

Access Free Pearson Answer Key To Sedimentary Rocks Read Pdf Free

Sedimentary Rocks in the Field **Petrology of Sedimentary Rocks** **The Key to Earth History** *Principles of Stratigraphy* **Sedimentary Petrology** **Fossils, Rocks, and Time** **Key Issues in Petroleum Geology** **The Sedimentary Record of Sea-Level Change** **Sedimentary Petrology** **Tectonics of Sedimentary Basins** **Physical Geology** **Sedimentary Rocks** **What Are Sedimentary Rocks?** **Deep-Sea Sediments** *Sedimentary Petrology* **Sediment Provenance** **The Structure, Function and Management Implications of Fluvial Sedimentary Systems** **From Depositional Systems to Sedimentary Successions on the Norwegian Continental Margin** *Sedimentary Basins* **From Depositional Systems to Sedimentary Successions on the Norwegian Continental Margin** **Sediments, Morphology and Sedimentary Processes on Continental Shelves** **Precambrian Sedimentary Environments** **Sedimentary Geology** **Principles of Sedimentary Basin Analysis** **Glossary of Geology** **Sedimentary Rocks in the Field** **Formation and Applications of the Sedimentary Record in Arc Collision Zones** **Ecological Comparisons of Sedimentary Shores** **Sediment Budgets** *Sedimentology and Stratigraphy* **Sulfidic Sediments and Sedimentary Rocks** **Regional Geology and Tectonics: Phanerozoic Rift Systems and Sedimentary Basins** **Compaction of Coarse-Grained Sediments, I** **Paleogeography and Sedimentary Development of Two Deep-marine Foreland Basins** **Sedimentology and Sedimentary Basins** **The Dynamics of Sedimentary Basins** *Characteristics of Estuarine Sediments of the United States* **Sedimentary Rocks** **Journal of Sedimentary Petrology** *Beach-Inlet Interaction and Sediment Management*

Sediment Provenance: Influences on Compositional Change from Source to Sink provides a thorough and inclusive overview that features data-based case studies on a broad range of dynamic aspects in sedimentary rock structure and deposition. Provenance data plays a critical role in a number of aspects of sedimentary rocks, including the assessment of palaeogeographic reconstructions, the constraints of lateral displacements in orogens, the characterization of crust which is no longer exposed, the mapping of depositional systems, sub-surface correlation, and in predicting reservoir quality. The provenance of fine-grained sediments—on a global scale—has been used to monitor crustal evolution, and sediment transport is paramount in considering restoration techniques for both watershed and river restoration. Transport is responsible for erosion, bank undercutting, sandbar formation, aggradation, gully, and plugging, as well as bed form migration and generation of primary sedimentary structures. Additionally, the quest for reservoir quality in contemporary hydrocarbon exploration and extraction necessitates a deliberate focus on diagenesis. This book addresses all of these challenges and arms geoscientists with an all-in-one reference to sedimentary rocks, from source to deposition. Provides the latest data available on various aspects of sedimentary rocks from their source to deposition Features case studies throughout that illustrate new data and critical analyses of published data by some of the world's most pre-eminent sedimentologists Includes more than 150 illustrations, photos, figures, and diagrams that underscore key concepts The fifth edition of the Glossary of Geology contains nearly 40,000 entries, including 3,600 new terms and nearly 13,000 entries with revised definitions from the previous edition. In addition to definitions, many entries include background information and aids to syllabication. The Glossary draws its authority from the expertise of more than 100 geoscientists in many specialties who reviewed definitions and added new terms. This completely revised and enlarged second edition provides an up-to-date overview of all major topics in sedimentary geology. It is unique in its quantitative approach to denudation-accumulation systems and basin fillings, including dynamic aspects. The relationship between tectonism and basin evolution as well as the concepts of sequence cycle and event stratigraphy in various depositional environments are extensively discussed. Numerous, often composite figures, a well-structured text, brief summaries in boxes, and several examples from all continents make the book an invaluable source of information for students, researchers and professors in academia as well as for professionals in the oil industry. The earlier editions of this book have been used by successive generations of students for more than 20 years, and it is the standard text on the subject in most British universities and many others throughout the world. The study of sediments and sedimentary rocks continues to be a core topic in the Earth Sciences and this book aims to provide a concise account of their composition, mineralogy, textures, structures, diagenesis and depositional environments. This latest edition will be in 4 colour and will contain colour photomicrographs of sedimentary rocks in thin-section. These bring sediments to life and show their beauty and colorful appearance down the microscope; they will aid the student enormously in laboratory petrographic work. The text will be fully revised where necessary and the reference and further reading lists brought up-to-date. New tables have been included to help undergraduates with rock and thin-section description and interpretation. The Norwegian Continental Shelf (NCS), focus of this special publication, is a prolific hydrocarbon region and both exploration and production activity remains high to this day with a positive production outlook. A key element today and in the future is to couple technological developments to improving our understanding of specific geological situations. The theme of the publication reflects the immense efforts made by all industry operators and their academic partners on the NCS to understand in detail the structural setting, sedimentology and stratigraphy of the hydrocarbon bearing units and their source and seal. The papers cover a wide spectrum of depositional environments ranging from alluvial fans to deepwater fans, in almost every climate type from arid through humid to glacial, and in a variety of tectonic settings. Special attention is given to the integration of both analogue studies and process-based models with the insights gained from extensive subsurface datasets. Expert petroleum geologists David Roberts and Albert Bally bring you Regional Geology and Tectonics: Phanerozoic Rift Systems and Sedimentary Basins, volume two in a three-volume series covering Phanerozoic regional geology and tectonics. Experience in analyzing and assessing rifts—locations where the Earth's outer shell and crust have been stretched over time by seismic activity—is critical for you as an exploration geologist in identifying Earth's most lucrative hydrocarbon locations in which extraction is both efficient and safe. Vast compilations of related industry data present regional seismic lines and cross sections, and summaries of analogue and theoretical models are provided as an essential backdrop to the structure and stratigraphy of various geological settings. Named a 2013 Outstanding Academic Title by the American Library Association's Choice publication A practical reference for petroleum geologists that discusses the importance of rift systems and the structural evolution of the Earth Analyses of active rifts in East Africa, China, Siberia, the Gulf of Suez, and the Russian Arctic provide immediately implementable petroleum exploration applications in regions heavily targeted by oil & gas companies Presents overviews of sequence stratigraphy in rifts and structural controls on clastic and carbonate sedimentation—critical to the exact mapping of the most lucrative hydrocarbon locations by exploration geologists This book deals with sedimentary sulfides which are the most abundant authigenic minerals in sediments. Special emphasis is given to the biogeochemistry that plays such a central role in the formation of sedimentary sulfides. It will be of interest to scientists in a number of disciplines, including geology, microbiology, chemistry and environmental science. The sulfur system is important to environmental scientists considering the present and future effects of pollution and anoxia. The development of the sulfur system – particularly the characteristics of ocean anoxia over the last 200 Ma – is useful in predicting the future fate of the Earth surface system as well as in understanding the past. The biochemistry and microbiology of the sulfur system are key to understanding microbial ecology and the evolution of life. First monograph on sedimentary sulfides, covering the ancient and modern sedimentary sulfide systems Comprehensive, integrating chemistry, microbiology, geology and environmental science All key references are included and discussed Sedimentary rocks are the only type of rocks that contain fossils! But that's not the only reason sedimentary rocks are important. Scientists study the rocks to learn about Earth's history, while other people collect the rocks for use in construction, farming, and even art. This title introduces readers to these useful rocks, including information about how to identify them, how they form, and how people use them. Special features, including a profile, an activity, and formation diagrams, help highlight the key features of sedimentary rocks in this title for curious readers. Comprehensive textbook on all aspects of sedimentology and stratigraphic principles Sedimentology and Stratigraphy introduces the reader to the subjects and provides tools for the interpretation of sediments and sedimentary rocks, covering the processes of formation, transport, and deposition of sediment and applying them to develop conceptual models for the full range of sedimentary environments, from deserts to deep seas and reefs to rivers. Different approaches to using stratigraphic principles to date and correlate strata are also considered to provide a comprehensive overview of all aspects of sedimentology and stratigraphy. The 3rd edition has been thoroughly revised and updated. The chapter structure has been revised, such that there are distinct sections on geomorphology and on stratigraphy for each depositional setting. The new edition also features a new set of illustrations in full colour. Key concepts introduced in Sedimentology and Stratigraphy include: The importance of changes in plant and animal life through time and the effects on characteristics of both marine and continental sedimentary environments The distinction between modern environments and what is preserved in the sedimentary record, with coverage of glacial erosional and depositional landforms Modern desert environments and aeolian deposits in the stratigraphic record Fluvial processes including patterns of tributary and distributary channels at different scales and in different settings Written by a highly qualified author with abundant experience in the field, Sedimentology and Stratigraphy serves as a highly accessible resource for students of geology and related subjects who seek to understand the formation, characteristics, and importance of sedimentary rocks. The sedimentary record on Earth stretches back more than 4.3 billion years and is present in more abbreviated forms on companion planets of the Solar System, like Mars and Venus, and doubtless elsewhere. Reading such planetary archives correctly requires intimate knowledge of modern sedimentary processes acting within the framework provided by tectonics, climate and sea or lake level variations. The subject of sedimentology thus encompasses the origins, transport and deposition of mineral sediment on planetary surfaces. The author addresses the principles of the subject from the viewpoint of modern processes, emphasising a general science narrative approach in the main text, with quantitative background derived in enabling 'cookie' appendices. The book ends with an innovative chapter dealing with how sedimentology is currently informing a variety of cognate disciplines, from the timing and extent tectonic uplift to variations in palaeoclimate. Each chapter concludes with a detailed guide to key further reading leading to a large bibliography of over 2500 entries. The book is designed to reach an audience of senior undergraduate and graduate students and interested academic and industry professionals. The application of multibeam and sediment transport measurement technologies and the adoption of multi-faceted research methodologies have greatly advanced our understanding of the sedimentary processes on continental shelves in the last decade. This book uniquely blends cutting-edge research and state-of-the-art review articles that take stock of new advances in multibeam mapping and sediment transport technologies, spatial analysis and modelling, and the applications of these advances to the understanding of shelf sediments, morphodynamics, and sedimentary processes. Case studies are also presented to illustrate the utilization of seabed property and process knowledge in habitat mapping and ocean management With its mix of papers focusing on technological advances, integration of shelf morphology and processes, and the application of these advances to coastal and ocean management, this Special Publication volume will serve as a milestone reference for professional marine scientists and as advanced text for students in marine geology, sedimentology and oceanography. This book is part of the International Association of Sedimentologists (IAS) Special Publications. The Special Publications from the IAS are a set of thematic volumes edited by specialists on subjects of central interest to sedimentologists. Papers are reviewed and printed to the same high standards as those published in the journal Sedimentology and several of these volumes have become standard works of reference. This volume contains a compilation of 17 seminal papers, taken from various Geological Society Special Publications and the Journal of the Geological Society, on the use and application of stratigraphy in petroleum geology over the last 20 years. The volume focuses on case studies in fundamental stratigraphy, applied and integrated stratigraphy and alternative methods of stratigraphy. The book is introduced with an original scientific and historical review of the subject: all papers are set in context with both the benefits of the techniques and some of the short-comings highlighted. By compiling these papers, commercial stratigraphers John Gregory, Philip Copestake and Julian Pearce have created a volume intended for a wide readership. However, it is of particular relevance for the training of undergraduate students studying courses on petroleum geology, basin development and sequence stratigraphy as well as for all postgraduate students working in petroleum-related scientific fields. It is also intended as a volume of general use for geoscientists entering the petroleum industry, as well as current workers requiring an overview. Compaction of Coarse-Grained Sediments, I This unique textbook describes how past changes in sea-level can be detected through an analysis of the sedimentary record. In particular, it concentrates on the current sequence stratigraphy model. It explains this model from basics and shows how the model can be applied to both siliciclastic and carbonate successions. Designed for undergraduate and graduate courses in sequence stratigraphy, as well as for professional courses within the petroleum industry, this full-colour textbook includes numerous features that will aid tutors and students alike. These include detailed case studies demonstrating the practical applications of sequence stratigraphy and set-aside boxes providing supplementary and background information. Bulleted questions and answers are interspersed throughout the text, encouraging students to test their understanding of the material. The book is supported by a website hosting sample pages from the book, selected illustrations to download, and worked exercises. Sedimentary Petrology - Implications in Petroleum Industry provides some new information on the importance of sedimentary petrology in various disciplines that are of great significance for the evaluation and locating of oil and gas. This book focuses on the provenance history of clastic rocks, reservoir characterization and hydrocarbon exploration in carbonate reservoirs, and enhanced oil recovery based on data from petrological investigations from various regions in Asia and Europe. Beaches, barrier islands and tidal inlets are valuable coastal resources and provide desirable environments that are often densely populated. They are dynamic landforms that change constantly, driven by both normal processes and energetic storms. They behave as one interconnected system and must be understood and managed as such. This book discusses their various morphologic features, as well as the processes that shape them and future challenges due to environmental change. A major focus is placed on the interaction between sandy beaches and tidal inlets, and the sediment exchange among various morphologic features. Balancing these valuable sediment resources while maintaining the natural sediment exchange constitutes a major goal of modern shore protection and coastal management. Illustrated with numerous aerial photographs to demonstrate how beaches and tidal inlets interact, this book provides a valuable reference for graduate students, researchers and professionals working in coastal management and geomorphology. The Key to Earth History introduces students to the basic tools used by geologists to reconstruct the Earth's history, and shows how these tools can be used to chart the pattern of global environmental change since the formation of the Earth some 4600 million years ago. It tells a story of mountain building, climate change and of the evolution of life, and uses the North Atlantic region (Europe and North America) as a study area to illustrate this story. Divided into two parts, the book shows how stratigraphy is the key to understanding the history of the Earth. The first part examines the basic stratigraphical methods used to establish, date and interpret the rock record as the product of a series of events within Earth history. The second part presents the results obtained by geologists, who have used these stratigraphical tools to reconstruct the pattern of global environmental change through geological time and focuses on the geological evolution of the North Atlantic region. The Key to Earth History is essential reading for geologists, geographers and environmental scientists, as well as to all those interested in the story of the planet. "The authors provide no one with an alibi for bad stratigraphic teaching!" —Geoscientist "The aims of this introductory textbook are to explain the process and pattern of Earth history, to generate interest and enthusiasm, to make stratigraphy fun and exciting! These aims are admirably achieved." —The Holocene "This is a great little book! I found that, not only was everything covered, but that it was covered in a refreshing, readable, no-nonsense fashion." —Earth Science Reviews "The Key to Earth History really should be compulsory reading for all ... geology students." —Geologie Investigating the complex interplay between tectonics and sedimentation is a key endeavor in modern earth science. Many of the world's leading researchers in this field have been brought together in this volume to provide concise overviews of the current state of the subject. The plate tectonic revolution of the 1960's provided the framework for detailed models on the structure of orogens and basins, summarized in a 1995 textbook edited by Busby and Ingersoll. Tectonics of Sedimentary Basins: Recent Advances focuses on key topics or areas where the greatest strides forward have been made, while also providing on-line access to the comprehensive 1995 book. Breakthroughs in new techniques are described in Section 1, including detrital zircon

geochronology, cosmogenic nuclide dating, magnetostratigraphy, 3-D seismic, and basin modelling. Section 2 presents the new models for rift, post-rift, transtensional and strike slip basin settings. Section 3 addresses the latest ideas in convergent margin tectonics, including the sedimentary record of subduction initiation and subduction, flat-slab subduction, and arc-continent collision; it then moves inboard to forearc basins and intra-arc basins, and ends with a series of papers formed under compressional strain regimes, as well as post-orogenic intramontane basins. Section 4 examines the origin of plate interior basins, and the sedimentary record of supercontinent formation. This book is required reading for any advanced student or professional interested in sedimentology, plate tectonics, or petroleum geoscience. Additional resources for this book can be found at: www.wiley.com/go/busby/sedimentarybasins. The motivation for this volume came from the idea that the Precambrian is the key, both to the present, and to the understanding of the Earth as a whole. The Precambrian constitutes about 85% of Earth's history, and of that, about 3.75 billion years of Precambrian time, represented by rocks, are accessible to geoscientists. Ancient atmospheric and environmental conditions can be traced back to the time when the Earth was only about 250 million years old. Precambrian rocks supply almost 75% of important mineral resources such as Fe, Mn, Au, Pt and Cr. Many of these elements are associated with sedimentary rocks and some important hydrocarbon, coal and graphite deposits are also hosted by Precambrian rocks. This volume is aimed at geoscientists interested in Precambrian sedimentary rocks and at students of Earth history. It contains review articles discussing Precambrian conditions and case studies from Precambrian shields and successions of North and South America, Australia, Africa, Europe, Asia and India. The introductory papers, written by experts on Precambrian environments, treat comprehensively the application of actualism to the Precambrian, the evolution and influence of life on the sedimentary rock record, the genesis of Banded Iron Formations, the Precambrian sulphur cycle and the significance of Precambrian chemical carbonate precipitates. The case studies include depositional settings and processes in Archean terranes, in Paleoproterozoic sequences, with some emphasis on the lack of vegetation and weathering, and in late Proterozoic sequences, with some emphasis on glacial deposits. The contributions demonstrate that Precambrian sedimentary deposits are commonly similar to their Phanerozoic counterparts in terms of composition, sedimentary processes, and depositional setting, but may differ significantly as a result of lack of vegetation, climatic and biological constraints, composition and circulation of seawater, and the secular involvement of continental crust. Contains review articles discussing Precambrian conditions and case studies from Precambrian shields and successions of North and South America, Australia, Africa, Europe, Asia and India. The introductory papers, written by experts on Precambrian environments, treat comprehensively the application of actualism to the Precambrian, the evolution and influence of life on the sedimentary rock record, the genesis of Banded Iron Formations, the Precambrian sulphur cycle and the significance of Precambrian chemical carbonate precipitates. Detailed case studies include depositional settings and processes in Archean terranes, in Paleoproterozoic sequences, with some emphasis on the lack of vegetation and weathering, and in late Proterozoic sequences, with some emphasis on glacial deposits. Written for geoscientists interested in Precambrian sedimentary rocks and students of Earth history. If you are a member of the International Association of Sedimentologists (IAS), for purchasing details, please see: <http://www.iasnet.org/publications/details.asp?code=SP33> Principles of Stratigraphy reaffirms the vital importance of stratigraphy to the earth sciences, and introduces the undergraduate to its key elements in a lively and interesting fashion. First recent text devoted to stratigraphic principles and applications. Contains details of the latest stratigraphic techniques. Includes numerous case studies and real-world examples. An Instructor manual CD-ROM for this title is available. Please contact our Higher Education team at HigherEducation@wiley.com for more information. This dissertation comprises three chapters focusing on the evolution of marine sedimentary successions that formed as the fill of large submarine channel belts and their tributary systems. These channel belts serve as conduits for gravel- and sand-laden sediment gravity flows along the axes of narrow, elongate foreland basins. In the past, axial channel belts have not been widely recognized in submarine foreland basins (Mutti et al., 2003). However, recent studies have demonstrated the presence of axial channels, 3-8 km in width and > 100 km in length, in a number of marine foredeeps including the Cretaceous Magallanes Basin, southern Chile, and the Tertiary Molasse Basin, northern Austria (De Ruig and Hubbard, 2006; Hubbard et al., 2008, 2009). Additional studies have shown that similar channels are common in submarine trough-shaped basins in other convergent margin settings such as the Peru-Chile trench (Thornburg et al. 1990, Völker et al., 2006), the Hikurangi trough, offshore New Zealand (Lewis and Pantin, 2002), and the Nankai trough, offshore Japan (Fig. 1 in Moore et al., 2007), as well as in modern oceanic rift basins, such as the Maury channel in the Northeast Atlantic Rockall Basin (Cherkis et al., 1973) and the Northwest Atlantic Mid-Ocean Channel (NAMOC) in the Labrador Sea (Hesse et al., 1987, 1990; Hesse, 1989, Klauke et al., 1998). These occurrences suggest that axial channels may be common sediment transport fairways in elongate deep-water basins in a variety of tectonic settings. This thesis investigates the sedimentary evolution, stratigraphic architecture, and paleogeography of such channel systems in two distinct, yet analogous and complementary research areas: the Magallanes foreland basin in southern Chile, and the Molasse foreland basin in northern Austria. The main objectives of this study are: a) to characterize the processes of submarine sediment transport and deposition in the study areas, b) to explain the associated filling patterns of ancient submarine axial channels and their tributaries, and c) to reconstruct the paleogeography of an ancient seafloor in order to better understand deep-marine sediment dispersal patterns in narrow elongate basins. The Magallanes Basin is a retro-arc foreland basin characterized by a deep-marine filling history from the Cenomanian/Turonian (Fildani et al., 2003; Fosdick et al., in press) to the Campanian (Chapter 3). The numerous coarse-grained submarine channel and lobe complexes of the Turonian to Campanian Cerro Toro Formation represent a large north-south oriented channel belt that funneled sediment gravity flows along the axis of the foreland basin parallel to the active thrust front (Hubbard et al., 2008). This main axial trunk channel belt was probably fed by at least one, and possibly numerous, tributary channel systems coming off the Andean mountain front to the west. Similarly, sedimentation within the Upper Austrian Molasse Basin during the late Oligocene to early Miocene was largely controlled by an axial trunk channel that was fed by a deltaic system to the west and a tributary system lying along the Inntal fault zone to the southwest (De Ruig and Hubbard, 2006). Three studies were undertaken in order to illuminate the processes and architecture of the fill of submarine foreland basin axial channels: the interaction of submarine debris flows and turbidity currents within the axial channel in the Molasse Basin (Chapter 1), the stratigraphic and architectural evolution of coarse-grained deep-water deposits in a tributary system setting in the Magallanes Basin (Chapter 2), and the paleogeography of the Magallanes Basin axial channel belt and its tributary system and the associated basin-filling pattern over time (Chapter 3). Multiple techniques were combined to achieve these goals, including field mapping, sedimentological analysis of outcrops and rock cores, interpretation of wireline logs and 3D seismic-reflection data, U/Pb dating of zircons, strontium isotope stratigraphy, and a novel approach to lithofacies proportion modeling (Stright et al., 2009). This fourth edition builds on the success of previous editions and for the first time is produced in full colour throughout with improved photos and diagrams. It retains its popular pocket size and is an essential buy for all students working in the field. The text shows how sedimentary rocks are tackled in the field and has been written for all those with a geological background. It describes how the features of sedimentary rocks can be recorded in the field particularly through the construction of graphic logs. In succeeding chapters the various sedimentary rock types, textures and structures are discussed and shown how they can be described and measured in the field. There are expanded sections on trace fossils and volcanoclastics along with updated reference list. Finally a concluding section deals briefly with facies identification and points the ways towards facies interpretations, and the identification of sequences and cycles. Key Features: Full colour throughout with improved photos, figures and diagrams in a modern layout. Complete revision and update of best selling textbook which is part of the highly successful Field Guide series. Expanded sections on trace fossils and volcanoclastics along with updated reference list. Handy pocket size with laminated cover. Includes supplementary website with downloadable logging sheets for fieldwork activities. Written for a first course in sedimentary geology or sedimentary rocks and stratigraphy (with only an introductory geology/physical geology course as a prerequisite), Prothero and Schwab shows students how sedimentary strata serves geologists as a continuous record of Earth's history. The authors' conversational style, and focus on the important concepts make the book highly accessible to an undergraduate audience. Sedimentary coasts with their unique forms of life and productive ecosystems are one of the most threatened parts of the biosphere. This volume analyzes and compares ecological structures and processes at sandy beaches, tidal mudflats and in shallow coastal waters all around the world. Analyses of local processes are paired with comparisons between distant shores, across latitudinal gradients or between separate biogeographic provinces. Emphasis is given to suspension feeders in coastal mud and sand, to biogenic stabilizations and disturbances in coastal sediments, to seagrass beds and faunal assemblages across latitudes and oceans, to recovery dynamics in benthic communities, shorebird predation, and to experimental approaches to the biota of sedimentary shores. Additional title page description: A compilation of data, essentially an atlas, on texture and composition of bottom sediments, including geologic and hydrologic factors that influence them, in 45 estuaries. "Inspired by a GSA Penrose Conference held in 2005 (cosponsored by the International Association of Sedimentologists and the British Sedimentological Research Group), the 17 papers in this volume explore sedimentary environments in arc collision zones and their utility in recording the evolution of modern and ancient convergent margins. The first set of papers in the collection focuses on formation and evolution of the sedimentary record in arc settings and arc collision zones, concentrating on modern intra-oceanic examples. Papers include studies of flexural modeling and factors that affect development of siliciclastic and carbonate deposits around modern arcs. The second half of the volume presents new applications of arc sedimentary records. These relate primarily to constraining tectonic events in the evolution of arc systems, but also concern the links among tectonic uplift, collision, and geomorphic and climatic feedback mechanisms in arc collision zones."-- Publisher's website. From sidewalk chalk to the Grand Canyon, sedimentary rocks are everywhere. But what do you know about this common rock? Dig into the layers of sediment built up over millions of years to make these rocks. Follow along with the different ways these rocks form and change, find out what they look like up close, and explore some of the most famous and fascinating sedimentary rocks. It's key Earth science curriculum made approachable for all! During the past few decades, deep-sea research benefited greatly from a number of newly developed, highly sophisticated exploration techniques and comprehensive datasets, thanks to the immense industrial interest in deep-sea sediments. The book Deep-Sea Sediments focuses on the sedimentary processes operating within the various modern and ancient deep-sea environments. The individual chapters track the way of sedimentary particles from continental erosion or production in the marine realm, to transport into the deep sea, to final deposition on the sea floor. The sedimentary processes cover several types of sediment gravity flow and contour currents, pelagic settling and hemipelagic advection, planktic and benthic bioproductivity, and volcanoclastic sedimentation. In addition, the relationships between depositional environment and endobenthic organisms as well as early diagenetic processes at and within the deep-sea floor are dealt with. Facies models of the wide range of depositional products hold the key for a process-related interpretation of ancient deposits. Changes in sea-water chemistry, major innovations in organism evolution, and changes in external controls on sedimentation and productivity are discussed in the context of overarching trends in ocean history. Deep-sea sediments are not only of interest because of the numerous interacting processes involved in their formation, but they represent also a nearly inexhaustible archive of long-term climatic changes. Consequently, the book also includes an introduction to the climatic interpretation of the various proxies that reveal global changes during the Mesozoic greenhouse and Neogene icehouse conditions. In order to address the specific interest of the oil and gas industry in deep-water sediments, the investigation techniques that are applied in this context and the methods to predict both the occurrences and the characteristics of hydrocarbon reservoirs are included as well. Examines the rapidly evolving field of deep-sea sedimentary research Focuses on sedimentary and diagenetic processes, with theory and case histories Covers the climate record, hydrocarbon reservoirs, and other topics of interest Features a multimedia component with colour versions of figures Advanced textbook outlining the physical, chemical, and biological properties of sedimentary rocks through petrographic microscopy, geochemical techniques, and field study. "Physical Geology is a comprehensive introductory text on the physical aspects of geology, including rocks and minerals, plate tectonics, earthquakes, volcanoes, glaciation, groundwater, streams, coasts, mass wasting, climate change, planetary geology and much more. It has a strong emphasis on examples from western Canada, especially British Columbia, and also includes a chapter devoted to the geological history of western Canada. The book is a collaboration of faculty from Earth Science departments at Universities and Colleges across British Columbia and elsewhere"--BCcampus website. Review of the second edition "For geologists and geophysicists studying sedimentary fill of basins, this volume is a valuable addition to their shelves. The book is packed with information includes numerous lists of references, and is up-to-date. As a source volume, this book is second to none. It is clear and well organized." GEOPHYSICS "One of the primary areas in the Earth science curriculum is learning about the rocks that make up Earth's crust. However, remembering each type and how it forms may be a challenge for some. This volume presents readers with a simple but full overview of the formation of sedimentary rock. Full-color photographs display common types of sedimentary rock, including sandstone, shale, and breccia. Including explanations of key terms such as sediment and stratification, the main content and fact boxes will greatly complement classroom learning for readers of all levels." "Ideas and concepts in sedimentology are changing rapidly, but field work and data collection remain the basis of the science. This book is intended as a guide to the recognition and description of sedimentary rocks in the field. It aims to help students and professional geologists know what to observe and record, and how best to interpret this data. The emphasis is on illustrating the principal types of sedimentary rocks, which is accomplished through more than 450 color photos and explanatory drawings. The introductory chapter defines the main types of sedimentary rocks, their classification, and their economic significance. The author then goes on to describe standard field techniques and provides a comprehensive summary of the principal characteristics of sedimentary rocks. Additional chapters cover each of the main rock types and describe how to interpret rocks and their features in terms of depositional environments." "This book is an ideal field companion for undergraduate and graduate students of geology, environmental sciences, hydrogeology, oceanography, and more. Professionals in petroleum geology and resource management, as well as budding geologists, will also find this to be an indispensable reference."-- BOOK JACKET. The Norwegian Continental Shelf (NCS), focus of this special publication, is a prolific hydrocarbon region and both exploration and production activity remains high to this day with a positive production outlook. A key element today and in the future is to couple technological developments to improving our understanding of specific geological situations. The theme of the publication reflects the immense efforts made by all industry operators and their academic partners on the NCS to understand in detail the structural setting, sedimentology and stratigraphy of the hydrocarbon bearing units and their source and seal. The papers cover a wide spectrum of depositional environments ranging from alluvial fans to deepwater fans, in almost every climate type from arid through humid to glacial, and in a variety of tectonic settings. Special attention is given to the integration of both analogue studies and process-based models with the insights gained from extensive subsurface datasets. Authoritative, accessible, and updated introduction to sedimentary rocks for undergraduate students Sedimentary Petrology provides readers with a concise account of sedimentary rock composition, mineralogy, texture, structure, diagenesis, and depositional environments. The new edition of this classic text incorporates the many technological and analytical advances of the last decade, revealing exciting details of processes such as microbial precipitation, how microporosity is created within mudrocks, and the chemical composition of foraminifera deposits, which can be a key indicator for changing seawater temperature. This fourth edition offers a comprehensive update and expansion of the previous editions with a new set of illustrations, new references, and further reading. The new co-author Stuart Jones has brought his considerable expertise in clastic sedimentology to the rewritten chapters on sandstones and mudrocks. The addition of color images throughout the text will aid students immensely in their studies and petrographic fieldwork. Sample topics covered in Sedimentary Petrology include: Advances in modeling and programming to simulate depositional-diagenetic conditions and controls which support field-lab descriptions and interpretations Ocean acidification and the demise of coral reefs, and the role of the oceans in carbon capture and storage Sedimentary ironstones and iron-formations, sedimentary phosphate deposits, coal, oil shale and petroleum, and cherts and siliceous sediments Limestones, evaporites, volcanoclastic sediments, sandstones, conglomerates, breccias, and the effects of microplastics on marine organisms Aimed at undergraduates in geology and earth science, Sedimentary Petrology is an excellent teaching and learning resource for introductory courses in sedimentary rocks.