

Science in Ukraine

Level – Intermediate

1 Test your knowledge. Match scientists 1–5 to area of work a–e.

- | | |
|-----------------------|----------------|
| 1 Mykola Amosov | a space travel |
| 2 Serhii Koroliov | b heart |
| 3 Illia Mechnikov | c bridges |
| 4 Yevhen Paton | d disease |
| 5 Volodymyr Vernadsky | e noosphere |

2 Read the texts. Check your answers to exercise 1.

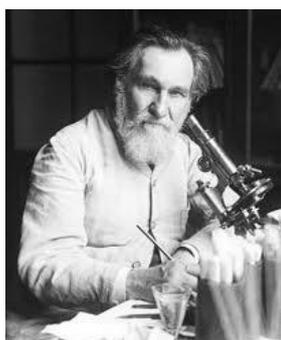


Mykola Mykhailovych Amosov (1913–2002) was a Ukrainian doctor, heart surgeon, inventor, best-selling author, and exercise enthusiast. He is probably best-remembered for his inventions to overcome heart defects. He also introduced lung surgery to Ukraine and his research helped improve the treatment of lung disease. Furthermore, he worked in the field of cybernetics: the study of how actions in one part of a system affect other parts of the same system. This led him to put forward theories on how different parts of the body function, including the brain. His work in this area brought him international recognition. He also managed to find time to be a novelist.



Serhii Pavlovych Koroliov (1907–1966) has been called the father of astronautics. He was the leading engineer during the 1950s and 1960s when he worked on the Sputnik and Vostok space projects. Koroliov's interest in aviation started early and by the time he was eighteen he had designed his own glider. It was not until the 1950s that he became interested in the space industry. He came up with the idea of sending a satellite into space. At the same time, US scientists were beginning to have the similar ideas. Koroliov managed to persuade the Soviet authorities that his team could be the first to do it.

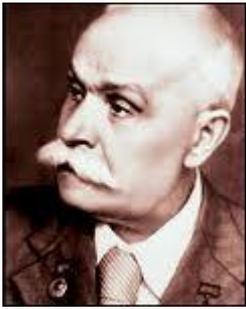
Following this, he was able to pull off several firsts in the 'space race'. He was working on plans to send men to the moon when he died in 1966. His association with space continues as there is a crater on the moon named after him.



Illia Illich Mechnikov (1845–1916) took an interest in natural history from an early age and used to lecture his younger brothers and friends on this subject. He first started working in marine biology. Later he became interested in immunology and took up the study of how organisms fight disease.

This area was of personal interest to Mechnikov because his first wife died of tuberculosis and his second almost died of typhoid fever – both common diseases at the time. Through his research, scientists gained a much better understanding of how cells protect organisms. He is most famous for his research on the immune system. He won many awards for his work and in 1908 he received the Nobel Prize for Physiology or Medicine.

Yevhen Oskarovich Paton (1870–1953) played a major role in developing the way bridges were built and designed.



He did this by looking into the ways metals can be welded together. From his research he developed a procedure to work out how strong joints of bridges and other structures would be. In 1934, Paton founded the Electric Welding Institute, later named after him. Then, in 1953 a bridge was built in Kyiv using many different aspects of his technology.



Volodymyr Ivanovych Vernadsky (1863–1945) was a Ukrainian and Soviet mineralogist and geochemist. He is considered one of the founders of geochemistry, biogeochemistry, and radiogeology. His ideas of noosphere were an important contribution to Russian cosmism. He also worked in Ukraine during the Russian Civil War, where he founded the Ukrainian Academy of Sciences (now National Academy of Sciences of Ukraine). He is most noted for his 1926 book *The Biosphere*. In this book he hypothesized that life is the geological force that shapes the earth.



Vernadsky National Library of Ukraine, VNLU (Ukrainian: Національна бібліотека України імені В.І. Вернадського) is named after this famous scientist. It is the main academic library and main scientific information centre in Ukraine. It is located in the capital of the country – Kyiv. The library contains about 15 million items.

3 Read the texts. Write the correct scientist's name next to each sentence.

- 1 He believed his team was able to beat American scientists. _____
- 2 He discovered how the body protects itself against illness. _____
- 3 He found ways of making structures stronger. _____
- 4 He produced theories on how the brain works. _____
- 5 He wrote books. _____
- 6 He built an aircraft. _____
- 7 He taught his friends when he was a child. _____
- 8 There is a library named after him. _____
- 9 There is an institute with his name. _____
- 10 He first popularized the concept of the noosphere. _____

4 Match the underlined phrasal verbs in the texts with the meanings below.

- 1 thought of _____
- 2 began _____
- 3 calculate _____
- 4 manage successfully _____
- 5 researching _____

5 Project. Write an article about one of the Ukrainian scientists below, or a scientist of your own choice. Do some research on the Internet. Divide your article into three or four paragraphs and focus on the topics below.

Oleksandr Shalimov	Mykola Pyrohov
Vasyl Sukhomlynsky	Oleksandr Bohomolets
Mykhailo Hrushevsky	Victor Glushkov

- Family and early years
- Early successes
- Greatest achievements
- How he/she has contributed to scientific understanding.
- How he/she has helped people.

Vocabulary

Mykola Amosov

heart [hɑ:t] серце
surgeon ['sɜ:dʒ(ə)n] хірург
inventor [ɪn'ventə] винахідник
enthusiast [ɪn'θju:ziæst]
ентузіаст; палкий шанувальник
або прихильник (чого-небудь)
overcome [ˌəʊvə'kʌm]
побороти, подолати
heart defect [hɑ:t] [dɪ'fekt]
порок серця
lung [lʌŋ] легеня
surgery ['sɜ:dʒəri] хірургія
research [rɪ'sɜ:tʃ] дослідження
improve [ɪm'pru:v] поліпшувати
treatment ['tri:tmənt] лікування
disease [dɪ'zi:z] хвороба
furthermore [ˌfɜ:ðə'mɔ:ɪ] крім
того; більше того
field [fi:ld] поле, область
cybernetics [saɪbə'netiks]
кібернетика
affect [ə'fekt] впливати (на що-
небудь)
theory ['θiəri] теорія
function ['fʌŋkʃən]
функціонувати
brain [breɪn] мозок
area ['eəriə] сфера
recognition [ˌrekəg'nɪʃən]
визнання
manage ['mænɪdʒ] зуміти
(зробити)
novelist ['nɒvəlɪst] автор
романів

Serhii Pavlovych Koroliov

call [kɔ:l] називати, звати
astronautics [æstrə'nɔ:tɪks]
астронавтика, космонавтика
space [speɪs] космос
aviation [ˌeɪvɪ'eɪʃən] авіація
glider ['glɑɪdə] планер
satellite ['sætələɪt] супутник

persuade [pə'sweɪd]
переконувати; умовляти
authority [ɔ:'θɔ:ɪtɪ] влада
race [reɪs] гонка
association [ə,səʊsɪ'eɪʃən]
асоціація, зв'язок
crater ['kreɪtə] кратер

Iliia Mechnikov

natural history ['nætʃərəl]
[ˈhɪstəri] природознавство
lecture ['lektʃə] читати лекції
subject ['sɛbdʒɪkt] предмет,
дисципліна
marine biology [mə'ri:n]
[baɪ'ɔlədʒɪ] морська біологія
immunology [ˌɪmjʊ'nɔlədʒɪ]
імунологія
fight [faɪt] боротися
tuberculosis [tju:,bɜ:kju:'ləʊsɪs]
туберкульоз
typhoid fever ['taɪfɔɪd] ['fi:və]
черевний тиф
gain [geɪn] домогтися
cell [sel] клітина
protect [prə'tekt] захищати
immune [ɪ'mju:n] імунний
physiology [fɪzi'ɔlədʒɪ]
фізіологія

Yevhen Paton

major ['meɪdʒə] головний
bridge [brɪdʒ] міст
design [dɪ'zaɪn] проектувати,
конструювати
weld [weld] зварювати
procedure [prə'si:dʒə]
процедура
joint [dʒɔɪnt] місце з'єднання;
суглоб
structure ['strʌktʃə] структура;
будівля, споруда
welding ['weldɪŋ] зварка

Volodymyr Vernadsky

mineralogist [ˌmɪnərə'lɒdʒɪst]
мінералог
geochemist [ˌdʒi:əu'kɛmɪst]
геохімік
consider [kən'sɪdə] розглядати,
вважати
founder ['faʊndə] засновник
geochemistry [dʒi:ə(u)'kɛmɪstri]
геохімія
biogeochemistry
[ˈbaɪə(u)dʒi:ə(u)'kɛmɪstri]
біогеохімія
radiogeology ['reɪdɪəu
dʒɪ'ɔlədʒɪ] радіогеологія
geology [dʒɪ'ɔlədʒɪ] геологія
idea [aɪ'diə] ідея, думка
noosphere ['nəʊsfɪə] ноосфера,
частина біосфери, де
взаємодіють природа і
суспільство
contribution [ˌkɒntrɪ'bju:ʃən]
внесок
cosmism космізм
civil war ['sɪvəl] [wɔ:]
громадянська війна
Academy of Sciences [ə'kædəmɪ
ɔv 'saɪənsɪz] Академія наук
noted ['nəʊtɪd] знаменитий,
відомий
biosphere ['baɪəsfiə] біосфера
hypothesize [haɪ'pɒθəsaɪz]
висувати гіпотезу, робити
припущення
geological [dʒɪə'lɒdʒɪkəl]
геологічний
force [fɔ:s] сила
shape [ʃeɪp] надавати форму
earth [z:θ] Земля
library ['laɪbrəri] бібліотека
item ['aɪtəm] позиція, одиниця
інформації

Answer Keys

1

- | | |
|-----------------------|----------------|
| 1 Mykola Amosov | b the heart |
| 2 Serhii Koroliov | a space travel |
| 3 Illia Mechnikov | d disease |
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| 5 Volodymyr Vernadsky | e noosphere |

3

- 1 Serhii Koroliov
- 2 Illia Mechnikov
- 3 Yevhen Paton
- 4 Mykola Amosov
- 5 Mykola Amosov
- 6 Serhii Koroliov
- 7 Illia Mechnikov
- 8 Volodymyr Vernadsky
- 9 Yevhen Paton
- 10 Volodymyr Vernadsky

4

- 1 thought of – came up with
- 2 began – took up
- 3 calculate – work out
- 4 manage successfully – pull off
- 5 researching – looking into