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Е. В. ГУЖЕВА

THE WORLD OF TECHNOLOGY

МИР ТЕХНОЛОГИЙ

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Рецензенты:
канд. филол. наук, доцент *С. В. Никрошкина*
канд. филол. наук, доцент *Ю. В. Коноваленко*

Гужева Е.В.
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Учебное пособие предназначено для студентов I, II курса (2-го, 3-го семестра) АВТФ, ФПМИ, ФЛА, МТФ, ФТФ, РЭФ для использования на занятиях в рамках дисциплины «Иностранный язык».

Целью пособия является формирование у студентов коммуникативной языковой компетенции в рамках нижеприведенных тем, которая реализуется в различных видах речевой деятельности, как устной, так и письменной. Учебное пособие включает 3 раздела: “Science and Scientists” (“Наука и ученые”), “Inventors and Inventions” (“Изобретатели и изобретения”), “Information Technology ” (“Информационные технологии”).

Организация материала внутри каждого раздела предусматривает формирование речевых умений от первичных навыков употребления лексических единиц по данной теме до упражнений, подготавливающих студентов к диалогической или монологической речи.

Учебное пособие является комплексным и коммуникативно-ориентированным, способствует развитию умений и навыков во всех видах речевой деятельности.

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MODULE I. SCIENCE AND TECHNOLOGY

UNIT 1. SCIENCE AND GREAT SCIENTISTS

TEXT 1. WHY IS SCIENCE IMPORTANT?

Vocabulary

gravity [ˈgrævɪtɪ] – гравитация, сила тяжести
gain [geɪn] – получать, выручить, приобретать
injure [ˈɪnʤə] – ранить, повредить, травмировать
existence [ɪgˈzɪstəns] – существование, жизнь, бытие
X-rays – рентгеновские лучи
landline, dial-up [ˈdaɪəl ʌp] phone – наземная линия связи, стационарный телефон
reheat [riːˈhiːt] – подогревать, разогревать
bone [bəʊn] – кость
push [pʊʃ] – толкать
collaboration [kəlæbəˈreɪʃn] – сотрудничество
cancer zappers – уничтожители рака
prosthetic limbs [prɒsˈθetɪk lɪm] – протезирование конечностей
brain [breɪn] – мозг
blanket [ˈblæŋkɪt] – одеяло
thumbs up [θʌmz ʌp] – одобрить что-л.
thumbs down [θʌmz daʊn] – не одобрить что-л.
weakness [ˈwiːknɪs] – слабость, разбитость, бессилие
aid [eɪd] – помощь, поддержка
confirm [kənˈfɜːm] – подтверждать
deny [dɪˈnaɪ] – отрицать, отвергать
realize [ˈrɪəlaɪz] – осознавать
gain insight [ˈɪnsaɪt] – получить представление
impact [ˈɪmpækt] – влияние, воздействие
convince [kənˈvɪns] – убедить

1. Before you read:

1. Can people live without scientific discoveries? Why/why not?
2. What spheres of our life does science contribute to?
3. How does science improve our life?
4. What scientific branches are the most important?

2. Complete each sentence with a word from the list:

Branches of Science

astronomy	biology	chemistry	computer science	geology
mathematics	meteorology	physics	physiology	earth science

1. The scientific study of matter and energy and the relationships between them, including the study of forces, heat, light, sound, electricity and the structure of atoms is _____.
2. The scientific study of the structure of substances, how they react when combined or in contact with one another is _____.
3. The scientific study of the life and structure of plants and animals is _____.
4. The scientific study of the sun, moon, stars, planets, etc. is _____.
5. A science that involves studying the earth or part of it is_____ .
6. _____is the scientific study of the physical structure of the earth, including the origin and history of the rocks and soil of which the earth is made.
7. The scientific study of the normal functions of living things is _____.
8. The science of numbers and shapes which includes arithmetic, algebra, geometry and trigonometry_____.
9. The study of computers and how they can be used is called_____ .
10. _____the scientific study of the earth's atmosphere and its changes, used especially in predicting what the weather will be like.

3. Match the list of the verbs with their definitions:

1. do experiments 2. study 3. discover 4. make theories 5. hypothesize 6. invent	a) to produce or design something that has not existed before b) to gather and measure information on targeted variables, which then enables to answer relevant questions and evaluate outcomes c) to see or notice somebody/something

7. collect data 8. make predictions 9. do research 10. observe 11. prove 12. solve problems	d) to do a scientific test in order to study what happens and to gain new knowledge e) to study a subject, especially in order to discover new facts or information about it f) to suggest a way of explaining something when you do not definitely know about it g) to learn or gain knowledge, either from books or by examining things in the world h) to say that something will happen in the future i) make an educated guess j) to find somebody/something that was hidden or that you did not expect to find k) to find a way of dealing with a problem or difficult situation l) to use facts, evidence, etc. to show that something is true

4. **Draw lines to join the scientists and inventors with their work**:

1) Daniel Gabriel Fahrenheit	a) electricity;
2) Sir Isaac Newton	b) an original design of the aircraft with rocket engine;
3) Alessandro Volta	c) heat and cold;
4) Nicolas Copernicus	d) the first in the world atomic-powered vessel;
5) Mykola Kybalchych	e) the Earth going round the Sun;
6) Petro Kapitsa	f) rockets and spacecraft, the first automatic interplanet station "Zond";
7) Anatoly Oleksandrov	g) the law of gravitation;
8) Serhiy Koroliov	h) the theory of super powerful magnetic fields;

5. Look at the following international words, read them and guess their meanings:

proton [ˈprəʊtɒn]	electricity [ɪlekˈtrɪsɪtɪ]
neutron [ˈnjuːtrɒn]	mathematician [mæθɪməˈtɪʃn]
theory [ˈθɪərɪ]	programmer [ˈprəʊgræmə]
radiation [reɪdɪˈeɪʃn]	chemist [ˈkemɪst]
quantum [ˈkwɒntəm]	geologist [dʒɪˈɒlədʒɪst]
decade [ˈdekeɪd]	spherical [ˈsferɪkəl]

6. Read the text:

WHY IS SCIENCE IMPORTANT?

It increases our fundamental knowledge.

This is knowledge in how our universe works. Fundamental knowledge is important because it shows us how protons and neutrons are made. It shows us if our theories of gravity are right. It helps us understand how waves of light (or radiation) interact with our bodies.

Often the fundamental knowledge we gain from science doesn't have immediate applications.

It takes decades, if not centuries to put that fundamental knowledge into action. But once we have the knowledge and create the applications, it is hard to imagine life without it. Can you imagine a world where we did not know about the existence of x-rays, and could not look at broken bones on a doctor's screen to help heal the injured.

It creates new technology.

Can you imagine your life without the phone? Not the phone in your pocket, but just a regular landline, dial-up phone?

Can you imagine your life without electricity? You would be cooking your food over fires, keeping warm with layers of blankets, or walking from place to place. You certainly wouldn't be reheating dinner in your microwave.

From self-driving cars to Martian rovers, nano-sized cancer zappers, prosthetic limbs, light controlled brains, even quantum computing – there is no shortage of places that science is going towards today.

We need good brains in the labs running new experiments and people who are capable of problem solving and collaboration.

Even now there is a scientist in the lab cooking up a new technology that you won't be able to imagine life without in just a few decades.

It creates new applications we haven't even dreamed up.

It might seem crazy to think of a world without the Internet, yet just a few decades ago it didn't even exist. The Internet, as we know it, really started to take form in the 1970s, as scientists tried to transmit messages from one computer to another. Each computer, however, had to be connected to each other. If you wanted to talk to ten people this way, you would need ten computers to do so.

Imagine your lives now if scientists did not push to improve this new technology.