



Pre-Built Course: Conceptual Integrated Science Explorations, Full Textbook

We offer pre-built courses for all of our titles. A pre-built course works well when using Conceptual Academy much like the video version of a traditional textbook. Your students will have access to all the content listed within this pre-built course (see below). This provides flexibility from one semester to the next. For each semester you might direct students to be responsible for only select lessons or chapter sections.

Once a pre-built course is uploaded to your instructor's account, you can modify it as you see fit to "make it your own". This includes updating the FYI pages and setting dates for each lesson so that students know what to study by when. You can also remove select chapter sections you are not wanting students to see.

For a Conceptual Academy course aligned more precisely to a particular class schedule, we recommend you contact us to request a customized course. To learn more about customizing your course, please look to the help documents within your instructor profile page.

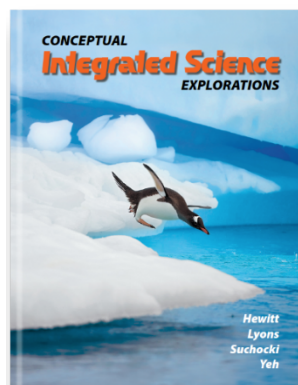
Conceptual Integrated Science Explorations, 1e

Syllabus: Full Textbook
5 Units; 39 Lessons
376 Videos

Unit : A: Physics
Unit : B: Chemistry
Unit : C: Biology
Unit : D: Earth Science
Unit : E: Astronomy

Unit : A: Physics
Lesson 1 (your date)

- FYI page
- 1.1 The Nature of Science
- 1.2 A Brief History of Advances In Science
- 1.3 Mathematics and Conceptual Science
- 1.4 The Scientific Method--A Classic Tool
- 1.5 The Scientific Hypothesis
- 1.6 The Value of Scientific Experiment
- 1.7 Facts, Theories, and Laws
- 1.8 Science Has Limitations
- 1.9 Science, Art, and Religion
- 1.10 Technology--The Practical Use of Science



1.11 What Is Integrated Science?
1.A An Investigation of Sea Butterflies
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
2.1 Aristotle On Motion
2.2 Galileo's Concept of Inertia
2.3 Speed and Velocity
2.A Comparing Speeds
2.4 Motion Is Relative
2.5 Newton's First Law of Motion
2.6 Net Force--The Sum of All Forces On an Object
2.7 Equilibrium for Objects at Rest
2.8 The Support Force--Why We Don't Fall Through the Floor
2.9 Equilibrium for Moving Objects
2.B Earth Moves Around the Sun
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
3.1 What Is Acceleration?
3.2 Force Causes Acceleration
3.3 Mass Is a Measure of Inertia
3.4 Mass and Acceleration Are Related
3.5 Newton's Second Law
3.6 Friction
3.7 Objects In Free Fall Accelerate at the Same Rate
3.9 Air Drag
3.A Friction In Your Fingertips
3.B Gliding
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
4.1 A Force Is Part of an Interaction
4.2 Newton's Third Law--Action and Reaction
4.3 A Simple Rule Helps Identify Action and Reaction
4.4 Action and Reaction On Objects of Different Masses
4.5 Action and Reaction Forces Act On Different Objects
4.6 The Classic Horse-Cart Problem--A Mind Stumper
4.7 Action Equals Reaction
4.A Animal Locomotion
4.8 Summary of Newton's Three Laws
Lesson Reading Quiz
Homework Practice Session



Lesson 5 (your date)

FYI page

5.1 Momentum Is Inertia In Motion

5.2 Impulse Changes Momentum

5.3 Increasing Momentum—Increasing Force, Time, or Both

5.4 Practical Uses of the Impulse-Momentum Relationship

5.A The Impulse-Momentum Relationship In Sports

5.5 Momentum Is Conserved When No External Force Acts

5.6 Momentum Is Conserved In Collisions

Lesson Reading Quiz

Homework Practice Session

Lesson 6 (your date)

FYI page

6.1 Work--Force x Distance

6.2 Power--How Quickly Work Gets Done

6.3 Mechanical Energy

6.4 Potential Energy Is Stored Energy

6.5 Kinetic Energy Is Energy of Motion

6.6 The Work-Energy Theorem

6.7 Conservation of Energy

6.8 Machines--Devices That Multiply Forces

6.9 Efficiency--A Measure of Work Done for Energy Spent

6.A Alternative Sources of Energy

6.B Energy for Life

Lesson Reading Quiz

Homework Practice Session

Lesson 7 (your date)

FYI page

7.1 The Falling Apple and the Falling Moon

7.2 Newton's Law of Universal Gravitation

7.3 Gravity, Distance, and the Inverse-Square Law

7.4 The Universal Constant of Gravitation, G

7.A Ocean Tides

7.5 Weight and Weightlessness

7.6 Projectile Motion

7.7 Fast-Moving Projectiles--Satellites

7.B Earth Satellites

Lesson Reading Quiz

Homework Practice Session

Lesson 8 (your date)

FYI page

8.1 Thermal Energy

8.2 Temperature

8.3 Absolute Zero--Nature's Lowest Possible Temperature

8.4 What Is Heat?

8.5 Heat Units Are Energy Units



8.6 The Laws of Thermodynamics
8.7 Entropy
8.8 Specific Heat Capacity
8.A Specific Heat Capacity and Earth's Climate
8.9 Thermal Expansion
8.10 Heat Transfer: Conduction
8.11 Heat Transfer: Convection
8.12 Heat Transfer: Radiation
Lesson Reading Quiz
Homework Practice Session

Lesson 9 (your date)

FYI page
9.1 Electric Charge Is a Basic Characteristic of Matter
9.2 Coulomb's law--The Force Between Charged Particles
9.3 Charge Polarization
9.4 Electric Current--The Flow of Electric Charge
9.5 An Electric Current Is Produced By Electrical Pressure--Voltage
9.6 Direct Current and Alternating Current
9.7 Ohm's Law--The Relationship Between Current, Voltage, and Resistance
9.A Electric Shock
9.8 Direct Current and Alternating Current
9.9 Electric Power--The Rate of Doing Work
9.10 Electric Circuits--Series and Parallel
Lesson Reading Quiz
Homework Practice Session

Lesson 10 (your date)

FYI page
10.3 Magnetic Domains
10.4 Magnetic Fields Around Electric Currents
10.A Earth's Magnetic Field
10.1 Magnetic Poles--Attraction and Repulsion
10.2 Magnetic Fields
10.5 magnetic Forces on Moving, Charged Particles
10.6 Electromagnetic Induction--How Voltage Is Created
10.7 Generators and Alternating Current
10.8 The Induction of Fields--Both Electric and Magnetic
Lesson Reading Quiz
Homework Practice Session

Lesson 11 (your date)

FYI page
11.1 Special Wiggles--Vibrations and Waves
11.2 Wave Motion--Transporting Energy
11.3 Two Types of Waves--Transverse and Longitudinal
11.4 Sound Travels In Waves
11.A Sensing Pitch
11.5 Speed of Sound
11.6 Sound Can Be Reflected



11.7 Sound Can Be Refracted
11.B Dolphins and Acoustical Imaging
11.8 Forced Vibrations and Natural Frequency
11.9 Resonance and Sympathetic Vibrations
11.10 Interference--The Addition and Subtraction of Waves
11.11 The Doppler Effect
Lesson Reading Quiz
Homework Practice Session

Lesson 12 (your date)

FYI page
12.1 The Electromagnetic Spectrum
12.2 Why Materials Are Either Transparent or Opaque
12.3 Color Science
12.A Mixing Colored Lights
12.4 Mixing Colored Pigments
12.B Why the Sky Is Blue
12.C Why Sunsets Are Red
12.D Why Clouds Are White
Lesson Reading Quiz
Homework Practice Session

Lesson 13 (your date)

FYI page
13.1 Reflection of Light--Light Bouncing Off a Barrier
13.2 Refraction--The Bending of Light As Its Speed Changes
13.A Illusions and Mirages Are Caused by Atmospheric Refraction
13.B Light Dispersion and Rainbows
13.3 Diffraction--The Spreading of Light
13.4 Interference of Light Waves
13.5 Interference Colors by Reflection from Thin Films
13.6 Wave Particle Duality--Light Travels as a Wave and Strikes as a Particle
13.A Illusions and Mirages Are Caused by Atmospheric Refraction
13.B Light Dispersion and Rainbows
Lesson Reading Quiz
Homework Practice Session

Unit : B: Chemistry

Lesson 1 (your date)

FYI page
14.1 Discovering the Invisible Atom
14.A A Breath of Air
14.2 Evidence for Atoms
14.B A First Look at the Periodic Table
14.3 Protons and Neutrons
14.4 Isotopes and Atomic Mass
14.5 Electron Shells
Lesson Reading Quiz
Homework Practice Session



Lesson 2 (your date)

FYI page

- 15.1 Radioactivity
 - 15.2 Alpha, Beta, and Gamma Rays
 - 15.3 Environmental Radiation
 - 15.A Radiation Damage to the Body
 - 15.4 Transmutation of the Elements
 - 15.5 Half-Life
 - 15.B Isotopic Dating
 - 15.6 Nuclear Fission
 - 15.7 The Mass-Energy Relationship: $E = mc^2$
 - 15.8 Nuclear Fusion
- Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page

- 16.1 Chemistry: The Central Science
 - 16.A Research
 - 16.2 The Submicroscopic World
 - 16.3 Change of Phase
 - 16.4 Physical and Chemical Properties
 - 16.5 Determining Physical and Chemical Changes
 - 16.6 The Periodic Table
 - 16.7 Elements and Compounds
 - 16.8 Naming Compounds
- Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page

- 17.1 Electron-Dot Structures
 - 17.2 The Formation of Ions
 - 17.3 Ionic Bonds
 - 17.A The Chemistry of Minerals
 - 17.4 Metallic Bonds
 - 17.5 Covalent Bonds
 - 17.6 Polar Covalent Bonds
 - 17.7 Molecular Polarity
 - 17.8 Molecular Attractions
- Lesson Reading Quiz
Homework Practice Session

Lesson 5 (your date)

FYI page

- 18.1 Most Materials Are Mixtures
- 18.2 The Chemist's Classification of Matter
- 18.3 Making Solutions
- 18.4 Concentration and the Mole



18.5 Solubility
18.6 Soaps and Detergents
18.A Purifying the Water We Drink
Lesson Reading Quiz
Homework Practice Session

Lesson 6 (your date)

FYI page
19.1 Chemical Equations
19.2 Reaction Rates
19.A Catalysts and the Atmosphere
19.3 Energy and Chemical Reactions
19.4 Chemical Reactions Are Driven By Entropy
Lesson Reading Quiz
Homework Practice Session

Lesson 7 (your date)

FYI page
20.1 Acid and bases
20.2 Relative Strengths of Acids and Bases
20.3 Acidic, Basic, and Neutral Solutions
20.A Acid Rain and Basic Oceans
20.4 Losing and Gaining Electrons
20.5 Electrochemistry
20.6 Corrosion and Combustion
Lesson Reading Quiz
Homework Practice Session

Lesson 8 (your date)

FYI page
21.1 Hydrocarbons
21.2 Unsaturated Hydrocarbons
21.3 Functional Groups
21.4 Alcohols and Ethers
21.5 Amine and Alkaloids
21.6 Carbonyl Compounds
21.7 Polymers
21.A The Molecules of Life
Lesson Reading Quiz
Homework Practice Session

Unit : C: Biology

Lesson 1 (your date)

FYI page
22.1 What Is Life?
22.A The Big Molecules That Make Up Living Things
22.2 What Is a Cell?
22.3 The Two Types of Cells: Prokaryotic and Eukaryotic
22.B The Microscope



22.4 Tour of a Eukaryotic Cell
22.5 The Organelles of Eukaryotic Cells
22.6 The Cell Membrane
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
23.1 How Things Get In and Out of Cells
23.2 How Do Cells Reproduce?
23.3 Enzymes and the Chemical Reactions in Cells
23.A ATP Fuels Chemical Reactions in Cells
23.4 Photosynthesis
23.5 How Cells Get Energy
Lesson Reading Quiz
Homework Practice Session

Lesson 3 (your date)

FYI page
24.1 What Is a Gene?
24.2 Chromosomes: Packages of Genetic Information
24.A The Structure of DNA
24.3 How DNA Is Copied
24.4 RNA
24.5 How Proteins Are Built
24.6 Meiosis and Genetic Diversity
Lesson Reading Quiz
Homework Practice Session

Lesson 4 (your date)

FYI page
25.1 Mendel's Peas
25.2 Mendel's First Law
25.3 Mendel's Second Law
25.4 More Wrinkles: Beyond Mendelian Genetics
25.5 The Human genome
25.6 Genetic Mutations
25.7 Cancer: A Genetic Disease
25.A Environmental Causes of Cancer
Lesson Reading Quiz
Homework Practice Session

Lesson 5 (your date)

FYI page
26.1 The Origin of Life
26.A Did Life On Earth Come From Mars?
26.2 How Living Things Change Over Time
26.3 The Key to Evolution: Natural Selection and How It Works
26.4 Adaptation



26.B Staying Warm and Keeping Cool: How Animals use Physics in Thermoregulation

- 26.5 Genetics and Evolution
- 26.6 How a New Species Forms
- 26.7 Evidence of Evolution
- 26.8 How Humans Evolved
- Lesson Reading Quiz
- Homework Practice Session

Lesson 6 (your date)

- FYI page
- 27.1 Classifying Living Things
- 27.2 Evolution and Classification
- 27.3 The Three Domains of Life
- 27.4 Bacteria
- 27.5 Archaea
- 27.6 Protists
- 27.7 Plants
- 27.8 Fungi
- 27.9 Animals
- 27.A Coral Bleaching
- 27.B How Birds Fly
- 27.10 Viruses and Prions
- Lesson Reading Quiz
- Homework Practice Session

Lesson 7 (your date)

- FYI page
- 28.1 How the Human Body Is Organized
- 28.2 The Brain
- 28.3 The Nervous System
- 28.4 How Neurons Work
- 28.A How Fast Can Action Potentials Travel?
- 28.B Endorphins
- 28.5 The Senses
- 28.6 Hormones
- 28.7 Reproduction and Development
- 28.8 The Skeleton and Muscles
- Lesson Reading Quiz
- Homework Practice Session

Lesson 8 (your date)

- FYI page
- 29.1 Integration of Body Systems
- 29.2 The Circulatory System
- 29.A Hemoglobin
- 29.3 Respiration
- 29.4 Digestion
- 29.5 Nutrition, Exercise, and Health
- 29.B Low-Carb Versus Low-Calorie Diets



29.6 Excretion and Water Balance
29.7 Keeping the Body Safe: Defense Systems
Lesson Reading Quiz
Homework Practice Session

Lesson 9 (your date)

FYI page
30.1 Organisms and Their Environments
30.2 Species Interactions in Ecological Communities
30.3 Energy Flow in Ecosystems
30.A Energy Leaks When Organisms Eat
30.4 Kinds of Ecosystems
30.B Materials Cycling in Ecosystems
30.5 Change In an Ecosystem
30.6 Population Studies
30.7 Human Population Growth
Lesson Reading Quiz
Homework Practice Session

Unit : D: Earth Science

Lesson 1 (your date)

FYI page
31.1 Earth Science Is an Integrated Science
31.2 Earth's Composition
31.A Density and Earth's Layers
31.3 Earth's Structure
31.4 Continental Drift--An Idea Before Its Time
31.5 Seafloor Spreading
31.B Magnetic Stripes Are Evidence of Seafloor Spreading
31.6 The Theory of Plate Tectonics
31.C What Forces Drive the Plates?
31.7 Plate Boundaries
31.D Life In the Trenches
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
32.1 What Is a Mineral?
32.2 Mineral Properties
32.3 Types of Minerals
32.A The Silicate Tetrahedron
32.4 How Do Minerals Form?
32.5 What Is Rock?
32.6 Igneous Rock
32.7 Sedimentary Rock
32.B Coal
32.8 Metamorphic Rock
32.9 The Rock Cycle
Lesson Reading Quiz



Homework Practice Session

Lesson 3 (your date)

FYI page

33.1 Survey of the Earth

33.2 Folding and Faulting

33.3 Mountain Building

33.4 Plains and Plateaus

33.5 Earth's Waters

33.6 The Ocean

33.A The Composition of Ocean Water

33.7 Fresh Water

33.B Water Pollution

Lesson Reading Quiz

Homework Practice Session

Lesson 4 (your date)

FYI page

34.1 Weathering, Erosion, and Deposition--Agents of Change

34.A Weathering

34.2 Running Water

34.3 Glaciers

34.4 Mass Movement

34.5 Groundwater

34.6 Waves

34.7 Wind

Lesson Reading Quiz

Homework Practice Session

Lesson 5 (your date)

FYI page

35.A Atmospheric Pressure

35.B Heating the Atmosphere

35.C Wind Chill

35.D The Coriolis Effect

35.1 Atmosphere

35.2 The Structure of the Atmosphere

35.3 Temperature Depends of Latitude

35.4 Why Are There Seasons?

35.5 Flow of the Atmosphere--Wind

35.6 Some Winds Are Local--Others Are Global

35.7 Ocean Currents Distribute Heat

35.8 Water In the Atmosphere

35.9 Changing Weather--Air Masses, Fronts, and Cyclones

Lesson Reading Quiz

Homework Practice Session

Lesson 6 (your date)

FYI page



36.1 A Model of Earth's History
36.2 Telling Relative Time
36.A Dating a Rock--Telling Absolute Time
36.3 The Geologic Time Scale
36.B Precambrian Time
36.C The Paleozoic Era
36.D The Permian Extinction
36.E The Mesozoic Era
36.F The Cretaceous Extinction
36.G The Cenozoic Era
Lesson Reading Quiz
Homework Practice Session

Lesson 7 (your date)

FYI page
37.1 Earthquakes
37.2 Tsunami
37.3 Volcanoes
37.4 Hurricanes
37.5 Earth's Past and Present Climate
37.A Natural Causes of Climate Change
37.B Future Climate--A Warmer Earth?
Lesson Reading Quiz
Homework Practice Session

Unit : E: Astronomy

Lesson 1 (your date)

FYI page
38.1 Earth's Moon
38.2 Eclipses—The Shadows of Earth and the Moon
38.3 Tour of the Solar System
38.A How Did the Solar System Form?
38.4 The Sun
38.5 The Inner Planets
38.6 The Outer Planets
38.B What Makes a Planet Suitable for Life?
38.7 Asteroids, Comets, and Meteoroids
Lesson Reading Quiz
Homework Practice Session

Lesson 2 (your date)

FYI page
39.1 Seeing Stars
39.2 The Light-year
39.3 The Birth of Stars
39.4 The Evolution and Death of Stars
39.5 The Bigger They Are, the Harder They Fall—Supernovae
39.6 Black Holes
39.7 Galaxies
39.A SETI



39.8 The Big Bang
Lesson Reading Quiz
Homework Practice Session

