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MEDICAL & SCIENCE MEDIA

Earth Sciences SOFTWARE

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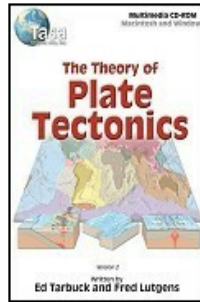
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[Cat #: TG-3](#)**The Theory of Plate Tectonics**

The Theory of Plate Tectonics Version 2.2 is a dynamic exploration of how Earth's lithospheric plates change through time. Version 2.2, now fully narrated, embarks on a new way to study this exciting theory. All new artwork enhances the understanding of the topics covered including many animations, which are easily manipulated by the user.



Included is a new illustrated glossary with audio pronunciations. A new index makes it easy to jump to selected frames covering a specific geologic term. Navigation throughout the program is easier with fast forward, fast reverse, jump to a numbered frame, glossary, and index buttons available on every frame. Review activities are scored and may be saved to file or printed for easy teacher assessment. Version 2.2 now appears in a window on the desktop. The window can be moved and resized. This CD-ROM includes two levels: Intermediate and Advanced (Grade 7 - 12 and college).

Table of Contents (Intermediate)

- Introduction
- Continental Drift: An Idea Before Its Time
 1. Fit of the Continents
 2. Fossil Evidence
 3. Evidence from Rocks
 4. Climatic Evidence
 5. The Great Debate
- Exploring Continental Drift
 1. Applying the Evidence
 2. A Closer Look
- Earth's Interior
- New Evidence: Mapping the Ocean Floor
- Plate Tectonics: A Scientific Revolution Unfolds
- Divergent Plate Boundaries
- Convergent Plate Boundaries
- Transform Fault Boundaries
- A Closer Look at Plate Boundaries
- Testing the Plate Tectonics Model
 1. Evidence from Ocean Drilling
 2. Earthquake Patterns
 3. Hot Spots and Mantle Plumes
- What Drives Plate Motions?
- Pangaea: Before and After

Table of Contents (Advanced)

- Introduction
- Continental Drift: An Idea Before Its Time
 1. Fit of the Continents
 2. Fossil Evidence
 3. Evidence from Rocks
 4. Paleoclimatic Evidence
 5. The Great Debate

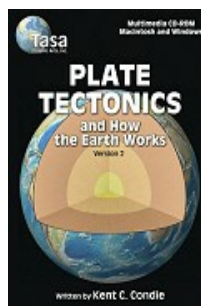
- A Scientific Revolution Begins
 1. Continental Drift and Paleomagnetism
 2. Seafloor Spreading
- Plate Tectonics: The New Paradigm
- Divergent Plate Boundaries
 1. Oceanic Ridges and Seafloor Spreading
 2. Continental Rifts
- Convergent Plate Boundaries
 1. Oceanic-Continental Convergence
 2. Oceanic-Oceanic Convergence
 3. Continental-Continental Convergence
- Transform Fault Boundaries
- Testing the Plate Tectonics Model
 1. Evidence from Ocean Drilling
 2. Earthquake Patterns
 3. Hot Spots and Mantle Plumes
 4. Magnetic Reversals and Seafloor Spreading
- What Drives Plate Motions?
- Pangaea: Before and After
 1. Formation and Breakup of Pangaea
 2. Plate Tectonics into the Future

System Requirements: Macintosh: PowerPC™ G5 or Intel® Core™ Duo 1.33GHz or faster; RAM: 1 GB; Mac OS® X 10.4.11 or later. **Windows:** Intel® Pentium® 4 or faster processor (or equivalent); RAM: 1 GB; Windows® XP, Windows Vista®, or Windows® 7.

[Cat #: TG-7](#)

Plate Tectonics and How the Earth Works

This updated CD-ROM includes an entirely new major chapter entitled "Crustal and Mantle Evolution" which delves into the origin and evolution of continents and the early history of the Earth. This interactive program is designed to aid advanced students in the geological sciences in visualizing and learning about processes within Earth and how these processes are related to plate tectonics.



Using animations, interactive diagrams, and color photos, new and exciting developments are reviewed relating to plate reconstructions in the past, hotspots, mantle plumes, seismic discontinuities in the mantle, and supercontinent cycles. Also included is a graphic portrayal of the crust (both oceanic and continental), mantle, and core, as well as recent ideas as to how Earth systems interact with each other. In addition, the student can examine each of the major tectonic settings on Earth as well as track these settings into the past, some as far back as 4 Ga.

Table of Contents:

Plate Tectonics: General Features | Structure of the Earth | Subduction Zones | The Wilson Cycle | Magnetic Anomalies on the Seafloor | Apparent Polar Wander Paths | Hotspots | Organic Evolution and Plate Tectonics | The History of Pangaea | Interactive Earth Systems | Review

The Earth's Crust: Crustal Types | Heat Flow | Exhumation and Cratonization | Rheology of the Continental Crust | Measured Seismic Wave Velocities in Rocks | Sampling of the Lower Continental Crust | Chemical Composition of the Crust | Terranes and Crustal Provinces | Review

Tectonic Settings: Introduction | Ophiolites | Mantle-Plume-Related Tectonic Settings | Cratons and Passive Margins | Continental Rifts | Convergent Margins | Orogens | Anorogenic Granites | Archean Greenstones | Mineral Deposits | Energy Deposits | Review

The Earth's Mantle and Core: Seismic Structure of the Mantle | Geoid Anomalies | Composition of the Mantle | The Lithosphere | The Deep Mantle | Mantle Plumes | Upwellings, Hotspots, and Supercontinents | Mantle Geochemical Components | Mantle Convection | The Core | Review

Crustal and Mantle Evolution: The Earth's Oldest Rocks and Minerals | Plate Tectonics in Time | Origin of the First Continents | Characteristics of the Archean Crust | The Growth of Continents | Superevents in Earth History | Possible Causes of Mantle Plume Events | Review

System Requirements: Macintosh: PowerPC™ 180 MHz processor (G3 or higher recommended); Mac OS® 9.2 to Mac OS X, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. **Windows:** Windows 98®: Intel® Pentium® II 200MHz, 64 MBytes available RAM; Windows 2000® and Windows XP®: Pentium III 450 MHz, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. This program was developed as a 32-bit application and is not supported on 64-bit versions of XP or Vista.

[Cat #: TG-9](#)

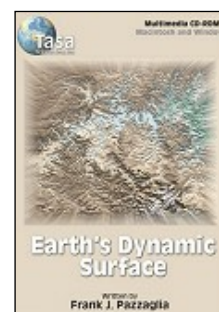
Earth's Dynamic Surface

Earth's Dynamic Surface 1.1 is a useful tool for developing an understanding of the processes that shape Earth's surface. In this exciting CD-ROM, you are guided through each concept with full color animations, illustrations, and photographs while listening to the author's narration. Review sections at the end of each chapter will reinforce the concepts covered. Interactive activities encourage participation and problem solving. In addition, the animated Physiographic Province Tour enables you to travel to destinations across the U.S. The tour stops at 42 national parks, monuments, and points of interest demonstrating examples of each process of change introduced in the program while offering web site links to each national park.

- Weathering and Soils-examines the two types of weathering processes and soil development throughout a landscape.
- Hillslopes-covers the interaction of rock-type and climate in the erosion of a landscape.
- Rivers-discusses flowing water as a process for erosion, transportation, and deposition of Earth's surface materials.
- Coastlines-examines the power of wind, waves, tides, and currents to shape unique landforms.
- Groundwater-covers the development of landforms due to flowing water below Earth's surface.
- Deserts and Winds-discusses changing landscapes due to the erosion, transportation, and deposition of surface material by wind.
- Glaciers and Climate-examines the process of flowing ice in the development of landforms.
- Physiographic Province Tour-takes students on a trip across the U.S. with stops at 42 National Parks and points of interest, including website links to each National Park appearing in the tour.

Interactive Activities:

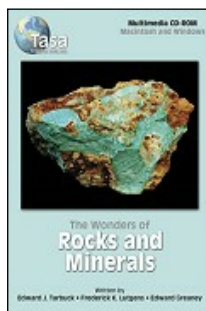
- Identify limits of a drainage basin
- Label rock types
- Study various weathering processes
- Identify soil age
- Explore reasons for hillslope failure
- Identify parts of a river system
- Calculate flow velocity
- Discover how sediment is transported
- Calculate currents
- Identify cave features
- Explore the effects of wind and water on a desert environment
- Identify types of sand dunes
- Discover the effects of seasons and climate on Earth



System Requirements: Macintosh: PowerPC™ 180 MHz processor (G3 or higher recommended); Mac OS® 9.2 to Mac OS X, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. **Windows:** Windows 98®: Intel® Pentium® II 200MHz, 64 MBytes available RAM; Windows 2000® and Windows XP®: Pentium III 450 MHz, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. This program was developed as a 32-bit application and is not supported on 64-bit versions of XP or Vista.

[Cat #: TG-4](#)**The Wonders of Rocks and Minerals**

The Wonders of Rocks and Minerals 1.3 explores the world of geology in an exciting and highly interactive way. What are minerals and how are they different from rocks?



What are the three groups of rocks and the geological processes involved in the formation of each? You will learn to identify and name minerals and rocks, just like a geologist does on a field trip.

New to this version:

- Scored review quizzes that can be printed or saved to file
- New navigation with page numbers and a jump button
- Default narration
- Chapter headings for easier navigation

Includes stunning photographs, full color animated sequences, a glossary, interactive exercises, and an illustrated database of over 50 minerals.

Table of Contents:

- Minerals: How are Minerals and Rocks Different?/ Important Mineral Properties/ How to Identify Minerals/ A Mineral Identification Key/ Important Mineral Groups/ Reviewing Minerals/ Basic Facts About Common Minerals
- The Rock Cycle
- Igneous Rocks: How Igneous Rocks Form/ Textures of Igneous Rocks/ Minerals in Igneous Rocks/ Naming Igneous Rocks
- Sedimentary Rocks: How Sedimentary Rocks Form/ Conglomerate, Sandstone, and Shale/ Limestone, Chert, and Other Chemical Sedimentary Rocks/ Reviewing Sedimentary Rocks/ Interpreting Past Environments
- Metamorphic Rocks: Metamorphic Rocks are Changed Rocks/ What Causes Metamorphism?/ How Metamorphic Rocks are Different/ Common Metamorphic Rocks
- The Rock Review Challenge

System Requirements: Macintosh: PowerPC™ 180 MHz processor (G3 or higher recommended); Mac OS® 9.2 to Mac OS X, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. **Windows:** Windows 98®: Intel® Pentium® II 200MHz, 64 MBytes available RAM; Windows 2000® and Windows XP®: Pentium III 450 MHz, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. This program was developed as a 32-bit application and is not supported on 64-bit versions of XP or Vista.

[Cat #: TG-5](#)**The Study of Minerals**

The Study of Minerals 1.8 is a comprehensive learning tool for anyone interested in minerals, from a casual collector to the advanced mineralogy student. Learn about how crystals form, chemical composition, their symmetry, and properties. Find out what minerals are or go straight to microscopic and laboratory analysis of minerals. Study gems and ores, then test your skill at mineral exploration. Includes animated interactive activities, illustrated glossary, abundant photographs, video clips, and easy access to an extensive illustrated mineral properties database of over 150 minerals.

Table of Contents:

- Minerals, Crystals and Rocks
- Mineral Symmetry - How Nature Builds Minerals

- Mineral Chemistry and Classification
- Mineral Properties and Identification
- Society's Dependence on Minerals
- Minerals and Money
- Mineral Exploration and Mining
- Laboratory Analysis
- Microscopic Analysis and Identification
- Mineral Data
- Illustrated Glossary

System Requirements: Macintosh: PowerPC™ 180 MHz processor (G3 or higher recommended); Mac OS® 9.2 to Mac OS X, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. **Windows:** Windows 98®: Intel® Pentium® II 200MHz, 64 MBytes available RAM; Windows 2000® and Windows XP®: Pentium III 450 MHz, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. This program was developed as a 32-bit application and is not supported on 64-bit versions of XP or Vista.

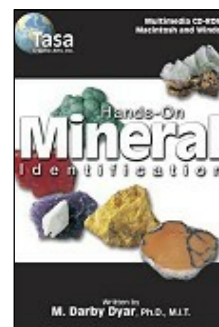
[Cat #: TG-10](#)

Hands-on-Mineral Identification

This multimedia "field guide" helps you to identify over 14,500 mineral names and synonyms for both beginners and serious collectors. Hands-On Mineral Identification provides detailed identification information on 500 of the most common mineral species, full color animations, background information, and photographs on physical characteristics of minerals. Watch actual video demonstrations of physical property tests and read a detailed explanation of crystal classification systems -- all narrated by the author! The searchable database includes physical properties, rotatable 3-D crystal shapes, full color photographs, worldwide localities, crystal class, and mineral associations for each species. Version 1.1 adds a "Print Mineral Data" feature that prints an 8 1/2 x 11 sheet containing all properties for a mineral species.

Table of Contents:

- Introduction
- Mineral Names, Nomenclature, and Classification
- Colour and Streak
- Lustre
- Hardness
- Cleavage and Parting
- Crystal Systems and Forms
- Habit, Appearance, and Twinning
- Tenacity and Fracture
- Density and Specific Gravity
- Special Properties
- Mineral Database



System Requirements: Macintosh: PowerPC™ 180 MHz processor (G3 or higher recommended); Mac OS® 9.2 to Mac OS X, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. **Windows:** Windows 98®: Intel® Pentium® II 200MHz, 64 MBytes available RAM; Windows 2000® and Windows XP®: Pentium III 450 MHz, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. This program was developed as a 32-bit application and is not supported on 64-bit versions of XP or Vista.

[Cat #: TG-8](#)

An Introduction to Structural Methods

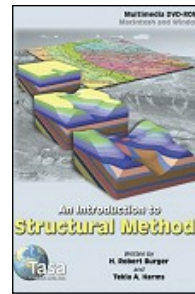
An Introduction to Structural Methods, Version 1.1, narrated by the authors, is richly illustrated with 3-D diagrams, geologic maps, animations, and photographs all in full color offering a new approach to teaching structural geology.

A useful tool for your classroom, this DVD-ROM improves students' spatial reasoning skills while applying structural concepts and techniques. It also provides interactive quizzes that test students' comprehension of key concepts and terminology while encouraging their mastery of techniques working with the types of problems they will likely confront as practicing geologists.

Table of Contents:

- Elements of Lines and Planes
- Map Interpretation: Simple Planar Surfaces

- Stereographic Projection I
- Constructing Geologic Sections
- Map Interpretation: Faults
- Stereographic Projection II
- Map Interpretation: Folds
- Map Interpretation: Unconformities, Intrusions
- Map Interpretation: Thrust Faults
- Fold Analysis
- Stress, Fracture, and Fault Analysis
- Strain: Basic Principles



A few specific examples of what you will see:

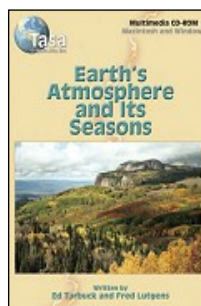
- Side-by-side animations depicting the erosion of a valley in block diagrams with strata dipping upstream in one and downstream in the other to explain the "Rule of V's."
- A block diagram of plunging folds that the student can rotate to observe in all directions, including the down-plunge view, and erode to form a map pattern complete with topography. Including a comparison of that end result with an actual full color U.S. Geological Survey map.
- An animated strain ellipse that shows the changes in length and position of lines with progressive strain, accompanied by photographs illustrating these aspects of strain in real rocks.
- Step-by-step instructions of how to plot lines and planes on stereonet plus demonstrations on how to use stereonet to solve some common problems, all through animated diagrams.
- Animated fault displacement of strata in block diagrams followed by erosion of the upthrown block so that patterns of offset, omission, and repetition are demonstrated.
- A cross-sectional view of the real-time development of a sequence of thrust faults in a thrust belt, emphasizing fault-bend folding and piggyback relationships.
- Full color photographs and U.S. Geological Survey maps of real structures.

System Requirements: Macintosh: PowerPC™ 180 MHz processor (G3 or higher recommended); Mac OS® 9.2 to Mac OS X, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. **Windows:** Windows 98®: Intel® Pentium® II 200MHz, 64 MBytes available RAM; Windows 2000® and Windows XP®: Pentium III 450 MHz, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. This program was developed as a 32-bit application and is not supported on 64-bit versions of XP or Vista.

[Cat #: TG-15](#)

Earth's Atmosphere and Its Seasons

Earth's Atmosphere and Its Seasons helps students investigate and understand the causes of the seasons, Earth-Sun relationships, the composition of the atmosphere, Sun's role as the main source of energy that drives weather and climate, the greenhouse effect, and more.



Clear, narrated explanations along with thought-provoking review questions and lab activities, a visual index, clickable glossary, colorful animations, and video clips provide a fun way to learn many important lessons about weather and climate. Version 1.1 adds student quiz scoring that can be used to generate a printed record of the student's responses to the quizzes. You may print the record, save it to file, or email it through your computer's print dialog or document viewer. Version 1.1 appears in a window on the desktop. The window can be moved and resized.

Your students will investigate:

- Different types of weather and how it impacts them.
- Differences between weather and climate.
- The composition of air, and the important roles of water vapour and carbon dioxide.
- Why we have seasons.
- Earth's motions and orientation in relation to the Sun.

- Why the amount of solar energy received on Earth varies for different latitudes.
- The nature of solar radiation. paths taken by solar radiation.
- The greenhouse effect. how colour influences the amount of light reflected by a surface.
- How to convert Fahrenheit and Celsius temperatures. why land and water heat up and cool off differently.
- How ocean currents, altitude, and prevailing winds influence temperature.

System Requirements: Macintosh: PowerPC™ G5 or Intel® Core™ Duo 1.33GHz or faster; RAM: 1 GB; Mac OS® X 10.4.11 or later. **Windows:** Intel® Pentium® 4 or faster processor (or equivalent); RAM: 1 GB; Windows® XP, Windows Vista®, or Windows® 7.

[Cat #: TG-2](#)

Introduction to Topographic Maps

With Introduction to Topographic Maps you will learn how to use these maps to determine elevations, landform types, principles of scale, location, and much more. You will read and draw contour lines based on points of known elevations, construct topographic profiles, and determine slope and relief. Includes full color photos, animations, related topics on Map Projections, U.S. Geological Survey, Using a Compass and Map, and more.

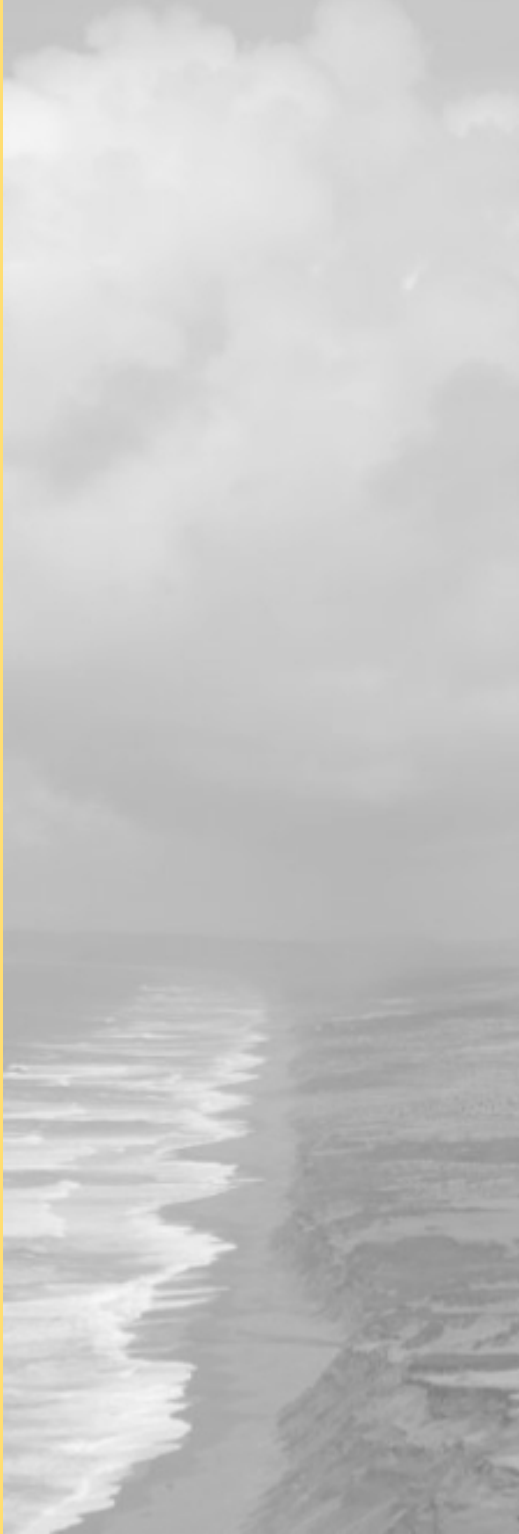
New to Version 2.0:

Narration to aid in reading comprehension, Draw contour lines and print out your results, Scored review section can be printed for easy teacher assessment, New artwork throughout, Easier navigation, Larger display size to easily view map features, USGS Booklets are included on the CD-ROM as pdf files.

- General Topographic Map Information
- Map Scale
- Location: Latitude and Longitude
- Public Land Survey
- Location: Universal Transverse Mercator
- Principles of Contour Lines
- Using Contour Lines
- Topographic Profiles
- Drawing a Contour Map
- Topographic Maps
- Aerial Photographs
- Satellite Images
- Review



System Requirements: Macintosh: PowerPC™ G3 500 MHz or Intel Core™ Duo 1.33GHz; 256 MBytes RAM; Mac OS® X (10.3 for PowerPC, 10.4 for Intel); Universal application; 1024 x 768 screen resolution. **Windows:** Windows 98®: Intel® Pentium® II 200MHz, 64 MBytes available RAM; Windows 2000® and Windows XP®: Pentium III 450 MHz, 128 MBytes available RAM; thousands or millions of colors. QuickTime™ required. This program was developed as a 32-bit application and is not supported on 64-bit versions of XP or Vista.



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