

- Chapter 1: Biomagnification: A Fish Story, p. 1-20
- Chapter 2: Phytoremediation, p. 1-44
- Chapter 3: The Smeeton and the Swift Fox, p. 2-27
- Chapter 4: Debating Science, p. 2-49
- Chapter 5: Energy from Manure, p. 3-29
- Chapter 6: Sorting Out Nutritional Supplements, p. 4-28
- Chapter 7: Traditional Healing in Modern Times, p. 4-49
- Chapter 8: The Tomorrow Project, p. 4-77
- Chapter 9: Metabonics, p. 4-101
- Chapter 10: How Much Does It Cost to be the Best?, p. 4-118
- Chapter 11: Neurological Disorders, p. 5-36
- Chapter 12: Pain Relievers or Deadly Neurotoxins?, p. 5-65
- Chapter 13: Light Up Your Life!, p. 5-81
- Chapter 14: Endocrine Disruptors in the Environment, p. 6-25
- Chapter 15: Stem Cells, p. 6-50
- Chapter 16: Regenerating the Sense of Hearing, p. 7-22
- Chapter 17: Biobanks, p. 7-74
- Chapter 18: Biotechnology: Assessing Unintended Consequences, p. 7-108
- Chapter 19: Biotechnology and Gene Pools, p. 8-23
- Chapter 20: Helping Hippos and Humans, p. 8-56

Investigations

- 1.A: Storing of Solar Energy in Plants, p. 1-11
- 1.B: Weave Your Own Food Web, p. 1-16

- 1.C: Ecology of an Endangered Prairie Ecosystem, p. 1-18
- 2.A: Societal Uses of Water, p. 1-32
- 2.B: Carbon Dioxide Production in Plants and Animals, p. 1-34
- 2.C: What's in the Water?, p. 1-37
- 2.D: Biosphere in a Bottle, p. 1-41
- 3.A: Observing Leaves, p. 2-13
- 3.B: Creating a Dichotomous Key, p. 2-18
- 3.C: Preparing for Your Field Study, p. 2-25
- 3.D: An Ecosystem Field Study, p. 2-27
- 4.A: Variations Great and Small, p. 2-40
- 5.A: Gases Released During Photosynthesis and Cellular Respiration, p. 3-14
- 5.B: Using Chromatography to Separate Plant Pigments, p. 3-19
- 5.C: The Rate of Photosynthesis, p. 3-22
- 5.D: Oxygen Consumption and Heat Production in Germinating Seeds, p. 3-26
- 6.A: Testing for Macromolecules, p. 4-17
- 6.B: Optimum pH for Two Protease Enzymes, pp. 4-24
- 7.A: Measuring Respiratory Volumes, p. 4-45
- 7.B: Carbon Dioxide and the Rate of Respiration, p. 4-47
- 8.A: Identifying Structures of the Circulatory System, p. 4-66
- 8.B: Factors Affecting Heart Rate and Blood Pressure, p. 4-68
- 8.C: Identifying Blood Cells, p. 4-73
- 9.A: Identifying Structures of the Excretory System, p. 4-93
- 9.B: Urinalysis, p. 4-98
- 10.A: Observing Muscle Tissue, p. 4-112
- 11.A: Move Fast! Reflex Response, p. 5-19
- 11.B: Modelling Resting Membrane Potential, p. 5-21
- 11.C: Examining Neural Tissue, p. 5-24
- 11.D: The Brain, p. 5-31
- 12.A: Dissection of an Eye, p. 5-54
- 12.B: Distinguishing Sights and Sounds, p. 5-60
- 12.C: Feel, Taste, or Smell: Design Your Own Investigation, p. 5-63
- 13.A: Evaluating Potential Uses for Human Growth Hormone, p. 5-83
- 13.B: Analyzing Endocrine Disorders, p. 5-90

Activities Index

- 14.A: Examining Gonads and Gametes, p. 6-15
- 14.B: The Menstrual Cycle, p. 6-25
- 15.A: Comparing Embryonic Structures, p. 6-45
- 16.A: Modelling a Karyotype, p. 7-15
- 16.B: Observing the Cell Cycle in Plant and Animal Cells, pp. 7-18
- 16.C: Modelling to Compare Meiosis and Mitosis, p. 7-25
- 17.A: Testing the Law of Segregation, p. 7-46
- 17.B: Environmental Influences on Gene Expression, p. 7-63
- 18.A: Modelling DNA Structure and Replication, p. 7-89
- 18.B: Simulating Protein Synthesis, p. 7-97
- 19.A: Applying the Hardy-Weinberg Equation, p. 8-15
- 19.B: Testing the Hardy-Weinberg Principle, p. 8-16
- 20.A: Interspecific and Intraspecific Competition Among Seedlings, p. 8-46
- 20.B: Celebrate the Small Successions, p. 8-49

Launch Labs

- Chapter 1: Considering Connections, p. 1-9
- Chapter 2: Whose Planet?, p. 1-28
- Chapter 3: The Mountain Pine Beetle vs an Ecosystem, p. 2-10
- Chapter 4: Could Cockroaches Rule Earth?, p. 2-37
- Chapter 5: Seeing Green, p. 3-11
- Chapter 6: Visualizing the Human Body, p. 4-14
- Chapter 7: Modelling Your Lungs, p. 4-40
- Chapter 8: Watching Blood Flow, p. 4-63
- Chapter 9: Dehydration and Urine Colour, p. 4-91
- Chapter 10: Working in Pairs, p. 4-110
- Chapter 11: You, Robot?, p. 5-15
- Chapter 12: Sense It, p. 5-48
- Chapter 13: Modern Stress!, p. 5-77
- Chapter 14: Inside Story, p. 6-12
- Chapter 15: Visualizing Early Human Development, p. 6-39
- Chapter 16: Cell Division, p. 7-13
- Chapter 17: Coin Toss, p. 7-41
- Chapter 18: DNA Extraction, p. 7-83
- Chapter 19: Pick Your Plumage, p. 8-10
- Chapter 20: Reproductive Strategies and Population Growth, p. 8-33

Thought Labs

- 1.1: Analyzing Energy Transfers, p. 1-15
- 1.2: Energy Fluctuation in an Ecosystem, p. 1-17
- 2.1: Water Gains and Losses, p. 1-29
- 2.2: Carbon, Sulfur, and Iron, p. 1-36
- 2.3: Too Much of a Good Thing, p. 1-40
- 2.4: Evaluating Water Treatments, p. 1-42
- 2.5: Design a Self-Sustaining Mars Colony, p. 1-43
- 3.1: Planning for Your Field Study, p. 2-15
- 3.2: Forest Habitat and Bird Biodiversity, p. 2-24
- 3.3: Super Competitor: Knapweed, p. 2-26
- 4.1: Evolving “Superbugs,” p. 2-41
- 4.2: Analyzing Changes in Beak Depth, p. 2-42
- 4.3: Comparing the Ideas of Lamarck and Darwin, p. 2-45
- 4.4: Homologies of Hair, p. 2-46
- 4.5: Leopard Frogs: One Species or Seven?, p. 2-51
- 5.1: Modelling the Source of Oxygen in the Light-Dependent Reactions, p. 3-20
- 5.2: Adaptations and Applications of Photosynthesis, p. 3-21
- 5.3: The Effects of Metabolic Toxins on Cellular Respiration, p. 3-28
- 6.1: How Do You Take Your Macromolecules? p. 4-16
- 6.2: An Accident and an Opportunity, p. 4-22
- 6.3: Enzymes and Diet, p. 4-30
- 7.1: Smoking and the Respiratory System, p. 4-51
- 7.2: You Diagnose It, p. 4-52
- 8.1: Cardiovascular Health, Technology, and Society, p. 4-70
- 8.2: Keeping the Blood Supply Safe, p. 4-75
- 8.3: Barriers of Defence, p. 4-80
- 10.1: Designing a Muscle Fibre Model, p. 4-115
- 10.2: Injuries Related to Athletics, p. 4-119
- 11.1: The Effect of Drugs on Neurons and Synapses, p. 5-25
- 13.1: Blood Glucose Regulation and Homeostasis, p. 5-89
- 14.1: STIs: What To Know and How To Know It, p. 6-18
- 14.2: Testosterone and Male Development, p. 6-20
- 14.3: Development of the Corpus Luteum, p. 6-23
- 14.4: Therapy Options for Menopause, p. 6-24
- 15.1: Folic Acid and Neural Tube Defects, p. 6-48
- 15.2: Evaluating Reproductive Technologies: Safety and Effectiveness, p. 6-53

Activities Index

- 16.1: Nondisjunction Syndromes, p. 7-25
- 16.2: Comparing Reproductive Strategies, p. 7-29
- 17.1: Mapping Chromosomes, p. 7-55
- 17.2: Creating a Pedigree, p. 7-70
- 17.3: Analyzing Pedigrees, p. 7-71
- 18.1: DNA Deductions, p. 7-87
- 18.2: Transcription in Reverse, p. 7-95
- 18.3: Investigating Cancer Genes, p. 7-100
- 18.4: Recreating the First Chimera, p. 7-102
- 18.5: Reading a DNA Fingerprint, p. 7-103
- 19.1: Spirit Bear, p. 8-20
- 19.2: Maintaining Genetic Diversity in the Whooping Crane, p. 8-21
- 20.1: Distribution Patterns and Population Size Estimates, p. 8-37
- 20.2: What Limits the Growth of Grizzly Bear Populations?, p. 8-41
- 20.3: Testing the Classical Model of Succession, p. 8-50
- 20.4: Biological Control or Damage Control?, p. 8-53
- 20.5: Population Growth Rates in Different Countries, p. 8-54