

Міністерство освіти і науки України
Львівський національний університет імені Івана Франка

О.А. Брона, О.А. Шумська

**АНГЛІЙСЬКА МОВА
ДЛЯ ГЕОЛОГІВ**

Навчальний посібник

Львів
Видавничий центр ЛНУ імені Івана Франка
2003

Брона О.А., Шумська О.А. Англійська мова для геологів: Навч. посібник. – Львів: Видавничий центр ЛНУ імені Івана Франка, 2003.

У посібнику використано цікаві, пізнавальні тексти. Розроблено комплекс вправ, який сприятиме кращому засвоєнню лексики, розвитку навичок професійно-орієнтованого мовлення. Вправи укладено так, щоб забезпечити повторення мовного матеріалу на різних текстах.

Для студентів, магістрантів та аспірантів геологічного факультету, які вивчають англійську мову.

*Рекомендовано до друку Вченою Радою Львівського
національного університету імені Івана Франка.
Протокол № 20/12 від 25.12.2002*

Рецензенти:

В.В. Фурман, канд. геолог. наук, доцент (Львів, Львівський національний університет імені Івана Франка);

Г.Т. Ісаєва, канд. філол. наук, доцент (Львів, Львівський національний університет імені Івана Франка);

Н.І. Андрейчук (Львів, Національний університет “Львівська політехніка”).

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Unit 23

Read the text

Stratigraphy

Stratigraphy is the study of the history of the earth's crust, particularly its stratified (layered) rocks. Stratigraphy is concerned with determining age relationships of rocks as well as their *distribution* in space and time. Rocks may be studied in an outcrop but commonly are studied from drilled cores (samples that have been collected by drilling into the earth). Most of the earth's surface is covered with sediment or layered rocks that record much of geologic history; this is what makes stratigraphy important. It is also important for many economic and environmental reasons. A large portion of the world's fossil fuels, such as oil, gas, and coal, are found in stratified rocks, and much of the world's groundwater is stored in sediments or stratified rocks.

Stratigraphy may be subdivided into a number of fields. Biostratigraphy is the use of fossils for age determination and correlation of rock layers; magnetostratigraphy is the use of magnetic properties in rocks for similar purposes. Newer fields in stratigraphy include chemostratigraphy, seismic stratigraphy, and sequence stratigraphy. Chemostratigraphy uses chemical properties of strata for age determination and correlation as well as for recognising events in the geologic record. For example, oxygen isotopes (forms of oxygen that contain a different number of *neutrons* in the *nuclei* of atoms) may provide evidence of an ancient paleoclimate. Carbon isotopes may identify biologic events, such as extinctions. *Rare* chemical elements may be concentrated in a marker layer (a distinctive layer that can be correlated over long distances). Seismic stratigraphy is the subsurface study of stratified rocks using seismic reflection techniques. This field has revolutionised stratigraphic studies since the late 1970s and is now used extensively both on land and *offshore*. Seismic stratigraphy is used for economic reasons, such as finding oil, and for scientific studies. An *offshoot* of seismic stratigraphy is sequence stratigraphy, which helps geologists reconstruct sea level changes throughout time. The rocks used in sequence stratigraphy are *bounded* by, or surrounded by, surfaces of

erosion called *unconformities*.

Study the following words

Word in English	Transcription	Explanation in English	Ukrainian translation
distribution	['distri'bju:f(ə)n]	occurrence	розповсюдження
neutron	['nju:trɒn]	an uncharged elementary particle of an atom	нейтрон
nucleus (pl. nuclei) nucleuses	['nju:kliəs, pl. -leɪ, [-liəsɪz)]	a thing or part forming the centre around which other things or parts are grouped or collected	ядро
rare	[rɛə]	infrequent, of extremely high quality	рідкоземельний, рідкий
offshore	['ɔfʃɔ:]	moving off or away from the shore	відкрите море
offshoot	['ɔfʃu:t]	branch	гілка
bound	[baʊnd]	tied, limited, restricted	зв'язаний, обмежений
unconformity	['ʌnkən'fɔ:miti]	a break in the continuity of rock strata in contact, separating younger from older rocks and usually resulting from erosion	неузгоджене напластування

Answer the following questions

1. What is stratigraphy and what is it concerned with? 2. Name two ways of studying rocks. 3. Where is geologic history recorded? 4. Why stratigraphy is so important in men's life? 5. Are there any sub-fields of stratigraphy? If there are any, name them and explain what they examine?

Insert missing words. Use information given in the text above

1. Stratigraphy is concerned with ___ age relationships of rocks.
2. Rocks may be studied in an ___ but commonly are studied from samples that have been collected by drilling into the earth.
3. Rocks may be studied in an ___ but commonly are studied from samples collected by drilling into the earth.
4. A large portion of the world's fossil fuels, such as ___, ___, and ___, are found in stratified rocks.
5. Biostratigraphy is the use of fossils for age ___ and ___ of rock layers.
6. Oxygen isotopes may ___ evidence of an ancient paleoclimate.
7. ___ chemical elements may be concentrated in a distinctive layer that can be correlated over long distances.
8. Sequence stratigraphy is an ___ of seismic stratigraphy.

Write the words according to their transcription

['distri'bju:f(ə)n]

['ɔf'ɔ:]

['nju:trɒn]

['ɔfju:t]

['nju:k|liəslei]

[baund]

[reə]

['ʌnkən'fɔ:miti]

Complete the following sentences

1. Stratigraphy is the study of ...
2. ... but commonly are studied from drilled cores.
3. A large portion of the world's fossil fuels, such as oil, gas, and coal ...
4. ... is the use of fossils for age determination and correlation of rock layers.
5. Chemostratigraphy uses chemical properties of strata for ...
6. Oxygen isotopes are ...
7. ... is the subsurface study of stratified rocks using seismic reflection techniques.
8. Seismic stratigraphy is used for ...

Using your dictionaries and explanations from the table above try to guess meaning of the next words

- | | |
|----------------|---|
| 1) offshore | a) призначений для бездоріжжя; |
| 2) offshoot | b) вільний від роботи час; |
| 3) off-air | c) незвичайного, нестандартного кольору; |
| 4) off-balance | d) мала вірогідність; |
| 5) off-centre | e) острів, розташований неподалік від берега; |
| 6) off-chance | f) той, що втратив рівновагу; |
| 7) off-colour | g) той, що приймається безпосередньо з ефіру; |
| 8) off-duty | h) гілка; |
| 9) off-island | i) зсунутий (від центру), нецентральний; |
| 10) off-road | j) відкрите море, океан. |