Augmented Reality Enhances the Reading Experience, Bringing the Textbook to Life

Using a cutting-edge technology called augmented reality, Pearson’s BouncePages app launches engaging, interactive videos and animations that bring textbook pages to life. Use your mobile device to scan a SmartFigure identified by the BouncePages icon, and an animation or video illustrating the SmartFigure’s concept launches immediately. No slow websites or hard-to-remember logins required.

BouncePages’ augmented reality technology transforms textbooks into convenient digital platforms, breathes life into your learning experience, and helps you grasp difficult academic concepts. Learning geology from a textbook will never be the same.

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By scanning figures associated with the BouncePages icon, students will be immediately connected to the digital world and will deepen their learning experience with the printed text.
NEW! SmartFigure: Condor Videos. Bringing Physical Geology to life for GenEd students, three geologists, using a quadcopter with a GoPro camera mounted to it, have ventured out into the field to film 10 key geologic locations. These process-oriented videos, accessed through BouncePages technology, are designed to bring the field to the classroom or dorm room and enhance the learning experience in our texts.

NEW! SmartFigure: Mobile Field Trips. Scattered throughout this new edition of Earth are 24 video field trips. On each trip, you will accompany geologist-pilot-photographer Michael Collier in the air and on the ground to see and learn about iconic landscapes that relate to discussions in the chapter. These extraordinary field trips are accessed by using the BouncePages app to scan the figure in the chapter—usually one of Michael’s outstanding photos.
**NEW! SmartFigure: Animations** are brief videos, many created by text illustrator Dennis Tasa, that animate a process or concept depicted in the textbook’s figures. This technology allows students to view moving figures rather than static art to depict how a geologic process actually changes through time. The videos can be accessed using Pearson’s BouncePages app for use on mobile devices, and will also be available via MasteringGeology.

Callan Bentley, SmartFigure Tutorial author, is a Chancellor’s Commonwealth Professor of Geology at Northern Virginia Community College (NOVA) in Annandale, Virginia. Trained as a structural geologist, Callan teaches introductory level geology at NOVA, including field-based and hybrid courses. Callan writes a popular geology blog called *Mountain Beltway*, contributes cartoons, travel articles, and book reviews to *EARTH* magazine, and is a digital education leader in the two-year college geoscience community.

**SmartFigure: Tutorials** bring key chapter illustrations to life! Found throughout the book, these Tutorials are sophisticated, annotated illustrations that are also narrated videos. They are accessible on mobile devices via scannable BouncePages printed in the text and through the Study Area in MasteringGeology.
SEVERE

Chapter 15  An Introduction to Geology

According to the United Nations, more people live in cities than in rural areas. Geographers and planners are increasingly interested in urban systems, their problems, and principles needed to understand environmental issues.

What do areas with the highest landslide potential look like? Question:

High potential occurs along steep bluffs that flank river valleys.

Complicating all environmental issues is rapid world population growth and everyone's aspiration to a better standard of living. There is a budding demand for resources and a growing pressure for people to live in environments having significant geological hazards.

EE on Earth features engage students in active learning, asking them to perform critical thinking and visual analysis tasks to evaluate data and make predictions.

**GEOgraphics** use contemporary, compelling visual representations to illustrate complex concepts, enhancing students' ability to synthesize and recall information and important data.
Each chapter section concludes with Concept Checks, a feature that lists questions tied to the section’s learning objective, allowing students to monitor their grasp of significant facts and ideas.

**10.5 Concept Checks**

1. Distinguish between the two measurements used to establish the orientation of deformed strata.
2. Briefly describe the method geologists use to infer the orientation of rock structures that lie mainly below Earth’s surface.

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**Give It Some Thought**

1. In granite or mica schist, which rock structure is more likely to fold or flow rather than break or fracture? Explain why.
2. What type of deformation is illustrated by a block that was torn or stretched out?

**Give It Some Thought (GIST)** is found at the end of each chapter and consists of questions and problems asking students to analyze, synthesize, and think critically about Geology. GIST questions relate back to the chapter’s learning objectives, and can easily be assigned using MasteringGeology.
MasteringGeology delivers engaging, dynamic learning opportunities—focusing on course objectives responsive to each student’s progress—that are proven to help students learn geology course material and understand challenging concepts.

Before Class
Dynamic Study Modules and eText 2.0 provide students with a preview of what’s to come.

Dynamic Study Modules enable students to study effectively on their own in an adaptive format. Students receive an initial set of questions with a unique answer format asking them to indicate their confidence. Once completed, Dynamic Study Modules include explanations using material taken directly from the text.

NEW! Interactive eText 2.0 complete with embedded media. eText 2.0 is mobile friendly and ADA accessible.
- Now available on smartphones and tablets.
- Seamlessly integrated videos and other rich media.
- Accessible (screen-reader ready).
- Configurable reading settings, including resizable type and night reading mode.
- Instructor and student note-taking, highlighting, bookmarking, and search.

During Class
Engage Students with Learning Catalytics

Learning Catalytics, a “bring your own device” student engagement, assessment, and classroom intelligence system, allows students to use their smartphone, tablet, or laptop to respond to questions in class.
After Class
Easy-to-Assign, Customizeable, and Automatically Graded Assignments

NEW! Project Condor Videos capture stunning footage of the Mountain West region with a quadcopter and a GoPro camera. A series of videos have been created with annotations, sketching, and narration to improve the way students learn about faults and folds, streams, volcanoes, and so much more. In Mastering, these videos are accompanied by questions designed to assess students on the main takeaways from each video.

NEW! 24 Mobile Field Trips take students to classic geologic locations as they accompany geologist–pilot–photographer–author Michael Collier in the air and on the ground to see and learn about landscapes that relate to concepts in the chapter. In Mastering, these videos will be accompanied by auto-gradable assessments that will track what students have learned.

GeoTutor coaching activities help students master important geologic concepts with highly visual, kinesthetic activities focused on critical thinking and application of core geoscience concepts.
Encounter Activities provide rich, interactive explorations of geology and earth science concepts using the dynamic features of Google Earth™ to visualize and explore earth’s physical landscape. Dynamic assessment includes questions related to core geology concepts. All explorations include corresponding Google Earth KMZ media files, and questions include hints and specific wrong-answer feedback to help coach students towards mastery of the concepts while improving students’ geospatial skills.

NEW! GigaPan Activities allow students to take advantage of a virtual field experience with high-resolution picture technology that has been developed by Carnegie Mellon University in conjunction with NASA.

Additional MasteringGeology assignments available:
- SmartFigures
- Interactive Animations
- Give It Some Thought Activities
- Reading Quizzes
- MapMaster Interactive Maps