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Факультет компьютерного проектирования

Кафедра иностранных языков

АНГЛИЙСКИЙ ЯЗЫК ДЛЯ МАГИСТРАНТОВ

ENGLISH FOR GRADUATE STUDENTS

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Представляет собой систематизированный практический курс английского языка, целью которого является совершенствование навыков, а также развитие умений устной речи в рамках определенных коммуникативных ситуаций и профессионально ориентированной научной тематики на основе комплекса условно-речевых и речевых упражнений.

Состоит из четырех модулей: Scientific Discoveries and Achievements, International Scientific Cooperation, My Research Work, International Scientific Conference.

Разработанная на основе модульного подхода структура, организация и изложение учебного материала позволяют использовать пособие как для аудиторной, так и для самостоятельной работы.

Предназначено для студентов II ступени высшего образования, изучающих учебную дисциплину «Иностранный язык». Может быть полезно широкому кругу читателей, желающих совершенствовать навыки и развивать умения английской разговорной речи.

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СОДЕРЖАНИЕ

ПРЕДИСЛОВИЕ

Данное пособие предназначено для студентов второй ступени высшего образования БГУИР дневной и заочной форм обучения.

Цель пособия – совершенствование навыков и развитие умений английской разговорной речи у студентов в рамках коммуникативных ситуаций во взаимосвязи с другими видами речевой деятельности, такими как аудирование, чтение и письмо. Решение поставленной задачи осуществляется через использование комплекса упражнений, разработанных на основе коммуникативного подхода. Данный подход в построении пособия реализуется в четырёх модулях: 1. Scientific Discoveries and Achievements (автор – О. В. Андреева), 2. International Scientific Cooperation (автор – А. Г. Клокова), 3. My Research Work (автор – А. П. Дробышева), 4. International Scientific Conference (автор – С. И. Лягушевич). Каждый модуль содержит материал для определённой коммуникативной ситуации в рамках заданной научно ориентированной тематики.

Принцип преемственности в структурировании этапов изучения материала позволяет включать в каждый последующий модуль явления, изученные в предыдущих, и, опираясь на большой массив ранее усвоенного материала, развивать умения говорения на более высоком уровне.

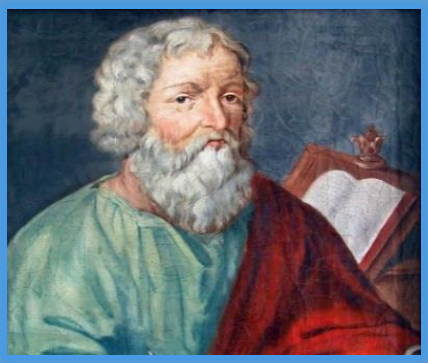
Предлагаемые в конце каждого модуля творческие задания на выполнение проектов не только активизируют речемыслительную деятельность обучаемых, способствуя развитию умений говорения в конкретных ситуациях профессионально ориентированного общения, но и являются мощным средством повышения мотивации в овладении иностранным языком в целом.

Тексты на совершенствование навыков устной речи взяты из современных аутентичных англо-американских источников, а также интернет-ресурсов, назначением которых является погружение в ситуации реального общения, а также обеспечение усвоения идиоматики английского языка в реалиях профессионально ориентированной научной тематики.

Опора на коммуникативный подход и интерактивное взаимодействие участников общения позволяет студентам быть вовлечёнными в сам процесс обучения и приобретать опыт самостоятельного решения речемыслительных задач в рамках определённых коммуникативных ситуаций.

Данное пособие может быть использовано как для аудиторной, так и для самостоятельной работы студентов в рамках программного материала курса изучения английского языка.

MODULE 1
SCIENTIFIC DISCOVERIES AND ACHIEVEMENTS



"There are in fact two things, science and opinion; the former begets knowledge, the latter ignorance".
Hippocrates

LEAD-IN

I. Carl Sagan, an American astronomer, planetary scientist, cosmologist, astrophysicist, astrobiologist, noted: "We live in a society exquisitely dependent on science and technology, in which hardly anyone knows anything about science and technology". Have you ever confused the terms "science" and "technology"? What is the difference between them? Discuss your ideas with your partner.

II. In pairs, define which of the following dictionary definitions can be referred to "science" and "technology". Share you point of view with the rest of the group.

A) 1. This is the study of the physical world and its manifestations, especially by using systematic observation and experiment.

2. This is a branch of science of a particular area of study *(e.g. the life sciences)*.

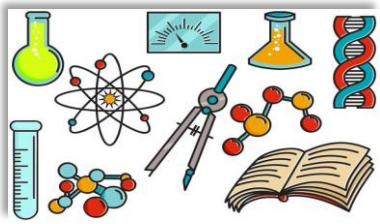
B) 1. This is the study, development, and application of devices, machines, and techniques for manufacturing and productive processes *(e.g. recent developments in seismographic technology)*.

2. It is a method or methodology that applies technical knowledge or tools *(e.g. a new technology for accelerating incubation)*.

https://learningapps.org/watch?v=peix65j5t23

III. Work in pairs. Fill in the table below arranging the words in two groups. Justify your choice.

Artificial intelligence, chemistry, electronics, devops, internet of things, geography, mathematics, robotic process automation, edge computing, mechanics, virtual reality, physics, sociology, biology, medicine, augmented reality, hydraulics, 5g, astronomy, quantum computing, machine learning, blockchain.

 **SCIENCE**	**VS**	 **TECHNOLOGY**
Biochemistry		Cloud computing

https://learningapps.org/watch?v=p7wr9985323

IV. Working with your partner. Decide which of the following words do not belong to each group. Explain your choice.

1.	Arithmetic,	algebra,	genetics,	geometry,	trigonometry.
2.	Geography,	psychology,	economics,	sociology,	anthropology.
3.	Geology,	meteorology,	mineralogy,	geophysics,	statistics.
4.	Mechanics,	thermodynamics,	astrophysics,	law,	cosmology.
5.	Physiology,	astronomy,	botany,	zoology,	anatomy.

https://learningapps.org/watch?v=p7wr9985323

V. In pairs, match the following definitions to the science that they define. Give reasons for your choice and present them to your groupmates

1. The physical science dealing with the study of flow and control of electrons (*electricity*) and the study of their behavior and effects in vacuums, gases, and semiconductors, and with devices using such electrons	a) biology
2. The mathematical sciences investigating the relationships between things that can be measured or quantified in either a real or abstract form	b) sociology

3. The earth sciences examining the structure and composition of our planet, and the physical processes that have helped to shape it	c) computer science
4. The science studying living things and their vital processes and dealing with all the physicochemical aspects of life	d) electronics
5. Science studying computers and computing, including their theoretical and algorithmic foundations, hardware and software, and their uses for processing information	e) thermodynamics
6. The social sciences exploring human society past and present, and the way human beings behave	f) geometry
7. Physical science studying the relationship between heat, work, temperature, and energy. This deals with the transfer of energy from one place to another and from one form to another	g) geology

https://learningapps.org/watch?v=pcevkk4wk23

VOCABULARY AND SPEAKING

I. Make up pairs of words and word-combinations equivalent in meaning.

1) advance	a) methodical concept
2) applied science	b) to collect
3) belief	c) to demonstrate experimentally
4) endeavor	d) progress
5) instance	e) to obtain
6) systematic approach	f) attempt
7) systematic study	g) opinion
8) to accumulate	h) example
9) to detect	i) to check, to confirm
10) to gain	j) practical applications of fundamental scientific knowledge
11) to observe	k) regular learning
12) to test	l) to reveal
13) to verify	m) to examine

https://learningapps.org/watch?v=p7y1oh47k23

II. Make word combinations by matching an adjective from column A with a noun from column B. More than one variant is possible.

A		B	
1)	basic	a)	idea
2)	material	b)	principles
3)	current	c)	science
4)	objective	d)	knowledge
5)	industrial	e)	analysis
6)	international	f)	breakthrough
7)	empirical	g)	world
8)	physical	h)	approach
9)	pure	i)	corporation
10)	scientific	j)	source
11)	systematic	k)	investigation
12)	technological	l)	revolution

https://learningapps.org/watch?v=pbgu6dk5t23

III. Complete the gaps in the text with the words given in the box below. Explain the similarities between the terms "science" and "technology".

Science and technology

The **1** ___ of the terms *science* and *technology* have changed significantly from one generation to another. More **2** ___ than differences, however, can be found between the terms.

Both science and technology imply a thinking **3** ___ , both are concerned with causal relationships in the material world, and both employ an experimental methodology that results in empirical demonstrations that can be verified by **4** ___ . Science, at least in theory, is less concerned with the practicality of its results and more concerned with the **5** ___ of general laws, but in practice science and technology are inextricably **6** ___ each other. The varying interplay of the two can be observed in the historical development of such practitioners as chemists, engineers, **7** ___ , astronomers, carpenters, potters, and many other specialists. Differing educational requirements, social status, **8** ___ , methodology, and types of rewards, as well as institutional objectives and professional goals, **9** ___ to such distinctions as

can be made between the activities of scientists and technologists, but throughout history the practitioners of “pure” science have made many **10** ___ as well as theoretical contributions.

Indeed, the concept that science provides the ideas for technological innovations and that **11** ___ research is therefore essential for any significant advancement in industrial civilization is essentially a **12** ___. Most of the greatest changes in industrial civilization cannot be traced to the laboratory. Fundamental tools and processes in the fields of **13** ___ , chemistry, astronomy, metallurgy, and hydraulics were developed before the laws governing their functions were discovered. The steam **14** ___, for example, was commonplace before the science of thermodynamics elucidated the physical principles underlying its operations.

In recent years, a sharp value distinction has grown up between science and technology. Advances in science have frequently had their bitter opponents, but today many people have come to fear technology much more than science. For these people, science may be perceived as an **15** ___ source for understanding the eternal laws of nature, whereas the practical manifestations of technology in the modern world now seem to them to be out of control.

1.	Means,	methods,	meanings,	measures.
2.	Subdivisions,	similarities,	distinctions,	differences.
3.	Process,	progress,	method,	way.
4.	Review,	revision,	repertoire,	repetition.
5.	Improvement,	upgrade,	development,	growth.
6.	Engaged in,	involved with,	mixed in,	confused with.
7.	Physics,	psychology,	psychiatry,	physicists.
8.	Dictionary,	vocabulary,	thesaurus,	glossary.
9.	Help,	collaborate,	contribute,	assist.
10.	Practice,	practical,	practicality,	practitioner.
11.	Clean,	fresh,	clear,	pure.
12.	Myth,	ballad,	tale,	legend.
13.	Mechanic,	mechanics,	mechanism,	mechanical.
14.	Engineer,	engineering,	engineered,	engine.
15.	Objective,	purposeful,	aimed,	targeted.

IV. Work in small groups. Study the following quotations about science and technology. What ideas are emphasized here? Express your agreement or disagreement with the authors and give your proofs.

"Science and technology can solve all the world's problems, and historically it has been shown to make the world better and better". – Zoltan Istvan

"The science of today is the technology of tomorrow". – Edward Teller

WHAT IS SCIENCE?

READING AND SPEAKING

READING 1

As a field, science is one of the greatest collective endeavors of humanity. It significantly contributes to our understanding of the world, and offers answers to questions as well as solutions that benefit millions.

I. Analyze the statement given above. Do you agree or disagree with it? Give arguments to support your point of view.

II. Read the text below and find the answer to the following question: What do we call science? Exchange your ideas with the rest of the group.

When you hear the word "science", what do you think of? Lab coats and test tubes? Telescopes and stars? Einstein? Dog-eared text books? While these represent various aspects of science, none of these truly embodies "science" as a whole, because as a field it is so multi-faceted. The field of "science" is often grouped into:

– natural science – life or biological science (the study of living organisms) and physical science (the study of the material universe including physics, chemistry, space science, etc.);

– social science – the study of society and people (such as anthropology, psychology);

– formal science – the study of logic and mathematics;

– applied science – disciplines that rely on science and use existing scientific knowledge to develop new applications, such as in engineering, robotics, agriculture and medicine.

Both natural science and social science are known as empirical sciences. This means that any theories must be based on observable phenomena, reproducibility of results and peer review.

Science is a systematic study of anything that can be examined, tested, and verified. From its early beginnings, science has developed into one of the greatest and most influential fields of human endeavor. Today different branches of science investigate almost everything that can be observed or detected, and science as a whole shapes the way we understand the universe, our planet, ourselves, and other living things. Science develops through objective analysis, instead of through personal belief. Knowledge gained in science accumulates as time goes by, building on work performed earlier. Some of this knowledge such as our understanding of numbers – stretches back to the time of ancient civilizations, when scientific thought first began. Other scientific knowledge – such as our understanding of quarks (the smallest known building block of matter) – dates back less than 50 years. However, in all fields of science, old or new, researchers use the same systematic approach, known as the scientific method, to add to what is known.

Science can be thought of as both a body of knowledge (the things we have already discovered), and the process of acquiring new knowledge (through observation and experimentation). Both knowledge and process are interdependent, since the knowledge acquired depends on the questions asked and the methods used to find the answers. During scientific investigations, scientists put together and compare new discoveries and existing knowledge. In most cases, new discoveries extend what is currently accepted, providing further evidence that existing ideas are correct. Scientists utilize existing knowledge in new scientific investigations to predict how things will behave. The most interesting thing about science is that it is never finished. Every discovery leads to more questions, new mysteries, to something else that needs explaining. It is a case of “the more we know, the more we know we know nothing at all”. For example, the discovery of the double-helix structure of DNA revolutionized our understanding of biology, bringing up whole new areas to be studied such as genetic modification and synthetic biology.

Today, science has a profound effect on the way we live, largely through technology – the use of scientific knowledge for practical purposes. Some forms of technology have become so well established that it is easy to forget the great scientific achievements that they represent. The first automobile, dating from the 1880s, made use of many advances in physics and engineering, including reliable ways of generating high-voltage sparks, while the first computers emerged in the 1940s from simultaneous advances in electronics and mathematics. Other fields of science also play an important role in the things we use or consume every day. Research in industrial chemistry has created a vast range of plastics and other synthetic materials, which have thousands of uses in the home and in industry. Alongside these achievements, science has also brought about technology that helps save human life. As a result, the majority of people on the planet now live longer and healthier lives than ever before.

However, scientific discoveries can also have a negative impact in human affairs. Over the last hundred years, some of the technological advances that make life easier or more enjoyable have proved to have unwanted and often unexpected long-term effects. Industrial and agricultural chemicals pollute the global environment, even in places as remote as Antarctica, and city air is contaminated by toxic gases from vehicle exhausts. The increasing pace of innovation means that products become rapidly obsolete, adding to a rising tide of waste. Most significantly of all, the burning of fossil fuels such as coal, oil, and natural gas releases into the atmosphere carbon dioxide and other substances known as greenhouse gases. These gases have altered the composition of the entire atmosphere, producing global warming and the prospect of major climate change in years to come. Science has also been used to develop technology that raises complex ethical questions. This is particularly true in the fields of biology and medicine. Research involving genetic engineering, cloning, and in vitro fertilization gives scientists the unprecedented power to bring about new life, or to devise new forms of living things. At the other extreme, science can also generate technology that is deliberately designed to harm or to kill. The fruits of this research include chemical and biological warfare, and also nuclear weapons, by far the most destructive weapons that the world has ever known.

Science can help us to understand ourselves and our world, to recognize how it works and where we fit within it. There will always be questions to be answered. What happens after we die? What causes us to dream? What is consciousness? It is this search for answers, humanity’s innate curiosity and drive to know “why”, that

pushes scientific discovery forward. It is possible that one day science will find the answers, but if not it will not be for lack of trying.

https://www.science.org.au/curious/people-medicine/what-science

III. Define which of the following statements you agree or disagree with. Give facts to support your point of view.

1. Scientific investigations consist in compiling and correlating new inventions and available facts.

2. In general, new discoveries serve to forecast the conduct of things.

3. Scientific discoveries and achievements proved to have no unnecessary and unforeseen extended consequences.

4. Products of coal, oil and natural gas combustion are provoking the changing atmosphere and climate that lead to global warming.

5. Creating an embryo or conceiving new forms of living organisms became possible due to investigations in vitro fertilization, genetic engineering and cloning.

IV. Match the halves of the sentences according to the content of the text. Comment on the made up statements and give the examples to prove them using your personal experience.

1. Evolution of science is based on objective analysis that is why knowledge …	a) the knowledge hinges on the problems put and the ways used to solve them
2. Systematic approach, known as the scientific method, allows …	b) new enigmas, something else to clarify appears
3. Science is sure to be both a body of knowledge and the process of getting new knowledge: …	c) accumulated by mankind is founded on experience
4. Both knowledge and process are synergetic since …	d) first means facts already discovered, second means experimentation and hypothesizing
5. Some knowledge dates back to the time of …	e) investigators to add something new to existing knowledge
6. While discovering new things a great number of new problems to be solved, …	f) that is practical application of scientific knowledge
7. Nowadays science strongly influences human lives by means of technology …	g) age-old human society when science was given the birth

V. Answer the following questions. Be ready to justify your answers with information from the text and your own experience. Discuss your ideas with your partner.

1. What various domains does science investigate?
2. What groups does the field of "science" involve?
3. How do scientific discoveries influence our lives?
4. What do new discoveries lead to?

VI. Speak about the main causes of science development and importance of scientific investigations. The following phrases given below can be useful.

- Personally, I believe…
- I think / I believe…
- I can't agree…/ I agree/disagree with…
- In my opinion…
- To my mind…
- From my point of view…

VII. Think over the following Isaac Asimov's quote: "The saddest aspect of life right now is that science gathers knowledge faster than society gathers wisdom". What idea does it emphasize? Do you agree with the author? Give your arguments.

VIDEO 1

WHY SCIENCE IS FOR ME – THE ROYAL SOCIETY

https://www.youtube.com/watch?v=wstW5jy_WAU

I. Watch the video "Why Science Is For Me – The Royal Society" and define its main theme.

II. Watch the video again and express your agreement or disagreement with the following statements. Prove your viewpoint.

1. Science is not only knowledge but it is our vision of the world.
2. Every scientist knows exactly what he wants to discover and what results will be achieved.
3. While studying science you learn to approach investigated problems in an organized way and find creative solutions to them.
4. Studying science helps people to develop professional skills in order to test and evaluate their work.

5. A scientific background improves the skills only of those professionals who are involved in studying science.

6. The inquiring, innovating and questioning mindset developed during studying science can lead to success in any career.

III. Match the halves of the sentences and comment on the made up statements. Exchange your opinion with the rest of the group.

1. Science doubts people's words and thoughts…	a) that challenge our thinking
2. Science is open-minded about new or alternative ideas…	b) strengths and weaknesses and adjust timetables to change diet or lifestyle and reach better results
3. Science teaches people not to be afraid of altering…	c) ideas that challenge their thought
4. A sports coach has to use a scientific approach to analyze…	d) and develops a wide set of transferable skills
5. Scientists should be unprejudiced about new or alternative…	e) and to try again if anything goes wrong

IV. Fill in the gaps with the suitable words.

1. It's easy to understand why studying science is necessary for a _____ biochemist.

a) budding b) ideal c) new d) wonderful

2. Science is _____ what people tell.

a) answering b) responsible c) questioning d) accepting

3. You learn how to get things wrong and _____ why.

a) regard b) analyze c) observe d) notice

4. Studying science gives a specialist the ____ in their professional field.

a) cutting edge b) quality c) necessity d) responsibility

5. Game designers use _____ and data skills.

a) fantastic b) analytic c) intellectual d) logic

6. A scientific approach is aimed to _____ strengths and weaknesses.

a) see b) watch c) examine d) regard

V. In pairs or in small groups, discuss the following statements and give arguments in favour or against.

1. Science is inseparable from human life because it opens the door to thousands of jobs and careers due to developing professional skills and flexibility.
2. Human life is very interesting and studying science is unnecessary.
3. Science is needed to investigate only physical and chemical phenomena to know facts about molecules, atoms and chemical reactions.
4. The main purpose of science is to carry out experiments aimed to make discoveries.

VI. Answer the questions below and discuss your answers with the rest of the group.

1. Do you think everyone can become a scientist? Why/Why not?
2. To your mind, what makes science attractive and fascinating to study science?
3. What contribution do you expect to make to the development of science?

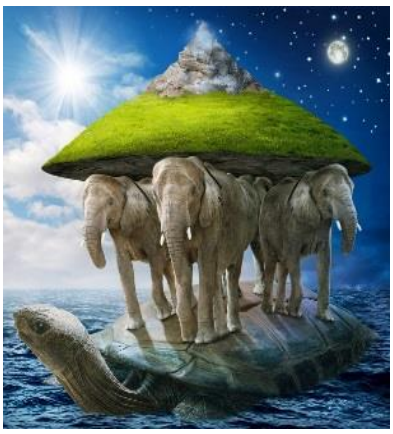
VII. Think over and express your opinion whether it is worth being involved in studying science.

THE GREATEST SCIENTIFIC DISCOVERIES

READING 2

I. Over the centuries, humanity has made many scientific discoveries that have turned the conception of the world around. Can you name them? Do you agree with the fact that our world is changing due to science? Exchange your ideas with those of your partner's and report them to the whole group.

Ancient Conceptions of the World



II. Read the text to check yourself. Five sentences have been removed from it. Choose from the sentences A–F the one which fits each gap 1–5. There is one extra sentence which you don't need to use. Prove your choice.

A. He called this process natural selection, but it is often called the survival of the fittest.

B. Some of the greatest scientists of the time gathered in the early 1940s to figure out how to refine uranium and build an atomic bomb.

C. Here is a look at some discoveries that have changed the world, were revolutionary at the time and continue to impact the world.

D. Although, he helped to develop the atomic bomb and he frequently promoted the use of atomic power for peaceful purposes.

E. In 1687, the scientist published his book, Principia, which expanded on his laws of universal gravitation and his three laws of motion. His work laid the foundation for modern physics.

F. It is made up of two strands that twist around each other and have an almost endless variety of chemical patterns that create instructions for the human body to follow.

THE GREATEST SCIENTIFIC DISCOVERIES THAT CHANGED THE WORLD

1. From fire to metals and fossil fuel, numerous key discoveries have served to advance human civilization over thousands of years. Humans have a long history of uncovering earthen materials, natural phenomena, chemical reactions and processes – then building on those findings to further scientific progress. Try to imagine life without antibiotics. We wouldn't live nearly as long as we do without them. It's impossible to rank their importance, so they are listed in the order they were discovered. **1** _____

2. In 1543, while on his deathbed, Polish astronomer Nicholas Copernicus published his theory that the Sun is a motionless body at the center of the solar system, with the planets revolving around it. ***Copernicum System***, or Copernican heliocentrism, replaced the conventionally accepted Ptolemaic theory asserting that the Earth was stationary at the center of the universe. Copernicus' work was largely unknown during his lifetime, but later gained support. Galileo agreed with Copernicus' theory and proved it by

using a telescope to confirm that the different phases Venus went through resulted from orbiting the Sun.

3. Isaac Newton, an English mathematician and physicist, is considered the greatest scientist of all time. Among his many discoveries, the most important is probably his law of universal gravitation. He pondered about how the force pulls objects straight to the ground, as opposed to following a curved path, like a fired canon ball. In 1664, Newton figured out that ***Gravity*** is the force that draws objects toward each other. It explained why things fall down and why the planets orbit around the Sun. The greater the mass an object has, the greater the force or gravitational pull. When objects are farther apart, the weaker the force is. Newton's work and his understanding of gravity is used to explain everything from the trajectory of a baseball to the Earth's orbit around the sun. And Newton's discoveries didn't stop there. **2** _____

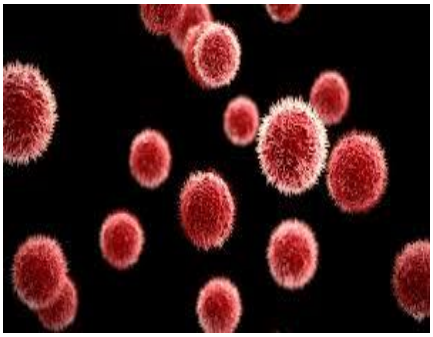
4. If ***Electricity*** makes life easier for us, we can thank Michael Faraday. He made two big discoveries that changed our lives. In 1821, he discovered that when a wire carrying an electric current is placed next to a single magnetic pole, the wire will rotate. This led to the development of the electric motor. Ten years later, he became the first person to produce an electric current by moving a wire through a magnetic field. Faraday's experiment created the first generator, the forerunner of the huge generators that produce our electricity.

5. When Charles Darwin, the British naturalist, came up with the theory of ***Evolution*** in 1859, he changed our idea of how life on earth developed. Darwin argued that all organisms evolve, or change, very slowly over time. These changes are adaptations that allow a species to survive in its environment. These adaptations happen by chance. If a species doesn't adapt, it may become extinct. **3** _____

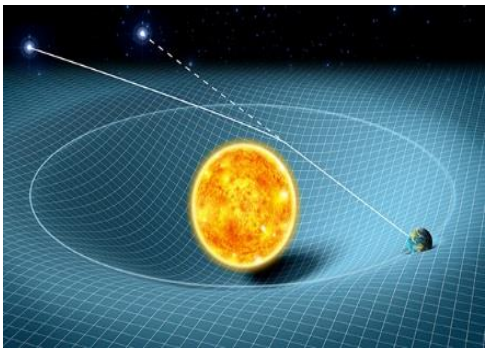
6. The ***Periodic Table*** is based on the 1869 Periodic Law proposed by Russian chemist Dmitry Mendeleev. He had noticed that, when arranged by atomic weight, chemical elements lined up to form groups with similar properties. He was able to use this to predict the existence of undiscovered elements and note errors in atomic weights. In 1913, Henry Moseley of England confirmed that the table could be made more accurate by arranging the elements by atomic number, which is the number of protons in an atom of the element.

7. Wilhelm Roentgen, a German physicist, discovered ***X-rays*** in 1895. X-rays go right through some substances, like flesh and wood, but are stopped by others, such as bones and lead. This allows them to be used to see broken bones or explosives inside suitcases, which makes them useful for doctors and security

officers. For this discovery, Roentgen was awarded the first-ever Nobel Prize in Physics in 1901.



8. Before French chemist Louis Pasteur began experimenting with bacteria in the 1860s, people and scientists alike did not know what caused disease, they believed that disease came from inside the body. Pasteur's work proved that ***Germ Theory*** was true and that disease was the result of microorganisms attacking. He discovered that living microorganisms caused fermentation that could make milk and wine turn sour. He not only discovered that disease came from microorganisms, but he also realized that bacteria could be killed by heat and disinfectant. Now we know the process of destroying microbes by heating them as pasteurization. This idea caused doctors to wash their hands and sterilize their instruments. This has saved millions of lives. Due to Pasteur's Germ Theory the world saw other advancements, such as antiseptic surgical techniques and the discovery of specific germs that caused tuberculosis, cholera and anthrax.



9. Albert Einstein's ***Theory of Relativity***, which he published in 1905, explains the relationships between speed, time and distance. The complicated theory states that the speed of light always remains the same 186,000 miles/second (300,000 km/second) regardless of how fast someone or something is moving toward or away from it. This theory became the foundation for much of modern science.

10. Danish physicist Niels Bohr is considered one of the most important figures in modern physics. He won a 1922 Nobel Prize in Physics for his research on the structure of an atom and for his work in the development of the ***Quantum Theory***. **4 _____**

11. Nobody knows exactly how the universe came into existence, but many scientists believe that it happened about 13.7 billion years ago with a massive explosion, called the *Big Bang.* In 1927, Georges Lematre proposed the ***Big Bang Theory*** of the universe. The theory says that all the matter in the universe was originally compressed into a tiny dot. In a fraction of a second, the dot expanded, and all the matter instantly filled what is now our universe. The event marked the beginning of time. Scientific observations seem to confirm the theory.

12. ***Antibiotics*** are powerful drugs that kill dangerous bacteria in our bodies that make us sick. In 1928, Alexander Fleming discovered the first antibiotic, ***Penicillin*** that he grew in his lab using mold and fungi. Without antibiotics, infections like strep throat could be deadly.

13. Many people think scientists James Watson and Francis Crick discovered ***DNA***. Nope, not so fast. DNA was actually first discovered in 1869 by Swiss physician Friedrich Miescher. He identified what he referred to as "nuclein" in blood cells. The term nuclein eventually evolved into what we know as DNA, the shorthand for deoxyribonucleic acid. Other scientists built on Miescher's work over the years. On February 28, 1953, James Watson of the United States and Francis Crick of England made one of the greatest scientific discoveries in history. The two scientists found the double-helix structure of DNA, the molecule that encodes genetic information for all living things. **5** _____ Our genes are made of DNA and determine how things like what color hair and eyes we will have. In 1962, they were awarded the Nobel Prize for this work.

https://www.factmonster.com/math-science/inventions-discoveries/life-changing-science-discoveries

https://www.discovermagazine.com/the-sciences/scientific-discoveries-that-changed-the-world

III. In the text find the words that mean the following and present the situations where they are mentioned.

Immobile (passage 2), to attract (passage 3), direction (passage 3), to develop (passage 5), quality (passage 6), microbe (passage 8), explosion (passage 11).

IV. Everyone knows the following scientific facts given below. Decide which are mentioned in the text. Give your arguments.

1. Nicholas Copernicus refuted the theory that the Earth was immobile, that it was the center of the universe and that the Sun was orbiting the Earth.

2. Having discovered the Periodic Law reading that depending on their atomic weight chemical elements are arranged in line to create groups with analogous qualities, Russian chemist Dmitry Mendeleev forecast the existence of undetected elements and noted errors in atomic weights.

3. The speed of light is stable and does not depend on movement speed and direction of someone or something.

4. In 2019, scientists James Watson was stripped of his honorary titles of the Nobel Prize laureate because of racist comments.

5. The discovery of DNA has helped doctors understand diseases and may someday prevent some illnesses like heart disease and cancer.

6. All the material in the universe was originally of the very small size.

V. In pairs or small groups. Complete the sentences below choosing the right variant. Discuss how and where these discoveries are applied in practice in the modern world. Give your proofs.

1. Modern enormous generators became possible due to:

a) Marie Curie's experiments with natural uranium;
b) the Georges Lematre's Big Bang Theory;
c) Michael Faraday's experiments with electric current and single magnetic pole;
d) Jean-Frédéric Joliot and Irene Curie's artificial radioactivity discovery.

2. Newton's comprehension of gravity makes it possible to clarify:

a) what allows a species to survive in its environment;
b) what force makes objects tumble down and why planets circle round the Sun;
c) why strands have an almost endless variety of chemical patterns;
d) that all organisms evolve, or change, very slowly over time.

3. The time is supposed to have begin when:

a) all chemical elements lined up;
b) Michael Faraday discovered electricity;
c) an immense detonation shook the universe;
d) the theory of heliocentrism replaced the conventionally accepted Ptolemaic one.

4. 1928th was marked by discovering the very powerful drugs:

a) killing hazardous germs;
b) killing all living things;
c) killing molecules encoding genetic information;
d) killing useful living microorganisms taking part in the building new blood cells.

5. Their passing over some substances makes X-rays able to be used to:

a) detect specific germs causing tuberculosis, cholera and anthrax;

b) destroy microbes;

c) sterilize instruments;

d) analyze fractured bones or find explosives inside one's luggage.

VI. Do you agree that scientific discoveries mentioned in the text changed dramatically our world? Imagine what could have been human life if these discoveries had not occurred. Share your opinion with the rest of the group.

VII. Work in groups. Scientists are known to use a scientific method while making their research and discoveries. Think over and give the definition of a scientific method, compare it with those of others' and choose the best one.

VIDEO 2

WHAT IS SCIENCE?

https://www.youtube.com/watch?v=hDQ8ggroeE4

I. Watch the video. Check if your definition of the scientific method given above and the one given in the video are similar. Name the way which scientists gain new knowledge in.

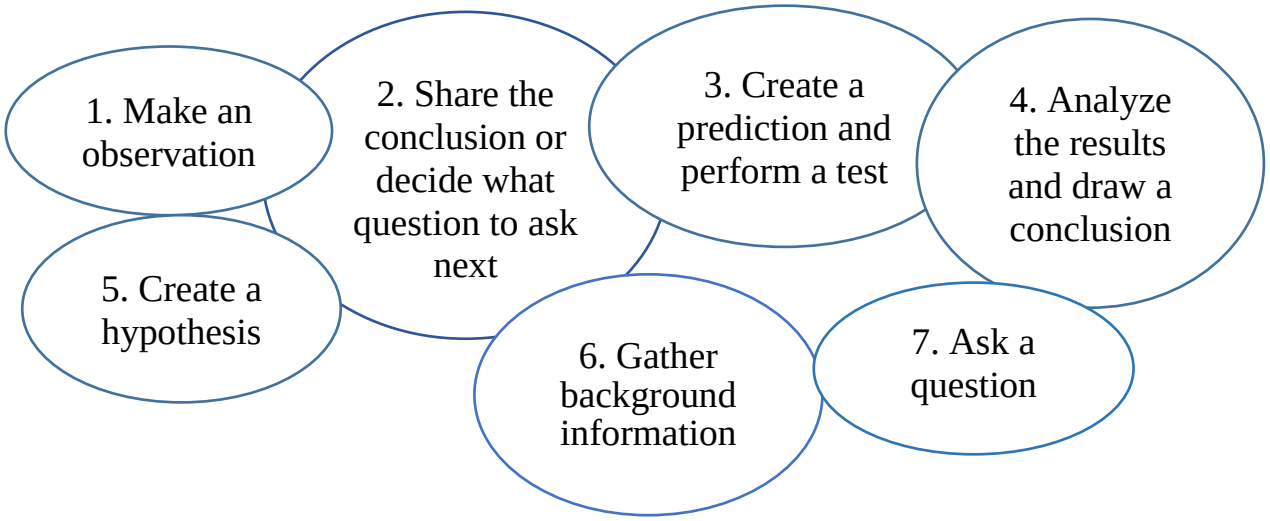
II. Work in pairs. Watch the video again and discuss with your partner the answers to the following questions.

1. What are the origin and meaning of the term "science"?
2. Why do the names of many scientific branches end in "-ology"?

III. Analyze the following scheme representing the steps of the scientific method given in disorder. Reestablish their right order and compare them with those mentioned in the video. Are they similar or different? If they differ, explain why.

Steps of the Scientific Method

The scientific method uses a series of steps to establish facts or create knowledge. The overall process is well established, but the specifics of each step may change depending on what is being examined and who is performing it.



IV. Comment on the facts mentioned in the video.

1. Everything we cognize through experimentation is called “Science”.

2. Researchers are concentrated only on one specific scientific fields which are focused on different types of knowledge.

3. Science never ends.

V. In groups, discuss the following questions and make notes on your ideas. Report the main points of your discussion to the whole group.

1. To your mind, does science involve creativity? What does creativity in science lead to?

2. Do you think that scientific discoveries are made every day?

3. How do inventions and scientific discoveries become the part of a daily life?

THE MOST SIGNIFICANT SCIENTIFIC ACHIEVEMENTS

READING 3

I. Scan the text and define its main theme choosing from those given below. Give your reasons.

A. The greatest scientists of all time.

B. Events in science and technology that led to the greatest advances.

C. Investments in science and technology.

D. New Innovations Technical Characteristics.

THE MOST SIGNIFICANT ACHIEVEMENTS OF WORLD SCIENCE

As the years go forward our life becomes faster, a lot of new things appear, our mind develops and it cannot stop.

If we think how everything had developed, how many new things had appeared and how the minds of people had become so wide we even will not be able to understand it because nowadays we cannot imagine our life without such inventions as lamps, ovens, central heating and others. During the centuries people have been inventing the things to make our life easier. All these things are a product of technical progress and it doesn't stop to grow and develop. Nowadays we live surrounded by machines and other inventions. Every day more and more new things appear and we don't think about how the first inventions were created.

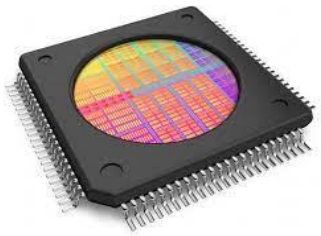
When Charles Babbage (1792–1871), a professor of mathematics at Cambridge University invented the first calculating machine in 1812 he could hardly have imagined the situation we find today. Nowadays the ***Computer*** becomes like a brain of human but the only thing it cannot do is to feel. Today's computers are characterized by speed, automation, accuracy, data permanent storage, secrecy and agility, and versatility. Computers have undergone a long process from minicomputer and mainframe through microcomputer or personal computer (PC) to supercomputer and embedded processor. The development of quantum computers handling a large number of calculations would be able to do even more complex tasks.

In 1947 American physicists John Bardeen, Walter Brattain, and William Shockley invented the ***Transistor***, an electronic device used to control or amplify an electrical current. Since the 1950s and early 1960s computers using transistors that replaced triodes have been developed. The transistor initiated a trend toward microminiaturization, in which individual electronic circuits can be reduced to a microscopic size. This drastically reduced the computer's size, cost, and power requirements and eventually enabled the development of electronic circuits with processing speeds measured in billionths of a second.

As part of the Earth's near-space environment study, both the Soviet Union and the United States announced that they would launch ***Artificial Satellites*** into orbit for nonmilitary space activities. The Soviet Union launched *the first Sputnik Satellite* in 1957. In 1961, travelling in the ***Vostok 1*** capsule, *Gagarin* completed one orbit of the Earth and

became the *first human* to journey into outer space. And, in 1968 ***Apollo 8*** was the first manned spacecraft to orbit the Moon. Jim Lovell, Bill Anders, and Frank Borman became the first human beings to orbit the Moon and see the Earth as a whole planet.

In 1967, Jocelyn Bell noticed a strange "bit of scruff" coming from her radio telescope, so strange, she thought it to be extraterrestrial. Although it wasn't a sign of an alien life, her discovery was indeed out of this world. Jocelyn Bell and her advisor Anthony Hewish discovered the first ***Pulsar***. Pulsars give scientists information about the physics of neutron stars, which are the densest material in the universe.



In 1968, Georges Charpak, while at the European Organization for Nuclear Research, invented and developed ***the Multi-Wire Proportional Chamber for Particle Detection.*** This invention drove him to the Nobel Prize in 1992. The chamber was an advancement of the earlier bubble chamber. Its rate of detection was only one or two particles every second to 1000 particle detections every second. The MWPC produced electronic signals from particle detection allowing scientists to examine data via computers.

In 1968 Gordon Moore and Bob Noyce founded Intel. Nine months later Intel's first product, a ***Memory Chip***, was released. Moore's law forever changed the world of technology. Gordon Moore wrote an article predicting the future of the ***Semiconductor Industry*** – a prophecy that shaped the modern technology industry, giving early startups the confidence to invest in electronics.

In 1983 and 1984, Luc Montagnier of France and Robert Gallo of the United States discovered the ***HIV virus*** and determined that it was the cause of ***AIDS***. Since then, scientists have developed tests to determine if a person has HIV. People who test positive are urged to take precautions to prevent the spread of the disease. Drugs are available to keep HIV and AIDS under control. The hope is that further research will lead to the development of a cure.

Possibly the greatest technological invention of our time, a truly remarkable feat of physics and engineering in its own right, the ***Internet*** has had a huge impact on science from connecting scientists across the globe and allowing them to share information and research more easily, to providing scientific resources and papers to more people than ever. The Internet is even helping to fund new discoveries. For example, the social media phenomena the ALS ice bucket challenge, which fully funded a number of research projects including one which identified a new gene associated with the neurological disorder.

Medical Imaging is an essential tool for clinical analysis, allowing doctors to see beyond what is hidden by skin and bone to accurately diagnose and treat diseases.

From X-rays and radiography to MRI scans and ultrasound technology, all these scientific innovations have helped to ensure that modern medicine is the least invasive and at the same time ensuring the best outcomes for patients. Medical imaging really showcases how science and technology are complementary disciplines, as one advances the other.

We often look at ***Artificial Intelligence*** from a human perspective, for example robots that begin thinking for themselves (and perhaps take over the world), but artificial intelligence is one of the greatest scientific breakthroughs of all time because it enables machines to learn and process more information than we ever could as humans. For example, with all the big data being generated from genomics projects and electronic medical records from across the globe, artificially intelligent computers can learn to spot patterns in all that information, leading to faster discoveries and huge jumps forward in our understanding of diseases and how to treat them.

https://www.pararecruit.com/article/the-five-greatest-scientific-discoveries-and-inventions-ever
https://www.native-english.ru/topics/the-achievement-of-science-technical-revolution-and-our-day-to-day-life
https://www.electrochem.org/ecsnews/top-5-scientific-achievements-1968

II. Discuss and answer the following questions with your partner. Give evidence from the text. Justify your viewpoint.

1. When does the invention of the first calculating device date back to?
2. What event would facilitate accomplishing not only a large number of calculations but more sophisticated problems?
3. What invention allows scientists to investigate outer space and different planets and collect information on them or to provide communication?
4. Which countries contributed to the space exploration?
5. What permits scientists to collect and classify data about the physics of celestial neutron bodies?
6. What device was substituted with the transistor?
7. What was the first output introduced on the market by Intel Corporation?

III. Work in pairs, define which of the following information is mentioned in the text. Give your proofs.

1. The things all computers have in common are hardware and software.

2. Now mainframes, computers of increasing power, provide high-capacity data storage for Internet servers, or, through time-sharing techniques, and allow hundreds or thousands of users to run programs simultaneously.

3. Scientists are given the opportunity to analyze information by means of computers by using the Multi-Wire Proportional Chamber for Particle Detection that produces electronic signals from particle detection.

4. The first pulsar coming from the radio telescope was considered as a signal originating outside the Earth.

5. HIV is treated with antiretroviral medicines, which work by stopping the virus replicating in the body that allows the immune system to repair itself and prevent further damage.

6. Due to the artificial intelligence, humans can create devices able to learn and handle a large amount of the information that humans ever could.

IV. Put the descriptions of the main achievements mentioned in the text in the correct chronological order and name them. Give your reasons.

1. This global computer network allows scientists to be connected, to exchange the data and research, to attend online conferences and meetings.

2. This is a type of proportional counter that detects charged particles and photons and can give positional information on their trajectory, by tracking the trails of gaseous ionization.

3. This refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem solving that lead to faster discoveries and huge jumps forward in all fields of science.

4. Because of its evolution, this device has become faster, capable to store a large volume of data, accurate, agile and versatile.

5. The invention of this electronic device resulted in making devices much smaller, cheaper and less power consuming.

V. Our world is constantly developing and changing. Scientists are carrying out new experiments to illustrate the significance of science for technology and everyday life. They are inventing, creating and designing new tools and devices to further the well-being of the society. What other scientific achievements contributing to our world development do you know? What is their importance? Put forward your ideas and discuss them in the group.

VI. Relying on the previous information explain the difference between a scientific discovery and a scientific achievement to your groupmates.

VIDEO 3

HOW TO WIN A NOBEL PRIZE?

https://www.youtube.com/watch?v=4a1_3aW-VD8

I. Work in pairs. Answer the questions below to learn how much you know about the Nobel Prize. Make the whole group familiar with your ideas.

1. Have you ever heard of the Nobel Prize?
2. Do you know where the Nobel Prize award ceremony is held?
3. What is the Nobel Prize awarded for?

II. Watch the video and name the Nobel Prize laureates mentioned in it and their contribution to science.

III. Watch the video again and fill in the gaps with the suitable word or words combinations.

1. Winners of the Nobel Prize are respected and _____.

a) idolized b) revered c) contemned d) promoted

2. Alfred Nobel got rich due to _____.

a) his political activity
b) the money he inherited
c) his invention of dynamite
d) his experiments with electricity

3. The first prizes _____ in 1901.

a) were shared with three nominees
b) were bought
c) were divided into three parts
d) were awarded

4. The _____ of science today requires a lot of collaboration.

a) cutting edge b) top c) head d) upper

5. Unfortunately, sometimes people who do _____ are left out.

a) valuable impact c) valuable experiments
b) valuable innovations d) valuable research

6. Only in 2013, the Nobel committee recognized Peter Higgs' massive _____ to particle physics.

a) contribution b) influence c) impact d) impulse

IV. Answer the following questions. Compare your responses with those of your groupmates'.

1. Who initiated the most important award in the scientific world?
2. Which fields of science is the Nobel Prize awarded in?
3. Who can become the Nobel Prize laureate?
4. How many people can share the award and the cash prize that comes with it according to Alfred Nobel's will?
5. Who nominates the Nobel Prize winners?
6. Who became the Nobel Prize laureate twice but in different scientific categories?

V. Arrange the information presented in the video in the correct order according to its content. Use the words and phrases given below to explain your decision.

- At the beginning of the video…
- The author explains/informs that…
- The author points out/underlines that…
- It is reported that…
- It is specially noted that…
- It is pointed out that…
- To finish with, the author…
- At the end of the video…
- In my opinion…
- To my mind…
- From my point of view…
- Firstly…
- Then…
- Further on…
- Next…
- After that…

1. Since its existence, the Nobel Prize has been conferred on some of the most recognizable names in history in five fields.
2. Marie and Pierre Curie were the first scientists, who succeeded in attracting the attention of the press to the scientific Nobel Prize and gained their recognition and greatness.

3. Laureates of the Nobel Prize receive both a shiny medal and 8 million Swedish Krona, and, of course, respect and reverence of all progressive humanity.

4. The prize in Economics established by Sweden's central bank was named in honor of Alfred Nobel and in fact is not considered to be the Nobel Prize.

5. In spite of Alfred Nobel's wish that members of prize committees have to be Norwegian, thousands of famous scientist from respective fields are invited to nominate winners.

6. In the beginning, representatives of mass media were only keen on awards in the fields of peace and literature, as the sciences were considered to be a bit too niche for the general public.

7. The 1974 Nobel Prize was awarded to Joycelyn Bell Burnell's doctoral thesis advisor although she was the first person to detect radio pulsars

VI. The Nobel Prize is still considered to be the most prestigious on the planet. However, there are also many other awards as significant as the Nobel Prize. Have you ever heard about the Abel Prize and the Breakthrough Prize. Find the information on these prizes and present it to your group. The following questions can help you to prepare your short presentations.

Abel Prize

Breakthrough Prize

A. What do you know about the Abel Prize establishment? Who was it named after? When was it awarded firstly? What field of science is it awarded in? Who annually awards this prize? Do you know the laureates' names?

B. Who founded the Breakthrough Prize? Which fields of science is it granted in? How often are laureates honored? Where is the awards ceremony held? Is it broadcast globally? Who is included in the Selection Committees? Who chooses the winners? What is the cash of this award? Can you name the Breakthrough Prize laureates?

FOLLOW UP

I. Comment on the following Nobel Prize laureates' quotations about the role of science in society. Express your opinion. Tell a real-life story, for example, from your personal experience, where the following quotations might be used.

"We don't see very far in the future, we are very focused on one idea at a time, one problem at a time, and all these are incompatible with rationality as economic theory assumes it". – Nobel Laureate Daniel Kahneman, USA, Economics 2002

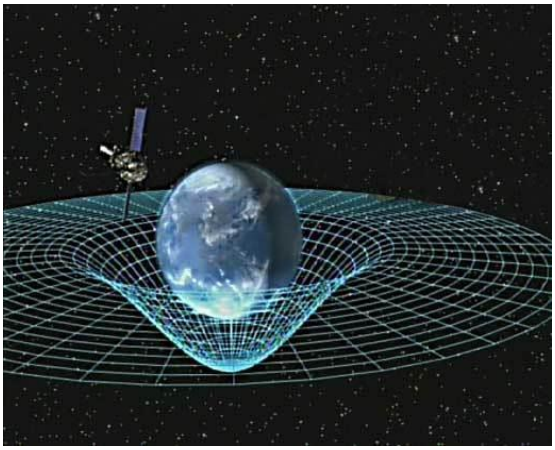
"The essence of science is independent thinking, hard work, and not equipment". – Nobel Laureate Chandrasekhara Venkata (C.V.) Raman, India, Physics 1930

"Curiosity is a part of human nature, and there will always be science for sake of science". – Nobel Laureate Carl David Andreson, USA, Physics 1936

"The crocodile cannot turn its head. Like all science, it must always go forward with all-devouring jaws". – Nobel Laureate Pyotr Rapitsa, USSR, Physics 1978

II. Everything in the world has two sides of the coin. Scientific discoveries and achievements can be both good and evil. In other words, they can benefit society or do harm to it. For instance, dynamite was invented to be used in peaceful purposes in the field of the mining engineering. What other facts do you know? Share them with your group.

III. Some argue that scientists should not be held responsible for the usage or effects of their discoveries, as scientists merely invent. For instance, Thomas Midgley Jr. invented leaded gasoline and the greenhouse gas Freon causing the greenhouse effect. This would seem to imply that he alone is responsible for the harmful effects of his inventions on society. But he discovered tetraethyl lead, or TEL, for a good purpose – to successfully eliminate the problem of "knocking" in automobile engines. Do you agree that scientists are responsible for their inventions? Or, do you have a contrary opinion?



IV. The Royal Swedish Academy of Sciences awarded the Nobel Prize in Physics in 2017 "for decisive contributions to the LIGO detector and the observation of gravitational waves". First predicted a century ago by Albert Einstein in his general theory of relativity, gravitational waves were not detected until September 2015. Over 1,000 researchers from 83 organizations and universities participated in the effort. But! Only three scientists became winners! Kip S. Thorne explained this phenomenon: "We live in an era where some huge discoveries are really the result of giant collaborations, with major contributions coming from very large numbers of people". Comment on this explication. Do you agree with it? Give your in favour or against this point of view.

V. Should scientist ignore the moral and social implication of their research, so that they can concentrate on pushing the boundaries of the human knowledge without restriction? Be ready to justify your answer.

PROJECT

I. Reconsidering everything, you have learned about science, scientific discoveries and achievements, different prizes awarded in the field of science and their laureates, prepare presentations covering the most serious issues related to the development of science and society.

II. Participating in debate.

Work in the group of four. Each group chooses one of the technologies / discoveries / inventions. Structure your presentation using the following points:

- what the technology / discovery / invention is;
- what its uses are;
- what the technology / discovery / invention benefits are;
- what criticism have been made of technology/discovery/invention;
- conclusion.

In your group, take turn to present the case for chosen technology / discovery / invention and answer the questions from the other members of your group.

As a group, decide which { technology / discovery / invention } has been most beneficial to mankind.

Useful phrases:

- Persuading…
- There is no doubt that…
- It's undeniable that…
- Surely…
- Clearly…
- Obviously…

Conceding points:

- I accept that…
- There may be truth in the argument…
- It's true that…
- However…
- There is an argument that…
- To some extent this is true, but…

MODULE 2
INTERNATIONAL SCIENTIFIC COOPERATION

LEAD-IN

I. Comment on the following quotes and explain their meaning. Give your examples supporting the main idea of the quotes.

1. “Collaboration is the essence of life. The wind, bees and flowers work together, to spread the pollen”. – Amit Ray.

2. “The beauty of collaboration between older and younger generations is that we combine strength with wisdom”. – Brett Harris.

3. “Alone we can do so little; together we can do so much”. – Helen Keller.

4. “When people challenge your ideas, they help you (whether they know it or not)”. – Oli Anderson.

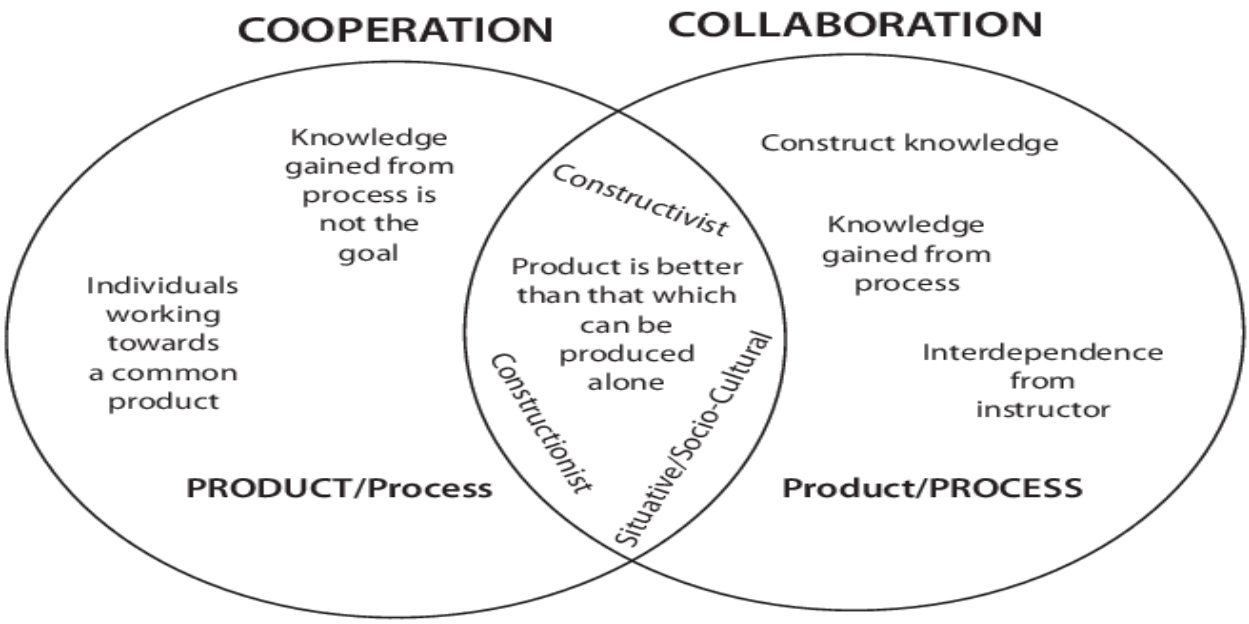
5. “Individual commitment to a group effort – that is what makes a team work, a company work, a society work, a civilization work”. – Vince Lombardi.

6. “If I have seen further, it is by standing on the shoulders of giants”. – Isaac Newton.

7. “It is the long history of humankind (and animal kind, too) that those who learned to collaborate and improvise most effectively have prevailed”. – Charles Darwin.

II. Work in pairs. Collaboration vs cooperation: what is the difference and what is in common? Both collaboration and cooperation are necessary modes of effective teamwork. Collaboration and cooperation are not at odds with each other. Rather, they are two ways of making teamwork happen. Look at the picture and try to identify:

- the main differences;
- the main similarities;
- which mode appeals to you more and why.



VOCABULARY AND SPEAKING

I. Can you explain the difference in meaning between the words given below? Work with your partner and choose the proper word to complete the sentences.

Collaboration – cooperation – team – teamwork – networking

1. ____ is voluntarily working together more informally, perhaps offering mutual help so groups or individuals can reach related goals.

2. A ___ is a group of people working together on a common project, each having responsibilities and a part to contribute to the whole. Teams are especially common in sports and at work (where several people may be assigned to the same project for a long period of time).

3. _____ is literally “working together” toward a common goal. It can involve two or more people or groups.

4. ___ is important, because if some team members aren't fully committed it limits the success of the whole group. It may even lead to loss of the game or failure of the project.

5. __ is more informal – meeting with others that share interests to see if mutually beneficial relationships may grow.

II. Match the words / word combinations to the ones with a similar meaning.

1) to advance	a) to work together for a common purpose
2) to benefit	b) complex, intricate
3) comprehensive	c) to recognize the validity of smth
4) equity	d) wide in scope or in content
5) essential	e) the quality of being fair or impartial, fairness
6) indispensable	f) to further the development, progress or prospects of smth
7) research	g) to get smth that promotes well-being
8) solution	h) to advance in rank or position
9) sophisticated	i) of considerable use or importance
10) to acknowledge	j) to stimulate by guidance, approval etc.
11) to contribute	k) absolutely necessary; relating to the essence of a thing
12) to encourage	l) an answer to a problem
13) to promote	m) careful or patient study of subject in order to discover or revise facts, theories, principles

III. Work in pairs (groups). Look at the words and expressions in italics. Read them in sentence contexts and choose some more words from the list above to develop the ideas. Give your own examples with other words from the list.

1. The international character of fundamental *research* should be strengthened by long-term international collaborative projects.

2. Scientific knowledge has led to remarkable innovations that have been of great *benefit* to humankind.

3. All cultures can *contribute* to scientific knowledge of universal value.

4. Today, more than ever, science and its applications are *indispensable* for development.

5. Progress in science makes the role of universities particularly important in the *promotion* and modernization of science teaching and its coordination at all levels of education.

IV. Match the following words with those given in the box to make collocations.

A) sanctions – peace – a dispute – order – a summit – volunteers – a campaign – an agreement – a decision – a part.

Hold _____.	Settle _____.
Reach _____.	Restore _____.
Impose _____.	Recruit _____.
Play _____.	Run _____.
Maintain _____.	Veto _____.

B) fire – assistance – relations – community – aid – treaty – speech – campaign.

Humanitarian _____.	Financial _____.
Fund-raising _____.	Bilateral _____.
World _____.	Farewell _____.
Cease _____.	Peace _____.

V. In pairs or small groups, discuss which collocations can be related to the following issues.

1. Provide humanitarian and developmental assistance to children in poor and developing countries.
2. Provide medical care during natural and war disasters.
3. Give loans to poor and developing countries to promote economic development.
4. Protect and support refugees.
5. End wars between nations and provide a platform for dialogue, peace, social and political justice.
6. Concern with public health.
7. Promote labors rights.
8. Promote international collaboration through education, science, and culture to ensure universal respect for justice.

VI. Put the following words in the right column (5 words in each column). Compose the sentences using these words.

Vice president, headquarters, charter, congress, negotiate, deputy, resolution, maintain, ambassador, council, constitution, stability, declaration, secretary-general, agency, labor rights, spokesman, international law, assembly general, law.

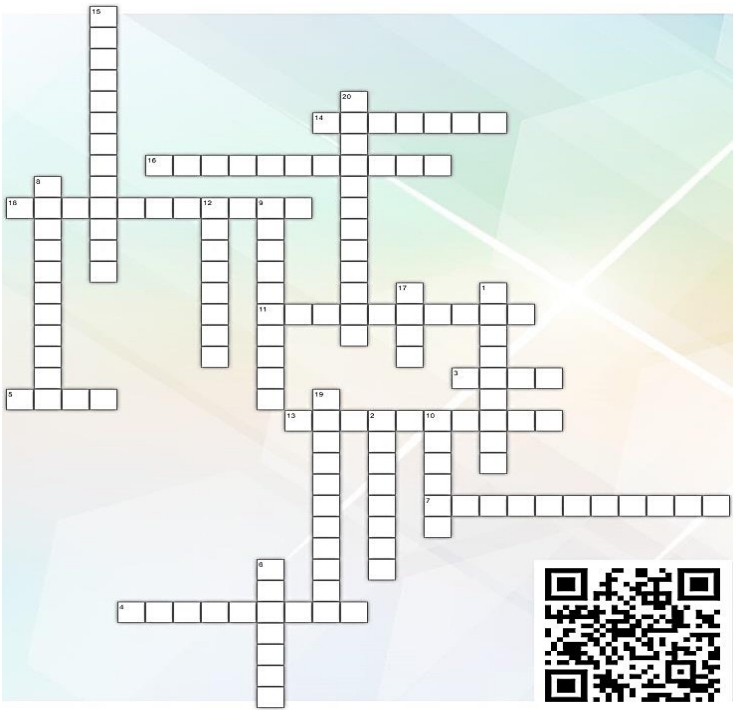
Officials	Establishments	Documents	Others

VII. Work in pairs. Give your explanations to the following words and word combinations so that your partners could understand and guess them. Then fill in the correct words or word combinations to complete a brief review of UNESCO: wipe out, freedom of expression, freedom, cultural heritage, defend human rights, historic monuments, improve the standard of living, promote peace, economic development, scientific and cultural, became popular, the idea, group of allied governments, strives, inequalities.

VIII. Give your comments on each point.

1. UNESCO was started by a _____.
2. _____ of improving education _____ after WWII and more and more people started showing interest towards it.
3. UNESCO believes education is the key to social and _____.
4. UNESCO tries to _____ and stops wars.
5. UNESCO tries to _____ and not let people be treated cruelly.
6. UNESCO tries to protect the _____ of countries around the world.
7. UNESCO defends _____ as everyone should have the right to express their thoughts, freely.
8. UNESCO has helped protect many _____ such as the Acropolis in Greece.
9. UNESCO has done a lot to _____ for poor people all around the world.
10. UNESCO is trying to reduce _____ between women and men.
11. UNESCO _____ to reduce poverty worldwide.
12. Everyone is entitled to _____ of speech.
13. It is very difficult to _____ poverty and help countries to develop.
14. In November 1945, the United Nations Educational, _____ Organization was created.

IX. Team up and solve the crossword using the list of words and their definitions.



a) task	k) individual
b) team	l) strategy
c) collaboration	m) coordinate
d) participate	n) contribution
e) response	o) context
f) rely	p) incorporate
g) partnership	q) cooperate
h) corporation	r) network
i) assistant	s) innovation
j) impact	t) interaction

https://learningapps.org/view31109340

Down	***Across***
1. To work together and help each other. **2.** An answer or reaction to someone's words or actions. **6.** Interconnected machines, wires, or people OR (as a verb) to make connections with other people for mutual advantage. **8.** To be involved in an activity with others; to have a part in it. **9.** A single person. **10.** Powerful effect. **12.** A plan for winning a battle or reaching a goal. **15.** Working closely together toward a common goal. **17.** An assignment; something that needs to be done. **19.** A company usually owned by stockholders and treated legally as a single person. **20**. Money or time given to support a community or cause.	**3.** A group working together to win in sports or to accomplish a goal. **4.** Helper. **5.** To depend on someone or something. **7.** A business owned and run by two or more individuals. **11.** The development of completely new products or ideas. **13.** To organize and integrate the work of several individuals or groups so it fits together well. **14.** The setting of an idea (or the words surrounding an unknown word) that help make its meaning clear. **16.** The way two or more people or groups influence and connect with each other. **18.** To make a business into a corporation.

X. Use the link to the application "Quizlet" to practice and memorize the vocabulary on the topic.

https://quizlet.com/661786875/scientific-cooperation-flash-cards

READING AND SPEAKING

READING 1

I. Read the text and find out its key ideas. Work in pairs: discuss the information and give the best title to each paragraph of the text.

THE IMPORTANCE OF SCIENTIFIC COLLABORATION

1 _____ Scientific collaboration is when two or more scientists work together to achieve a common goal. This can be in the form of sharing data, working together on a research project, or a combination of both. In science, collaboration is about sharing information, resources, and ideas. Collaboration allows scientists to combine their knowledge and resources to form new ideas that might not have been possible by working alone. It also helps them work faster, which then leads to better results for everyone involved.

2 _____ Collaboration is important in science because it helps scientists improve their work, make new discoveries, and share their findings with the world. When two scientists work together, they can catch each other's errors, and they can also help each other brainstorm ideas for research projects. When a group of scientists collaborates on a project, they're able to spend more time doing what they love: solving issues! Collaboration also helps people learn from one another and develop new skills, which can improve the quality of their work.

3 _____ The term collaboration has many meanings in science. Collaboration in science means working with other people to solve big problems. When scientists collaborate, they work together on projects. They may also collaborate with people outside the field of science. Scientists can collaborate with each other on different levels. For example, one scientist may need help from another scientist to run an experiment or get a piece of equipment for the experiment. Scientists might also collaborate to share data or research results.

4 _____ In science, collaboration means that two or more people work together to produce a project. Collaboration is also important because it allows scientists to share ideas. Scientists often work in isolation, but collaboration allows them to break out of their bubbles and be exposed to new possibilities. In addition, when

collaborating with others, a scientist can use any instruments or equipment that the other person has access to. This is useful for sharing resources and data collection techniques as well.

5 _____ Collaboration means that different scientists work together to solve a problem or answer a question. Scientists are not the only people who can do science, and they benefit from working with other people to get their research done. The importance of teamwork in science can be better understood by asking, "how does a team solve problems?" It is often the case that one person cannot solve a problem alone. Teams are great because they allow individuals to focus their efforts on specific aspects of a problem. When working on a project with other people, it's easier to stay motivated and focused because there are more people involved who will help hold each other accountable for finishing tasks on time.

6 _____ Many people don't realize the importance of collaboration in science, but it's very important. There are two main types of collaboration: individual and institutional. Individual collaborations are when two or more scientists work together on a project, whereas institutional collaborations involve several institutions working together on a single project. Examples of these include teams of researchers at universities and research institutes who collaborate with scientists from other countries or even different parts of one country to solve issues in their field that require knowledge from multiple disciplines.

7 _____ Collaboration is the key to success in the scientific community. Collaboration in science means that researchers share their findings with each other, so they can build on each other's work and create new knowledge together. It's not just about sharing information, but also about working together to understand it. When people work together on a problem, they can come up with solutions that none of them would have come up with alone. Collaboration also helps scientists learn from each other's mistakes and successes, which helps to move science forward more quickly than it would if everyone were working alone.

https://collaboratory.ist/why-is-collaboration-important-in-science

II. Give your opinion on the following issues using expressions of agreeing and disagreeing given in the box.

1. Why is collaboration important in science
2. What does collaboration mean in science
3. Why do scientists need to collaborate and communicate
4. Why is teamwork important in research

Agreeing	Disagreeing
• I agree entirely/completely	• I'm afraid I don't agree
• I certainly agree with that	• In my opinion / I guess / I trust
• I couldn't agree more	• I'm afraid you're wrong there
• You're definitely/absolutely right	• I don't share this view
• I share the same view	• I suppose not
• That's just how I see it	• Don't you see that...?
• That's a good point	• You know that's not true

III. Summarize the text using the following phrases.

- The paper reports on…
- Much attention is given to…
- A careful account is given to...
- It is claimed that…
- It is reported that…
- The paper points out that…
- The paper claims that…

VIDEO 1

THE CHALLENGE OF GLOBAL COLLABORATION

https://www.youtube.com/watch?v=T2nfBvRO7-A

I. Answer the following questions and share your opinion with the rest of the group.

1. In what way can you define "global collaboration"?
2. What do you know about global collaboration?
3. Are you inspired to be a global collaborator?
4. What are the conditions of global collaboration?

II. Match the words from the left column with their proper equivalents from the right one.

1) collaborator	a) absence, need
2) inspiration	b) desire, reasoning
3) lack	c) essential
4) motivation	d) colleague, companion
5) benefits	e) profits
6) to ensure	f) suggestion, idea
7) significant	g) guarantee

III. Watch the video "The Challenge of Global Collaboration" and fill in the gaps using the suitable words from the video.

1. Global collaboration offers many _____ for educators and students.
2. The most important thing you need to be a global collaborator is _____.
3. _____ to find and cultivate collaboration with someone unlike yourself is the necessary first step for _____.
4. The first thing you need to begin a global collaboration is a _____.
5. Even collaboration with your closest _____ can suffer from technical issues like _____ video conferencing, _____ files and platforms _____ desired features.
6. It's better to build collaborations on the fewest simplest and most widely used _____.
7. Perhaps the global challenge of global collaboration is _____.
8. We recommend that you build a _____ with your _____ working directly with them to _____ that touch points and work flow work for everyone involved.
9. Another significant factor in global collaboration is _____.
10. For real-time interactions you might need an _____ who bridges the different languages.

IV. Sum up the information according to the video and name the main recommendations for global collaboration (1–6). Think of your own ideas for effective and productive one.

V. Work in groups. Find out the information and give the examples of global collaboration in modern science. Share the results with your partners.

READING 2

I. Read the text below and choose the correct word to complete the sentences

THE ROLE OF BELARUS IN THE INTERNATIONAL SCIENTIFIC COOPERATION

Belarus actively promotes international cooperation in science and technology with more than 50 countries. Belarus signed cooperation ***(agreements/arrangements***) with Algeria, Georgia, Israel, Italy, South Korea, Serbia, Slovakia, Latvia, Moldova, Tajikistan, Turkey and the United Nations Economic Commission for Europe.

In 2018, Belarus' State Committee on Science and Technology in association with the Russian Ministry of Education and Science ***(composed/drew up)*** a regulation on the Union State Award in Science and Technology, which was approved by the Union State Council of Ministers.

In 2019, the export of science-intensive and hi-tech products accounted for 35.6% of the total export, which was 2.3 percentage points up over 2018. In monetary ***(terms/expression***), the export of science-intensive and hi-tech products totaled $14.9 billion, up by 7% over the previous year.

In 2025, the State Committee on Science and Technology intends to expand scientific, technological and innovative ***(cooperation/interaction)*** with distant arc countries, and hold meetings of commissions on scientific and technical cooperation with Vietnam, India, Pakistan, Uzbekistan and South Africa.

The partnership with China plays a big role in our international policy. The governments of Belarus and China have decided to declare 2024–2025 the Years of Cooperation in Science, Technology and Innovation. An action plan is being implemented, providing for joint scientific and technical events, the ***(invention/creation)*** and development of Belarusian-Chinese cooperation platforms. A competition of Belarusian-Chinese scientific and technical projects for 2024–2026 was held. 20 projects were selected for joint implementation in the field of ICT, mechanical engineering, new materials, rational use of natural resources, chemistry and agro-industrial technologies.

BSUIR has partnership relations with more than 270 higher education institutions and research organizations from 50 countries (Cooperation agreements). Such ***(activities/actions)*** as research projects, scientific publications, participation in conferences and summer schools, scientific traineeships, exchange education,

language courses, and postgraduate training are organised conjointly under these agreements. We have longstanding cooperation with the Nanyang Technological University (Singapore), L.N. Gumilyov Eurasian National University (Kazakhstan), Luoyang Normal University (China). BSUIR has especially good progress in cooperation with Nanchang Hangkong University (China), Tashkent University of Information Technologies (Uzbekistan), Tajik Technical University (Tajikistan), National Research Nuclear University MEPhI (Russia).

https://www.bsuir.by/en/international-partnerships

II. Study BSUIR website and give your ideas on the following themes.

1. International Projects
2. Inter-institution Partners
3. Regional Partners

III. As we know, BSUIR students and staff are actively engaged in various international programs and projects. Imagine, you are to exchange your experiment reports with your partners from another university. Working in teams, use the worksheet given and show your results.

Lab Report Worksheet

This worksheet is to help you create a rough draft of the formal laboratory report on the issue of "_____".

1. Title. What problem are you trying to solve? What questions are you going to answer?

2. Purpose. What are you trying to find out? What are you going to do? Scientific concepts essential for understanding the experiment. Information that brought you to your hypothesis.

3. Hypothesis. Your educated guess. Suggested format: If _____, then _____, because _____.

4. Materials. All equipment used including quantity, size, and measurements.

5. Procedure. Step by step instructions numbered.

6. Results. Create a table to record all results.

7. Discussion. State any observations; explain your data and results; state the conclusion and show your hypothesis relates to the conclusion. Was your hypothesis correct? Use your prior knowledge and information you collected through research to offer an explanation of the results.

READING 3

"Building peace in the minds of men and women".

I. Read the text to understand the goals, tasks, the structure and working methods of UNESCO as an international organization

UNESCO: LEGAL STATUS, CONTROLLING BODY AND MISSION

Initiated by Great Britain and France, UNESCO was founded on November 16, 1945 in London as a legally independent branch of the United Nations (UN), with its headquarters in Paris. The UNESCO constitution came into force on November 4, 1946, after it had been ratified by 20 countries: Australia, Brazil, Canada, China, Czechoslovakia, Denmark, Dominican Republic, Egypt, France, Greece, India, Lebanon, Mexico, New Zealand, Norway, Saudi Arabia, South Africa, Turkey, United Kingdom, and the United States.

UNESCO stands for *United Nations Educational, Scientific and Cultural Organization.* In its very name, it thus represents its mission, namely to anchor peace in the world by initiating global educational processes and by promoting science and culture. Today, the number of 20 founding countries has increased to become 193 Member States and 11 associated Member States. In this respect, the willingness to pursue a sustainable peace policy in the world is impressively demonstrated. The fact that this peace could not always be achieved and is now unfortunately more at risk than ever only shows how important it is to impart its message persistently and for the long term. Creating and maintaining peace was and is the mission of the international community because, since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed (UNESCO Constitution).

The status of the legal, organizational and financial independence of UNESCO is defined through the Charter of the United Nations, the umbrella organization of the world community to govern its international commitments. In article 63 of this charter the implementation of the "Economic and Social Council" is defined which includes UNESCO and further 16 specialized agencies of the UN. According to the structure of the whole international system the supreme decision-making and supervisory body of UNESCO is the General Conference. The current Director-General is Audrey Azoulay, the former French Minister of Culture, in office since November 2017. Analogous to its decision

making and control function, the General Conference decides on the objectives and guidelines of the Organization and establishes its work assignments and guidelines.

The guidelines are first formulated by the UNESCO Executive Board (consists of 58 Member States each with a 4-year-term of office), delegated to the Secretariat for elaboration and for monitoring the results and feedback (more than 2000 staff in Paris and important regional offices). The UNESCO Executive Board can therefore be regarded as the strategic and supervisory body of UNESCO. Its responsibilities include not only the examination of programs and budgets, but also the preparation of agendas for the General Conference and thus the tasks, issues and activities of UNESCO as a whole.

UNESCO's goals to finally achieve world peace are essentially implemented in five thematically oriented departments. These are the education sector, which is currently headed by Ms. Stefania Giannini (Italy), the natural sciences sector headed by Ms. Shamila Nair-Bedouelle (South-Africa), the social and human sciences sector headed by Ms. Nada Al-Nashif (Jordan), the culture sector managed by Mr Ernesto Renato Ottone Ramirez (Chile), and the communication and information sector managed by Mr Moez Chachouk (Tunisia).

The Culture Sector of UNESCO is responsible for World Heritage. Here, the conventions on both material and immaterial heritage and the convention on cultural diversity are communicated. Although the World Heritage Convention was adopted as early as 1972, the Convention on Intangible Heritage was ratified only in 2003 and the Convention on Cultural Diversity only in 2005. Correspondingly, the orientation of each convention is different. Cultural productions and reproductions should no longer be exclusively commercialized and subjected to the conditions of world trade. Rather, the 2005 Convention in particular serves to record cultural diversity as a standard for human expressions of life and thus to promote intercultural communication and mediation processes. How better to promote peace in the world than by means of these goals?

https://worldheritage-education.eu/resources/teachers_area_2020/Teaching%20Module%20-%20Who%20and%20what%20is%20UNESCO.pdf

II. Work in groups According to the following plan discuss the way you see UNESCO as part of the United Nations network. The key words and word combinations given in the box below might help you.

1. What is UNESCO?
2. Why was it founded?
3. UNESCO members.
4. The areas UNESCO covers.
5. Financial support.

member states	specialized agency	peace	education	science
human rights	membership fees	culture	communication	guidelines

III. Apply knowledge and create a mind map (organize information into a hierarchy showing relationships among pieces of the whole) of UNESCO structure with the following terms: Director General, Executive Board, 193, Work Program, Member States, Secretariat, 58, budget, Audrey Azuley, states with a four-year term office, implementation of work programs, more than 2000 staff in Paris and important regional offices. Explain the structure to your classmates.

IV. In order to understand UNESCO's mission and to reflect on the practical implementation in the work areas read the quotation from the UNESCO constitution: "Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed" (UNESCO Constitution, Preamble 1946). Then do the following tasks.

1. Discuss the quotation from the UNESCO constitution in class. Why was it important to the signatory states to formulate it in the preamble of the constitution? Is it still relevant today?

2. Take a look at these areas of UNESCO activities: Education, Science, Culture and Communication. Working in groups, rate UNESCO goals and principles in Education and Science from the most important to the least one. Give your arguments.

3. Conduct research on the Internet to find out what goals are being pursued in other areas of work.

4. Form groups analogous to the four work areas. Write a statement about why and how your work area contributes to "anchoring peace in the minds of people". Each group will give a talk on this.

Right to Education – Fundamental principles

1. **Non-discrimination.** Non-discrimination in education means that it must be accessible to all, in law and in fact.

2. **Equality of opportunity and treatment.** The principle of equality of opportunity and treatment is reflected in UNESCO's mission to promote collaboration among nations to advance equality of educational opportunities.

3. **Universal access to education**. The Education 2030 Agenda reiterates the importance of ensuring access to and completion of quality education for all children and youth and promoting lifelong opportunities for all.

4. **Solidarity.** The principle of the "intellectual and moral solidarity" of mankind, enshrined in UNESCO's Constitution, is a source of strength for the realization of the right to education for all.

Sustainable Development Goals for Natural Sciences

1. UNESCO contributes to support of developing countries in strengthening their scientific and technological capacity.

2. UNESCO promotes engineering education at the secondary and tertiary levels and to highlight the roles and accomplishments of women and youth in the engineering field.

3. Engineers are a vital profession in addressing basic human needs, in promoting secure development, in responding to emergency situations and in promoting intercultural cooperation.

4. UNESCO also helps countries to build their capacities in managing disaster and climate risk.

5. Water security is the focus of UNESCO's Intergovernmental Hydrological Programme (IHP), devoted to water research, water resources management, education and capacity building.

6. UNESCO promotes the sustainable use of terrestrial ecosystems, including sustainable forest management.

V. Arrange debates on the topic "How decisions are made in international bodies".

UNESCO has 193 member states. What does this mean for the way UNESCO works? Every two years, UNESCO's General Assembly brings together all member states to discuss and make decisions on its objectives, work programs and budget, for example. In order to take a decision, in most cases a majority of the member states must vote in favor. Simulate with your class a vote at the UNESCO General Assembly. You should learn how to position yourselves and find compromises.

Choose one of the following questions you want to discuss or think of another one. Each student should first think about their own position. Discuss your position and come to a common decision. At the end of the discussion, vote for the position.

1. In what way should young scientists be supported by international organizations?

2. Should there be better methodology for a happy university concept?

VIDEO 2

WORLD HERITAGE

https://www.youtube.com/watch?v=lOzxUVCCSug

I. What makes a place worth visiting? Look at the criteria and tick the ones you agree with. Then think of a place that represents them.

1. It's an area of natural beauty.
2. It was important in the past.
3. It's a creative masterpiece.
4. It's a major geological feature.
5. It has a rich cultural tradition.

II. Making UNESCO's World Heritage List means protection and prestige for some of the world's most famous sites – and some of the not-so-famous. See how much you know about these special places.

1. What continent has the most World Heritage sites?

a) North America
b) Europe
c) Asia
d) Africa

2. Which of these sites was in the first group added to the World Heritage List?

a) Venice, Italy
b) Yellowstone National Park, U.S.
c) Old Havana, Cuba
d) Historic Cairo, Egypt

3. How many countries have adhered to the World Heritage Convention?

a) 167 b) 120 c) 88 d) 37

III. Match these words with their meanings.

diversity – heritage – inspiration
masterpiece – representation
sanctuary – values

1. _____– something that gives you ideas.
2. _____– a work of art made with great skill.
3. _____– the beliefs people have about what is most important in life.
4. _____– a picture or model of someone or something.
5. _____– the quality of showing a great deal of variety.
6. _____– a protected natural area where animals live freely.
7. _____– valued historic buildings and cultural traditions passed down from previous generations.

IV. Watch the video "World Heritage" and define the sentences as true or false.

1. UNESCO was founded in 1945.
2. UNESCO is an educational, scientific and cultural organization.
3. UNESCO doesn't belong to the UN.
4. The ancient temple of Abu Simbel was destroyed.
5. An International rescue mission saved the temple of Abu Simbel.
6. To save the temple, they dismantled the monuments and rebuilt them on higher ground.
7. UNESCO nominates the places to be included in the world heritage list.
8. UNESCO contributes to the preservation of a lot of remarkable places around the world.

V. Name some more sites included in the world heritage list. Which sites of Belarus are added to this list?

VI. Think of a place that is or you believe should be on the World Heritage List. Why is it significant? Write down the reasons why it is or should be considered a part of our cultural or natural heritage.

READING 4

I. Before reading the text refresh your knowledge on world famous organizations. Read the information. Guess the name of the international organization. Match the organization with its flag/emblem.

1._____

- Pierre de Coubertin;
- 1894;
- Sochi 2014.

2._____

- headquarters in Paris;
- 04.11.1946;
- Cesky Krumlov, Grand Canyon.

3._____

- fund for children in developing countries;
- founded in December 1946;
- donators: Shakira, Orlando Bloom.

4._____

- founded in 1866, Switzerland;
- has helped the injured during the wars and battles;
- humanitarian, social, educational and health organization.

5._____

- panda;
- concerned with endangered animals, pollution, environment;
- motto: “For a Living Planet”.

6._____

- public health;
- Rod of Asclepius;
- 194 member countries.

7._____

- maintaining international peace and security, promoting human rights, providing humanitarian aid;
- Nobel Peace Prize in 2001;
- International Court of Justice in Hague.

A. 

B. 

C. 

D. 

E. 

F. 

G. 

II. Read the text and identify the difference between two main parts of international organizations.

INTERNATIONAL ORGANIZATIONS

Organizations are groups of people, businesses, or governments that work together to solve an issue. International organizations involve governments or people from different countries working together to solve an issue that crosses country borders. Reaching across borders is what makes them "international". There are two main types of international organizations.

Intergovernmental Organizations. "Inter" means among or between. It is a prefix that shows there is a connection between things. Intergovernmental organizations are organizations that are formed between governments. They are based on formal agreements between three or more countries that have come together for a specific purpose. For example, several governments might come together to help defend each other against enemy threats. Or, governments might form an organization to solve an environmental problem that is affecting each nation involved.

Nongovernmental Organizations. "Non" means not. Nongovernmental organizations (NGOs) are groups that work to solve problems around the world but are not connected to any government. (Although they may have members that come from government organizations.) NGOs must raise money independently to fund their projects, so are free to work toward their own goals. They don't rely on a government to make decisions or provide support, although many NGOs do receive government funding. NGOs often work together, especially if they have similar goals or focus on the same geographical region. For example, if an NGO wanted to fight disease in central Africa, it might collaborate with other NGOs working in that area.

International organizations are generally involved in either aid or security. Some international organizations may send military forces to help restore peace or advisers to help strategize against the terrorists. Other organizations may send food or medical supplies to help suffering civilians. In this way, international organizations are critical to keeping the world a safe and stable place to live.

The United Nations (UN) is the largest and most familiar intergovernmental organization. The UN's main goal is to keep peace. A UN peacekeeping mission is when the UN sends representatives to countries or regions in conflict. The UN currently has peacekeeping missions all over the world.

The UN has several specialized subgroups, such as the World Health Organization (WHO), United Nations Children's Fund (UNICEF) and the World Bank. WHO is responsible for giving direction on international health issues, setting standards, and providing information for governments. The World Bank is a bank for nations, not people. The UN also has groups focused on culture (the United Nations Educational, Scientific and Cultural Organization (UNESCO)), justice and law (the International Court of Justice (ICJ)), and immigration (United Nations High Commissioner for Refugees (UNHCR)), among others. Each of the subgroups has headquarters in a different place. The main UN offices are in New York City, New York. The World Health Organization has its headquarters in Geneva, Switzerland. The World Bank is based in Washington, D.C. The International Court of Justice is in The Hague, Netherlands. Most countries of the world belong to the UN and its subgroups.

From its headquarters on international territory in New York City, the UN and its specialized agencies decide on substantive administrative and social issues in regular meetings held throughout the year.

Many of us think slavery is a thing of the past. It isn't. A new report from the United Nations says there are about 50 million people in modern-day slavery. This includes being trapped in forced labour or in forced marriages. The International Labour Organization (ILO) is an agency of the UN. It created the report. The ILO said around one in 150 people in the world is enslaved in some way. This figure has increased by 20 per cent in the past few years. It is still growing. This is because of the coronavirus pandemic, climate change, and the cost of living crisis. These things have made many people poor or forced them into debt. The only way they can survive is to work in terrible conditions or be forced into unwanted marriages.

The UN hoped to end modern slavery by 2030. However, since creating this aim in 2016, the number of people in forced labour or forced marriage shot up by 10 million. The ILO said modern slavery happens when people "cannot refuse or cannot leave because of threats, violence, deception, abuse of power or other forms of [force]". The ILO said this problem existed in rich countries as well as poor nations. An ILO spokesperson said: "It would be a mistake to believe that forced labour is solely the problem of poor countries". He added that more than half of cases of forced labour and a quarter of forced marriages are in "upper-middle-income or high-income countries". Women and children are at the most risk.

https://hinessocialstudies.files.wordpress.com/2016/06/international-organizations-student-materials.pdf

III. What do you know about the UN bodies? How important are they? Complete this table with your partner(s).

The Name of the Body	What I Know	How Important
The WHO		
The ILO		
UNESCO		
UNICEF		
World Bank		

IV. Rank these crises with your partner. Put the most worrying crises on the top.

1. Modern slavery
2. Forced marriages
3. War
5. Coronavirus
6. Cost of Living
7. Climate change
8. Cybercrime
9. Terrorism

V. Exchange your ideas and share your rankings using some useful expressions to ask for and give opinion.

Don't you see that..?	Yes, of course there is that, but...	I guess, ...
You must know that...	That makes no difference!	I trust, ...
Are you telling me that..?	You know that's not true.	In my opinion, …
I definitely think that...	Yes, that's all very well, but...	To my mind…

VI. Find appropriate definitions to the following words.

1) to trap	a) a time of great difficulty or danger
2) to force	b) an organization giving a particular service on behalf of another business, person, or group
3) agency	c) to use one's power to make someone do something
4) to enslave	d) very, very bad
5) crisis	e) to stop someone from escaping from or leaving a place
6) debt	f) to cause someone to lose their freedom

7) terrible	g) money that you owe or must pay to someone
8) aim	h) behaviour with physical force to hurt, damage, or kill someone or something
9) to shoot up	i) not involving anyone or anything else
10) to refuse	j) the act of lying to or cheating someone
11) violence	k) to increase very quickly
12) deception	l) each of four equal parts
13) solely	m) a purpose or goal
14) quarter	n) to show that you are not willing to do something

VII. Match the following synonyms from the article.

1) trapped	a) finish
2) agency	b) number
3) figure	c) disaster
4) crisis	d) instances
5) terrible	e) increased
6) end	f) branch
7) shot up	g) only
8) deception	h) horrible
9) solely	i) stuck
10) cases	j) trickery

VIII. Role play the situation "The biggest crisis today" on behalf of the scientists representing various fields. First, choose the role. Prove your idea. Then you can switch the roles.

- **Role A: Sociologist – Modern Slavery**

You think modern slavery is the biggest crisis today. Tell the others three reasons why. Tell them why their crises aren't as serious. Also, tell the others which is the least of these (and why): forced marriage, the cost of living crisis or war.

- **Role B: Psychologist – Forced Marriage**

You think forced marriage is the biggest crisis today. Tell the others three reasons why. Tell them why their crises aren't as serious. Also, tell the others which is the least of these (and why): modern slavery, the cost of living crisis or war.

➢ **Role C: Financial Expert – Cost of Living Crisis**

You think the cost of living crisis is the biggest crisis today. Tell the others three reasons why. Tell them why their crises aren't as serious. Also, tell the others which is the least of these (and why): forced marriage, modern slavery or war.

➢ **Role D: Political Scientist – War**

You think war is the biggest crisis today. Tell the others three reasons why. Tell them why their crises aren't as serious. Also, tell the others which is the least of these (and why): forced marriage, the cost of living crisis or modern slavery.

VIDEO 3

COLLABORATION – THE KEY TO SCIENTIFIC SUCCESS

https://www.youtube.com/watch?v=-wz90lVQE9w

I. Work in pairs or small groups. Put the following word combinations in the correct place of the table "Benefits, motivation, and challenges of international research collaboration".

Becoming acquainted with other higher education and science systems; conducting comparative research; learning from and helping each other; distribution of labor; multidisciplinarity advances thinking and facilitates development of theoretical approaches and methods; broadening knowledge; friendship among team members; reinforcement of existing relationships; research topic relevance; career advancement; learning new theoretical approaches and methods; networking; time to do multidisciplinary work; organization and structured management of work packages and tasks; contrasting cultural and organizational expectations and norms; career stage differences in researcher needs; contrasting styles of communication (exchange of information) and work; team communications and language skills; distribution of labor; time constraints (limited project duration); diverse theoretical and methodological strengths and weaknesses.

Benefits	Motivation	Challenges

II. Watch the video "Collaboration – the Key to Scientific Success" and match the speakers (1–6) with their words (a–f). Try to develop the idea of each speaker.

Speakers:

1. ***Jan Lötvall***, MD., Ph.D Professor, University of Gothenburg, President of ISEV.

2. ***Michiel Pegtel***, Ph.D, Assistant Professor, VUmc, Amsterdam.

3. ***Graça Raposo-Benedetti***, Ph.D, Director of Research, CNRS, Institute Curie.

4. ***Phillip A. Sharp***, Ph.D, Nobel Laureate, Professor, MIT.

5. ***Johan Skog***, Ph.D, CSO, Exosomes Diagnostics.

6. ***Clotilde Thery***, Ph.D, Director of Research, INSERM, Institute Curie, Secretary General of ISEV.

Quotes:

a) "When you start solving a problem, particularly a problem that impacts on society you need a collaboration, a very extensive collaboration".

b) "It is our responsibility to actually get together and try to get those issues, understand those issues and sharpen our thinking around those issues".

c) "A science is really working together. Don't keep yourself in your little corner".

d) "… always discussing what type of the projects maybe you can do together, is there a mutual interest".

e) "It's important that you have an interaction between both academia and industry because…".

f) "Every kind of research is important because it may eventually lead to a discovery and to a treatment".

III. Work in pairs (groups). Summarize the information from the video, add your own ideas and speak on the following themes.

1. Contemporary science is marked by expanding and diverse forms of teamwork.

2. Collaboration across organizational and cultural boundaries extends the possibilities of discovery.

3. International collaborative research projects often provide findings beyond what one team could achieve alone.

4. Motivated to maintain existing relationships and grow their scientific network, researchers increasingly collaborate, despite often unrecognized or underappreciated costs, since such projects are challenging to manage and carry out.

FOLLOW UP

I. Work in small groups. Here are some key aspects of international scientific cooperation. Match them with the pictures and develop the idea on each point.

Key Aspects

1. Joint Research Initiatives. Countries often collaborate on large-scale research projects, pooling resources and expertise to tackle complex issues such as climate change, health pandemics, and energy sustainability.

2. Shared Data and Resources. Scientists may share datasets, laboratory facilities, and technology to enhance research quality and speed up discoveries.

3. Funding and Grants. International funding bodies, such as the European Union's Horizon Europe or the National Institutes of Health in the U.S., provide financial support for collaborative projects.

4. Exchange Programs. Researchers may participate in exchange programs that allow them to work in different countries, facilitating knowledge transfer and cultural exchange.

5. Conferences and Workshops. International conferences provide platforms for scientists to present their work, network with peers, and establish collaborative relationships.

6. Policy Development. Collaborative efforts can lead to the development of international policies and guidelines that address global scientific issues, such as biodiversity conservation or public health.

A. 

B. 

C. 

D. 

E. 

F. 

PROJECT

I. The name of the project is "The Best Scientific Organization in the World".

A. Brainstorm the following problem. Describe the purposes and functions of the following international organizations: UN, EU, World Bank, Red Cross/Crescent, and World Health Organization *(worksheets are given in Appendix)*. Analyze the impact that international organizations can have on the lives of individuals.

B. Work in groups of 3–4. Reconsider everything you have learned about international organizations. Create the project of your own one and prepare a presentation covering the most important points that are to be considered:

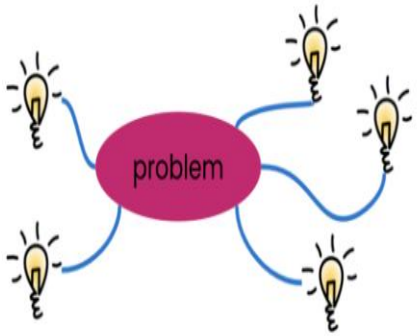
- the name and the logo (emblem) of your organization;
- the year the organization was founded and the number of countries involved today;
- underline the main purpose of the organization (this could be the reason why it was started or its main goal);
- identify the two main roles of the organization.

Try to make your project interesting, informative and illustrative using various graphs, examples, visual aids and so on. So, each team carries out a project of their "Best Organization in the World". To do a successful project follow the suggested manual step by step.

Step 1. Collecting Information

Sources of Information:

- given worksheets;
- coursebook;
- the Internet.



Step 2. Brainstorming.

Each team member introduces the material they have invented. All members work together to select the most innovative ideas. Then you are to discuss:

- the format of the project;
- how to present it visually (video, Power Point presentation, quotations and banners, pictures, handouts etc.);
- who will represent it: the leader (makes introduction, introduces the team members), other team members (give information, demonstrate visuals, public speaking).

Step 3. Rehearsal

Step 4. Presentation

- introducing the organization/presenting the project;
- signposting the main issues;
- answering questions.

Step 5. Evaluation

Those who evaluate – don't grudge the fellow students your praise, yet be frank and objective.

Those who perform – be open to criticism and grateful for it.

Step 6. Voting for the best organization.

APPENDIX

The United Nations

In October 1945, right after World War II, fifty-one countries started an organization with a goal of keeping peace, developing friendly relationships among countries, and improving the quality of life for the world's poor people. This organization, called the United Nations (UN), has 193 member nations today.

In its peacekeeping role, the UN sends troops to bring stability and peace to troubled areas of the world. UN peacekeepers are troops or police sent from member countries. They wear their own country's uniform with a UN helmet or beret. UN peacekeepers are there to protect civilians and aid workers from physical violence. They are also helping the country's government restore the rule of law. The UN currently has 15 similar missions around the work.

In its role to improve the quality of life for the world's poor, two of the most well-known UN organizations are the United Nations Children's Fund (UNICEF) and the World Food Program (WFP), UNICEF works in poor areas of the world to help prevent disease and child abuse. UNICEF also support the rights and education of children, especially girls, who do not receive equal treatment to boys in many parts of the world. The WFP works to end hunger around the world. Part of this involves bringing food when there is an emergency. The other part involves preventing hunger in poor parts of the world. The WFP does this by providing school meals to encourage families to keep their kids in school, helping farmers find good markets for selling their products, and paying people with food in exchange for their labor building improvements to their communities.

YOUR REPORT

Follow the directions and answer the questions below, then explain to your group what the United Nations is all about.

Read. Read the article through one time so you know what is there.

Mark It Up.

1. Underline the year the United Nations was founded and the number of countries involved today.
2. Underline the main purpose of the United Nations. (This could be the reason why it was started or its main goal.)
3. Underline the two main roles of the United Nations.
4. Put [brackets] around one example for each role.

Take Notes. You will use these when you tell your group about the United Nations.

The United Nations was founded in _____ .

_____ countries are involved today.

The reason the United Nations exists is to _____

The United Nations has two roles:

1) _____

2) _____

3)_____

A good example of something the United Nations does is _____.

The European Union

The European Union (EU) is a partnership between countries in Europe that is designed to help them avoid conflict by making them dependent on each other. The EU began in 1951 with a treaty between six countries who agreed to operate their coal arid steel industries together. This way, none of the six could manufacture its own weapons to use against the others in war. Later, the six countries began to adopt the same economic rules, such as paying farmers in all countries the same for their produce. They also allowed goods to be traded between the six countries without any taxes for moving products across borders. The idea was that countries that depended on each otter would be less likely to go to war against each other. Today, the EU has 27 member countries.

One rate of the EU is to create a single economy in which all of the members participate. All of the countries use the same unit of money, called the Euro, Goods trade freely between the member countries without being taxed.

Another role of toe EU is to act as a single voice in the world for its member countries. The EU is run fey a European government that is made up of representatives voted into office by citizens in the 27 countries. The government of the EU makes decisions about what foe EU as a group will do about a wide variety of issues, such as terrorism. By acting as one unit, the members have mom influence than they would if they each acted alone. For example, the EU might use its influence to negotiate peace between countries in conflict.

Finally, the EU plays a major rate giving aid to countries around the world that have problems such as hunger, disease, and environmental contamination. For example, the EU keeps aid workers to the Caribbean to help people in those countries develop better ways to cop© with natural disasters such as hurricanes and earthquakes. The EU is also actively distributing food to people in the poorest countries of Africa.

YOUR REPORT

Follow the directions and answer the questions below, then explain to your group what the European Union is all about.

Read. Read the article through one time so you know what is there.

Mark It Up.

1. Underline the year the European Union was founded and the number of countries involved today.
2. Underline the main purpose of the European Union. (This could be the reason why it was started or its main goal.)
3. Underline the two main roles of foe European Union.
4. Put [brackets] around one example for each role.

Take Notes. You will use these when you tell your group about foe European Union.

The Europe Union was founded in _____.

_____ countries are involved today.

The reason the European Union exists is to _____.

The European Union has three roles:

1) _____

2) _____

3) _____

A good example of something the European Union does is _____.

The World Health Organization

The World Health Organization (*WHO)* is an organization within the United Nations that works to improve health around the entire world, it does this not only by providing health care in poor areas, but also by conducting research in order to wipe out disease and toy helping countries develop their health care systems. The WHO was started by the United Nations on April, 1948. April, 7 is now known as "World Health Day". The United Nations has 193 member countries today.

One important rote of the WHO is to gather data about health around the world. It compiles statistics about things like the leading causes of death in different areas of the world and bow often certain diseases occur. It even keeps track of smoking in different parts of the world. Tracking these kinds of date helps the WHO understand what needs to be done to help people. The WHO data also helps researchers in individual countries, where much of the medical research in the world takes place.

Another role of the WHO is to help keep people healthy around the world. The WHO sponsors many health programs. Some of these programs focus on wiping out specific diseases, such as dengue, a deadly flu-like virus transmitted by mosquitoes in tropical areas of the world. The WHO helps prevent this disease through programs that control the spread of mosquitos and by conducting research. The WHO also makes sure as many children as possible in the world have been immunized against diseases such as whooping cough, measles, and tuberculosis. The WHO's aggressive Global Polio Eradication Initiative has wiped out polio from much of the world.

The WHO also plays a role responding to crises around the world. For example, the WHO has set up a rehydration center to help people dehydrated from drought in Yemen. Drought also leads to malnutrition, because food cannot gnaw without water. When there is a famine, the WHO treats medical complications that result from severe malnutrition and helps fight disease in communities weakened by lack of food.

YOUR REPORT

Follow the directions and answer the questions below, then explain to your group what the World Health Organization is all about.

Read. Read the article through one time to you know what is there.

Mark It Up.

1. Underline year the World Health Organization was founded and the number of countries involved today.
2. Underline the main purpose of the WHO. (This could be the reason why it was started or its main goal.)
3. Underline the two main roles of the WHO.
4. Put [brackets] around one example for each rote.

Take Notes. You will use these when you tell your group about the World Health Organization.

The World Health Organization was founded in _____.

_____ countries are involved today.

The reason the WHO exists is to _____

The World Health Organization has three roles:

1) _____

2) _____

A good example of something the WHO does is _____.

The Red Cross and Red Crescent Societies

The International Red Cross and Red Crescent Societies work to help people around the world. (Islamic countries usually have a red descent instead of a red cross.) Currently 186 countries have societies. Five men who wanted to organize volunteers who could help wounded soldiers during wartime formed the first Red Cross society in 1843 in Geneva, Switzerland.

Today, the Red Cross and Red Crescent societies do much more than help wounded soldiers. One of the main roles of these societies is to respond to disasters. For example, the American Red Cross acted immediately to help victims of the September 11 terrorist attacks. The Red Cross set up emergency medical clinics and helped victims and families try to contact each other. In another example, in August 2011 there was a shipwreck near the island nation of Comoros off the east coast of Africa. The Comoros Red Crescent society offered first aid, helped identify the remains of people killed, and supported the families of survivors and their families.

Each country has its own society, so another role of the Red Cross and Red Crescent societies is to run programs in their local communities. For example, the Red Crescent in the capital of Kyrgyzstan runs a school for street children help from the Netherlands Red Gross. In Thailand, where drug offenders often spend decades in prison, the Thai Red Cross Society helps prisoners stay healthy while in jail and learn to adjust to life once they are released. In Australia, young volunteers from the Australian Red Cross go out to parties and dance clubs to educate other young people about the dangers of drugs and alcohol.

Finally, people from the Red Cross and Red Crescent play a very important role in visiting prisoners of war and civilians who are imprisoned during times of conflict. The fed Goss and Red Crescent checks to see whether the prisoners are being treated humanely as required by an international treaty called the Geneva Convention. The Red Cross and Red Crescent helps them communicate with their families, if it is possible.

Your Report

Follow the directions and answer the questions bellow, then explain to your group what the Red Cross and Red Crescent are all about.

Read. Read the article through one time so you know what is there.

Mark It Up.

1. Underline year the Red Cross was founded and **the number** of **countries i**nvolved today.
2. Underline **t**he **main** purpose **of the Red Cross**/Red Crescent**.**
(This could be the reason why it was started or its main goal.)
3. Underline two main roles of the Red Cross/Red Crescent.
4. Put [brackets] **around** one example for each role.

Take Notes. You will use these when you tell your group about the Red cross/Red Crescent.

The **Red** Cross/Red Crescent was founded in _____.
_____ countries are involved today.
The reason the Red Cross/ Red Crescent exists is to _____.
The Red Cross/Red Crescent has tree roles:
1) _____
2) _____
3) _____
A good example of something the Red Cross/ Red Crescent does is _____.

The World Bank

The World Bank is an organization that helps poor and middle- income countries get the money they need to build improvements that will help reduce poverty. The World Bank was founded in 1944. Today, it is owned by 18 member countries. There are two main organizations within the World Bank, each with its own role. One role of the World Bade is to improve the living conditions in countries with moderate financial resources. The International Bank for Reconstruction and Development (IBRD) is the part of the World Bank that does this. The IBRD helps middle-income countries figure out what their needs are and what strategies will work best. Then, the IBRD helps these countries get loans or other kinds of financial aid to build programs that will help. For example, the government of Mexico needed to increase energy efficiency in Mexico, but it could not succeed unless its poorest people participated. The IBRD helped Mexico start a program that gives out free fluorescent bulbs end gives people discounts for replacing their old appliances. In Costa Rica, the IBRD helped with special financing that lets the country get money to deal with natural disasters without taking money away from other important projects.

Another role of the World Sank is to improve conditions in the poorest countries in the world. The International Development Association (IDA) is the part of the World Bank that does this. The IDA help poor countries by giving them grants of money or loans with no interest. The countries use this money to improve their citizens' living conditions and to improve economic growth in the country. For example, in 2008 there was a dramatic increase in food prices In Ethiopia. The IDA helped Ethiopia buy fertilizer for the 2009 growing season. This helped the farmers produce more food toe next year, which lowered prices. In Vietnam, the IDA has helped people have access to clean water by providing money to develop new water sources and to reconstruct old water distribution systems.

YOUR REPORT

Follow the directions and answer the questions below, then explain to your group what the World Bank is all about.

Read. Read the article through one time so you know what is there.

Mark It Up.

1. Underline year the World Bank was founded and the number of countries involved today.
2. Underline the main purpose of the World Bank. (This could be the reason why it was started or its main goal.)
3. Underline the main roles of the World Bank.
4. Put [brackets] around one example for each role.

Take Notes. You will use these when you tell your group about the World Bank.

The World Bank was founded in _____ .

_____ countries are involved today.

The reason the World Bank exists is to _____.

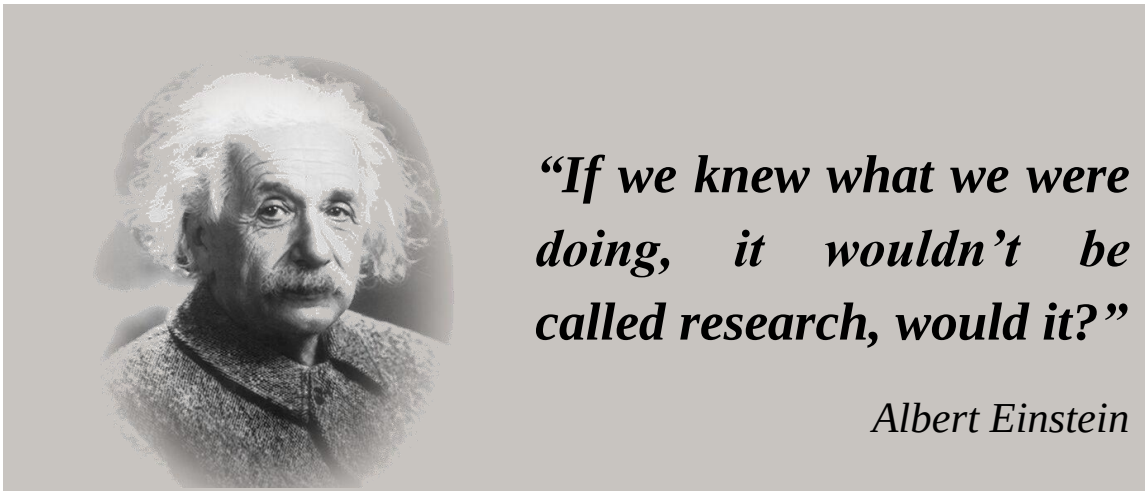
The World Bank has two roles:

1) _____

2) _____

A good example of something the World! Bank does is _____.

MODULE 3
MY RESEARCH WORK



LEAD-IN

I. Discuss the following questions in pairs. Give your arguments.

1. What does graduate (post-graduate) education imply?
2. Does the structure of graduate (post-graduate) education vary in different countries? What is the structure of graduate (post-graduate) education in Belarus?
3. What does PhD degree stand for?
4. What is habilitation? What are the benefits of taking this degree?

II. Do the following quiz and check your knowledge about graduate and postgraduate degrees.

1. The most common undergraduate degree in the world is the _____.

a) founder’s degree
b) Bachelor’s degree
c) holder’s degree
d) degree of college

2. An early type of academic degree issued during the medieval times was the _____.

a) star
b) parish
c) Ijazah
d) college

3. In the 9th century, which of the following occurred before obtaining a doctorate degree?

a) oral examination
b) essay writing
c) speech writing
d) experimentations

4. The first institution to confer the degree of Doctor in Civil Law was the...

a) University of Bologna c) London School

b) Maritime University d) College Uni

5. In the medieval European universities, which of the following courses is one of the quadrivium?

a) language c) English

b) astronomy d) Latin

6. The oldest university in Europe is in...

a) Poland c) Greece

b) Italy d) Paris

7. The term conferred upon French students who have successfully completed their secondary education and admitted into the student to university is the _____.

a) adults c) Biaune

b) baccalauréat d) Sloper

8. Which of the following is a kind of academic degree?

a) surety c) holder

b) doctorate d) pastorate

9. An advanced degree completed after a person has completed their Bachelor's degree is the _____.

a) Master's c) poster's

b) holder's d) teacher's

10. A qualification awarded to students upon successful completion of a course of study in higher education is _____.

a) Result Award c) certification

b) academic degree d) Post Award

Check your answers: https://learningapps.org/display?v=pwts92vta23

III. Conducting scientific research is not an easy task. Discuss the following questions in groups; express your point of view.

1. What is research, in your opinion? Why did you choose a career in science?
2. What field of science are you currently engaged in?
3. Have you ever presented your research results to your groupmates or a large audience? How did you perform?
4. Do you have any publications? Do you plan to attend any scientific meetings in the near future?

IV. Are you good at conducting scientific research? Consider the questions below and give your answers.

1. What step does every scientific experiment begin with?

a) hypothesis
b) question / problem
c) conclusion
d) procedures

2. What is a hypothesis?

a) a hypothesis is the wrong answer to an experiment.
b) a hypothesis is a scientific answer to a given problem.
c) a hypothesis is the right answer to an experiment.
d) a hypothesis is an idea that can be tested based on the evidence available

3. Brian is a master student and right now, he is measuring the weight of each model (one in five) and writing it down on a chart. Which stage of the scientific method is this?

a) hypothesis
b) question / problem
c) collecting data
d) conclusion

4. A student notices that apples vary in sweetness, and he wants to determine the cause. Which of the following should be done first when developing a scientific investigation based on this observation?

a) write a conclusion
b) perform an experiment
c) construct a graph
d) form a hypothesis

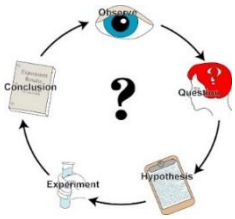
5. At which step of the scientific method do we talk to experts, read books, and look online for what work has already been done?

a) analysis
b) research
c) hypothesis
d) purpose

6. Which step of the scientific method provides graphs and charts to process the information (numbers, etc.) we've gathered?

a) conclusion c) analysis
b) experiment d) none of these

7. What is a series of steps used by scientists to solve a problem or answer a question?



a) metric system c) observation
b) scientific method d) data collection

8. What do you do when you notice something interesting or curious about the world around you?

a) observe c) record data
b) conduct the experiment d) hypothesize

V. Study the following definitions and guess the term for each of them. Can you suggest your own definitions?

1. "A detailed study of a subject, especially in order to discover (new) information or reach a (new) understanding".

2. "A test done in order to learn something or to discover if something works or is true".

3. "A long piece of writing on a particular subject, especially one that is done in order to receive a degree at college or university".

4. "An event, sometimes lasting a few days, at which there are a lot of talks and meetings about a particular subject".

VI. Read the question below. Answer this question choosing one of the given variants. Justify your choice. Give their Russian equivalents.

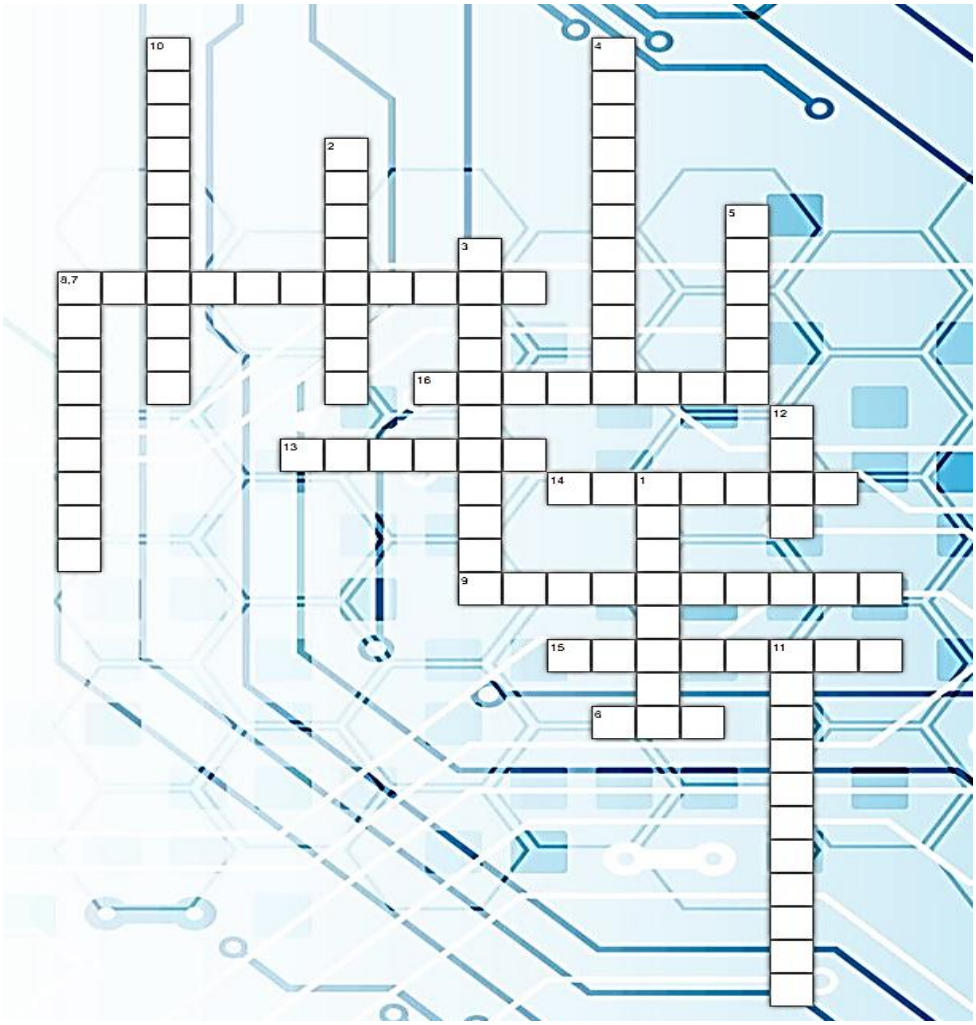
What do you have to do to become a successful researcher?

1. Let complexity be your guide.
2. Never be proven wrong.
3. Try to work as closely as possible at the boundary of your abilities.
4. Don't be distracted by comments of others.

VOCABULARY AND SPEAKING

I. Complete the crossword using the clues given below.

CROSSWORD PUZZLE ON RESEARCH WORK



https://learningapps.org/watch?v=pcypvss0k23

Across

6. An advanced university qualification.

8. The act of watching somebody/something carefully for a period of time, especially to learn something.

9. A scientific test that is done in order to study what happens and to gain new knowledge.

Down

1. A way of doing something.

2. A detailed study of a subject in order to discover new information.

3. When two or more people work together to create or achieve the same thing.

4. To be involved with other people in an activity.

13. A particular way of doing something.
14. The standard of something when it is compared to other things like it; how good or bad something is.
15. Measurement of something by saying how much of it there is.
16. A second university degree.

5. A long piece of writing that you do as part of an advanced university course.
7. Something that you are trying to achieve.
10. Money given to somebody by an organization to help pay for their education.
11. To examine the facts of a situation, an event, a crime, etc. to find out the truth about it or how it happened.
12. Facts or information, especially when examined and used to find out things or to make decisions.

II. Improve your vocabulary. Match each word with its definition.

1) hypothesis	a) something to be talked or written about or studied
2) investigation	b) an investigation undertaken in order to discover new facts, get additional information, etc.
3) notion	c) an idea, suggestions, put forward as a starting point for reasoning or explanation
4) object	d) a topic, subject of a table or a piece of writing
5) proof	e) evidence that is sufficient to show that smth. is a fact, etc.
6) reference	f) a note, direction, etc. telling where certain information may be found
7) research	g) a careful study of something
8) subject	h) that which one means to do, get, be, etc.
9) theme	i) a person or thing to which action or feeling or thought is directed
10) thesis	j) a statement or theory (to be) put forward and supported by arguments, submitted (as part of the requirements) for a university degree

III. In each of the following sentences substitute the word in italics with a word in the box that makes the least change to the meaning of the sentence.

duty	take part	issues	verify	outcomes
supposed	intended	precise	carried out	moral

The format of the research paper is *designed* to shed as much light as possible on how the research was *conducted*. It is *assumed* that the researcher is an *ethical* person who is impartial and is trying to find *accurate* information. Sometimes researchers conduct studies *to test* hypothesis; in other cases, they want to get more information about particular topics or *problems*. In all cases, however, researchers have a moral *obligation* to be as honest as possible and to present their *findings* as accurately as they can. They also must respect the privacy and dignity of any informants who *participate* in their research projects.

IV. Fill in the gaps with the words from the box.

include	data	allow	appropriate	researcher	analysis
signification	ways	explanation	interpret	charts	

The researcher should always try to find **1**____ ways of presenting the **2**____ and findings, often these include tables, **3**____ and quotations – all of which **4**____ readers to see for themselves what the **5**____ found. The important thing here is "Show, don't tell". The finding section should also **6**____ a discussion of the data **7**____ and the researcher's **8**____ of the data's **9**____. That is, the researcher must **10**____ his or her findings for readers in **11**____ they can understand.

V. Work with your partner and discuss the issues below. Give your arguments.

1. Scientific conferences are a good possibility to get new knowledge, to make some scientific and friendly contacts with specialists to exchange views and ideas on urgent problems. What do you think of it?

2. My friend works in close contact with his scientific supervisor and several scientists of the National Academy of Sciences. Is it important to cooperate with all these people? How can you benefit by contacting with such people?

3. Our university cooperates very fruitfully with universities of China. Do you support the idea of international cooperation in the sphere of technology? Why/Why not?

4. My scientific supervisor recommends me to take part in various scientific conferences and seminars. Do you think it is worth it?

5. I am especially interested in applied issues. And you?

6. Different fields of study demand a high level of intellectual ability in order to cope with the pressures of having to understand what are likely to be complex arguments, facts or theories. What qualities do you think a scientific researcher should possess?

7. I was given the opportunity to carry out an extensive literature search for the gaps in my field of study. And you?

READING AND SPEAKING

READING 1

I. Read the text and choose an appropriate title.

A. Postgraduate Research
B. Postgraduate Degrees
C. Research Methods

Postgraduate education involves learning and studying for degrees or other qualifications for which a first or Bachelor's degree is generally required. The organization and structure of postgraduate education varies in different countries, and also in different institutions within countries.

In most countries, the hierarchy of postgraduate degrees is as follows:

1. *Master's degrees.* These are sometimes placed in a further hierarchy, starting with degrees such as the Master of Arts and Master of Science, then Master of Philosophy, and finally Master of Letters. Many Master's students will perform research culminating in a paper, presentation, and defence of their research. This is called the Master's thesis.

2. *Doctorates.* An academic doctorate can be awarded as a PhD (Doctor of Philosophy). In the context of academic degrees, the term *philosophy* does not refer solely to the field of philosophy, but is used in a broader sense in accordance with its original Greek meaning, which is *love of wisdom.*

Many postgraduate programmes require students to pass one or several examinations in order to demonstrate their competence as scholars. In some departments, a comprehensive examination is often required in the first year, and is designed to test a student's background undergraduate-level knowledge. Most postgraduate students perform teaching duties.

Doctoral programmes often require students to pass more examinations. Programmes often require a Qualifying Examination, a PhD Candidacy Examination, or a General Examination, designed to students' grasp of a broad sample of their discipline, and/or one or several Special Field Examinations which test students in their narrower selected areas of specialty within the discipline. These exams must be passed to be allowed to proceed on to the thesis.

The criteria for award of Doctorates vary somewhat throughout the world, but typically require the submission of a substantial body of original research undertaken by the candidate. This may take the form of a single thesis or dissertation, and will usually be assessed by a small committee of examiners appointed by the university. Doctorates are awarded to students who have demonstrated:

– the creation and interpretation of new knowledge through original research of a quality to satisfy peer review, extend the forefront of the discipline, and merit publication;

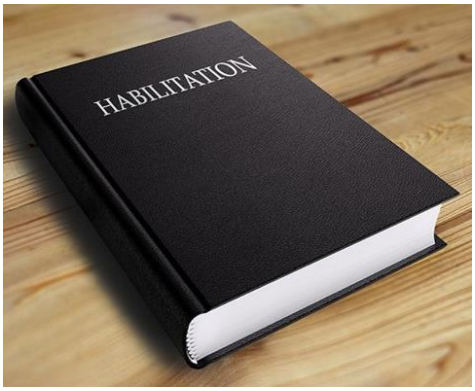
– a systematic acquisition and understanding of a substantial body of knowledge which is at the forefront of an academic discipline or an area of professional practice;

– the general ability to conceptualize, design and implement a project for the generation of new knowledge, applications or understanding at the forefront of the discipline;

– a detailed understanding of applicable techniques for research and advanced academic enquiry.

Habilitation (lat. habilis – *fit, proper, skilful)* is the highest academic qualification a scholar can achieve by his or her own pursuit in several European and Asian countries. Earned after obtaining a research Doctorate, such as a PhD, habilitation requires the candidate to write a professorial thesis/dissertation (often known as a Habilitation thesis/dissertation) based upon independent scholarship,

reviewed by and defended before an academic committee in a process similar to that for the doctoral dissertation. However, the level of scholarship has to be considerably higher than that required for a research doctoral (PhD) dissertation in terms of quality and quantity, and a Habilitation dissertation must be accomplished independently, in contrast with a PhD dissertation typically directed or guided by a faculty supervisor.



Habilitation qualification (Habil. Dr.) exists in France, Switzerland, Germany, Austria, Denmark, Bulgaria, Poland, Portugal, Sweden, Finland, the Czech Republic, Slovakia, Hungary, Slovenia, Armenia, Azerbaijan, Latvia, Lithuania, Moldova, Kyrgyzstan, Kazakhstan, Uzbekistan, Ukraine, Belarus, and Russia (Doktor nauk). Those who have achieved habilitation can denote the fact by placing the abbreviation *Dr hab.* or *Dr habil.* before their names.

Many CIS countries, including Russian Federation, have a two-stage research degree obtaining path, generally similar to the doctorate system in Europe. The first stage is named Kandidat nauk (literal translation means *Candidate of sciences).*

According to par. 262 International Standard Classification of Education (ISCED) UNESCO 2011, for purposes of international educational statistics Candidate of Sciences is equivalent to Doctor of Philosophy (PhD) degree as awarded in many English-speaking countries. It allows its holders to reach the level of the Associate/Assistant Professor (Docent). The Candidate of Sciences degree requires at least (and typically more than) three, four or five years of postgraduate research which is finished by the defense of a dissertation or a thesis. Additionally, a seeker of the degree has to pass three examinations (a so-called Candidate minimum): in their special field, in a foreign language, and in the history and philosophy of science. After additional certification by the corresponding experts, the Candidate degree may be recognized internationally as an equivalent of a PhD. The second stage is Doktor nauk (Doctor of Sciences). It requires many years of research experience and writing a second dissertation. The degrees of a Candidate and Doctor of Sciences are only awarded by the special governmental agency (Higher Attestation Commission). A university or a scientific institute where the thesis was defended can only recommend awarding a seeker the sought degree.

Гарагуля, С. И. Английский язык для аспирантов и соискателей учёной степени / С. И. Гарагуля. – М. : Гуманитар. изд. центр ВЛАДОС, 2015. – 327 с.

II. Read the text and choose an appropriate answer to the following questions.

1. What does postgraduate education involve?

a) Getting Bachelor's degree.
b) Getting degrees for which Bachelor's degree is necessary.
c) Getting Habilitation qualification.

2. Does postgraduate education vary in different countries?

a) Yes, every country has its own system of postgraduate education.
b) No, it is similar all over the world.
c) It varies in different countries, and in different institutions within countries.

3. Do postgraduate programmes require any examinations?

a) It requires only getting a full Bachelor's degree.
b) One or several exams to prove the capabilities of researchers.
c) It requires motivation and willingness to conduct scientific research.

4. What are the criteria for award of a Doctorate degree?

a) Submission of an original research in the form of a thesis or dissertation.
b) Only several publications in cited resources on the research topic.
c) Availability of a monograph.

5. What is the structure of postgraduate education in Russia and other CIS countries?

a) Three-stage structure: Bachelor's degree, Master's degree, PhD degree.
b) Two-stage structure: Kandidat nauk (= PhD) and Doktor nauk.
c) Four-stage structure: Bachelor's degree, Master's degree, Kandidat nauk (= PhD) and Doktor nauk.

6. What degree is the Russian/Belarusian postgraduate degree of *kandidat nauk* equivalent to as awarded in many countries?

a) Master of Sciences.
b) Doctor of Philosophy.
c) Doctor habilitatus.

III. Study the statements and mark them as true or false according to the content of the text.

1. Master's degree programs don't involve the research performance followed by a further defense.

2. The degree of an academic doctorate is called a PhD (Doctor of Philosophy).

3. In the context of academic degrees, the Doctor of Philosophy (PhD) implies deep knowledge of philosophy that is necessary to conduct scientific research.

4. The first-stage research degree in CIS countries is Candidate of Sciences (PhD).

5. The degrees of a Candidate and Doctor of Sciences are awarded by the university where the research was conducted.

IV. Refer to the text and find the information confirming that:

1. Postgraduate education involves getting degrees for which Bachelor`s degree is necessary.

2. Postgraduate programmes require students to pass several examinations.

3. Getting a Doctorate degree implies an innovative piece of research which hasn't been done before.

4. Habilitation qualification is the highest scientific degree in several countries.

4. Many post-Soviet countries have a two-level research path.

5. PhD degree has a certain equivalent in Belarus/Russia.

V. Complete the following sentences with the information from the text.

1. Master's degree courses generally include _____.

2. The degree of an academic doctorate is titled _____because _____.

3. Examinations are required to test _____.

4. Doctorates are students who _____.

5. The first level research degree in Belarus/Russia is _____.

6. The second or the highest research degree in Belarus/Russia is _____.

VI. Speak on the following themes.

1. The importance of conducting scientific research and taking postgraduate courses.

2. The types of postgraduate degrees and their special features.

3. Habilitation qualification.

4. Two-stage postgraduate research degrees in CIS countries (Belarus/Russia).

VIDEO 1

WHAT IS RESEARCH?

https://www.youtube.com/watch?v=mV0bUQpz468&t=9s

I. Before watching the video study the words that will help you understand the speaker. Match the words to their definitions.

1) tangible	a) a thing that blocks one's way or prevents or hinders progress
2) verify	b) a restless or strong desire to do something
3) loop	c) come together; assemble or accumulate
4) itch	d) perceptible by touch, real
5) gather	e) make determined efforts to deal with (a problem or difficult task)
6) tackle	f) make sure or demonstrate that (something) is true, accurate, or justified
7) obstacle	g) cycle; piston

II. Watch the video "What is research?" and try to remember the procedures/steps to be completed within scientific research.

III. Watch the video again and fill in the gaps in the following sentences.

1. Every good research _____begins with a question that has no known _____.

2. Then, the researcher formulates _____, or educated guesses, that try to answer those questions, and develops experiments to collect _____ and produce results.

3. But the _____ and _____ of the scientific method aren`t limited to the sciences.

4. In order to collect data, the scholar can read texts from that time period and contrast them with the texts from other periods to see if there are sufficient _____ and _____.

5. But even people who don't have college education can contribute to research projects, for instance by _____ in surveys or helping researchers _____ data.

IV. Match the beginnings of the sentences to their endings.

1. The researchers share the same goal: …	a) a cyclical process of posing questions and researching conclusions.
2. Many people associate the idea of research with the scientific method…	b) involves attending college and eventually pursuing an advanced degree, such as a PhD.
3. The final step of the scientific method is…	c) research is for you!
4. One pathway that leads to a career in research…	d) to tackling major obstacles of our generation, from conserving endangered species to monitoring public health crises.
5. Through research, you can contribute…	e) the creation of new knowledge or ideas.
6. As long as you're curious and hard-working,…	f) sharing the results of the research with other scholars so that they can observe, verify, and ask their own questions.

V. Put the stages of scientific research in the right order and comment on them.

1. Finding the answers to the scientifically grounded guesses.
2. Making observations and asking questions.
3. Formulating a conclusion.
4. Formulating a hypothesis.
5. Developing experiments to collect data and producing results.
6. Sharing the results of the research with other scholars.

VI. Explain what research is. Share your ideas with your groupmates.

VII. Name the possible ways to be involved in scientific research? What is your way?

READING 2

I. Read what Alex, a master student, thinks about his graduate course. Compare Alex's course with the graduate academic course you are getting now. Are there any differences or similarities?

MY RESEARCH WORK

Specialists with a diploma of higher education may enter the (post)graduate course and receive a higher scientific degree. In our country to become a specialist with a higher scientific degree, a person should take candidate exams in philosophy, a foreign language and a specialty and defend his/her dissertation. Specialists with higher scientific degrees have good career prospects. These prospects are connected with professional, research and creative activities. These people can realize their research potential to a full extent.

This year I took graduate courses to increase my knowledge in nanoengineering. I passed my entrance examinations well and now I am a first-year Master student. In the course of my graduate studies, I am planning to pass candidate examinations in philosophy, English and the special subject to have an opportunity to continue my research career later.

I am a Master student of the nano- and microelectronics department of the Belarusian State University of Informatics and Radioelectronics. My special subject is the technology of radio, nano- and microelectronic devices. I combine practical work with scientific research.

I am doing research in hybrid circuit technology which is now widely accepted for all types of electronic products. This branch of knowledge has been rapidly developing in the last two decades. The obtained results have already found wide application in most varied spheres of the country's national economy.

I am particularly interested in that part of hybrid circuit technology which includes the production of passive elements of circuits by electrochemical oxidation of metals. I have been working at the problem for two years. I got interested in it when a student. My work is primarily of practical importance. It is based on the theory developed by the collaborators of our department. So I can say that I work in close cooperation with my colleagues.

I work in close contact with my scientific supervisor. He graduated from Moscow State University 15 years ago and was awarded Doctor's degree at the age of 35. The range of his scientific interests is very wide. He is interested in designing, developing and testing engineering devices and systems, mostly electronic circuits. My scientific supervisor has published a great number of scientific papers. He has taken part in different scientific conferences and seminars both in our country and abroad. He is in good relationships with many well-known scientists in different countries.

Nowadays my scientific supervisor combines both theoretical and practical research. Some years ago, he worked abroad, in the universities there, but now he lectures at our university. As a scientific supervisor, he provides me with necessary literature, helps me to organize the empirical research and encourages me to examine the subject of study from a new fresh approach. We often meet at our department and once a month I usually make a report on my study, we discuss some problems, he informs me about the conferences and seminars that are to take place and advises me to take part in them. I think that our collaboration is fruitful and will always be so.

I am rather an experimentator than a theoretician. My research involves mathematical and statistical analysis, simulations and practical measurements using expensive equipment which is only available in very few universities. The methods used in my work are: anodizing in a galvanostatic regime, oxidation in a cathode regime and some others. The obtained data enabled me to define more precisely the theoretical model of anodic oxide films growth.

I have not yet completed the experimental part of my thesis, but I am through with the theoretical part. I have published 10 scientific papers so far, some of which were written when I was a student. Two of them were published in the journals of Japan and Austria. I take part in various scientific conferences where I make reports on my subject. I willingly participate in scientific discussions and debates.

I am planning to finish writing the thesis by the end of the next year and defend it in the scientific council of the Belarusian State University of Informatics and Radioelectronics. I hope to get the scientific degree of a Candidate of technical sciences.

II. Using the information from the text above, answer the following questions about yourself.

1. What graduate course are you taking now?
2. Why did you decide to take it?

3. What is the theme of your Master's thesis?
4. Have you conducted any experiments?
5. Do you have any publications?
6. Will you manage to complete your Master's thesis on time?
7. Are you planning to take postgraduate courses and get a PhD degree?

III. Answer questions 1–4 below and discuss your answers with your partner.

1. How long Is you research of practical or theoretical importance?
2. have you been working at the problem?
3. What does you research include?
4. How many scientific papers have you published?

IV. Name the special subject of your research and explain why you have chosen this particular branch of study.

V. In pairs, discuss the experimental part of your research and the results obtained. Name the challenges Master students can face.

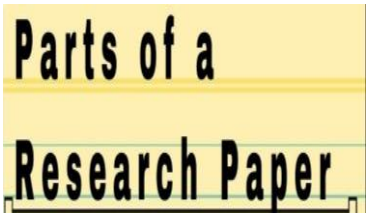
VI. Speak about your scientific supervisor and his/her role.

VII. Express your opinion on career prospects of specialists with a higher scientific degree.

VIDEO 2

IMRD: THE PARTS OF A RESEARCH PAPER

https://www.youtube.com/watch?v=aO6ipI-d2fw



I. Before watching the video "IMRD: The Parts Of A Research Paper" answer the following questions.

1. Have you already begun to write your Master's thesis?
2. What are the main parts of a research paper?
3. Have you already discussed the structure of your research paper with your scientific supervisor?
4. Are there any rules how to write a successful dissertation?

II. IMRD is an abbreviation that refers to the structure of a research paper. Do you know what it stands for? Give your ideas.

I _____
M _____
R _____
D _____

III. Watch the video and see if you are right. Compare your guesses to the information from the video.

IV. Watch the video again and organize the basic parts of a research paper in an appropriate order as it was given in the video. Explain the aim of each part and what information it should contain.

introduction	abstract	results	references
discussion section	title page	methods and materials	

V. What questions can be asked in each of the section of IMRD model? Complete the questions.

Introduction → Why _____?
Methods and materials → How _____?
Results → What _____?
Discussion → What _____?

VI. Give the objectives of each section of IMRD structure. Explain your answer.

READING 3

I. Read the following pieces of advice and choose the best suitable title from the list to each of them. There are two extra titles you don't need.

- Looking for High-quality Research Assistance
- Think Positive and Be Motivated
- Getting to the Thesis
- The Daily Grind

- Writing a Thesis Proposal
- There is Always Place for Improvement
- Stay Open: Present and Discuss your Ideas
- Make the Right Decision

1. _____

Finding the right scientific supervisor can help you immeasurably in successfully completing a thesis. You should ideally have selected the schools you applied to by identifying faculty members you'd like to work with. If not, start looking around as early as possible. Of course, the ideal scientific supervisor will be in the area you're interested in working in, and will actively be doing high-quality research and be involved in and respected by the research community.

2. _____

Postgraduate students often think that the thesis happens in two distinct phases: doing the research, and writing the dissertation. This may be the case for some students, but more often, these phases overlap and interact with one another. Sometimes it's difficult to formalize an idea well enough to test and prove it until you've written it up; the results of your tests often require you to make changes that mean that you have to go back and rewrite parts of the thesis; and the process of developing and testing your ideas is almost never complete (there's always more that you could do) so that many postgraduate students end up "doing research" right up until the day or two before the thesis is turned in.

3. _____

At times, particularly in the "middle years", it can be very hard to maintain a positive attitude and stay interested. Many postgraduate students suffer from insecurity, anxiety, and even boredom. First of all, realize that these are normal feelings. Try to find a sympathetic ear – another postgraduate student, your advisor, or a friend outside of university. Next, try to identify why you're having trouble and identify concrete steps that you can take to improve the situation. To stay focused and motivated, it often helps to have organized activities to force you to manage your time and to do something every day. Setting up regular meetings with your advisor, attending seminars, or even extracurricular activities such as sports or music can help you to maintain a regular schedule.

4. _____

To be successful at research, it is essential that you learn to cope with criticism, and even that you actively seek it out. Learn to listen to valid, constructive criticism and to ignore destructive, pointless criticism (after finding any pearls of wisdom that may be buried in it). In order to get feedback, you have to present your ideas. Write up what you're working on, even if you're not ready to write a full conference or journal paper, and show it to people. Give presentations at seminar series at your university, at conferences, and at other universities and research labs when you get the chance. Your advisor should help you find appropriate forums to present your work and ideas. Many fields have informal workshops that are ideal for presenting work in progress.

5. _____

Being a good researcher involves more than "merely" coming up with brilliant ideas and implementing them. Most researchers spend the majority of their time reading papers, discussing ideas with colleagues, writing and revising papers, staring blankly into space – and, of course, having brilliant ideas and implementing them. Keeping a journal of your research activities and ideas is very useful. Write down speculations, interesting problems, possible solutions, random ideas, references to look up, notes on papers you've read, outlines of papers to write, and interesting quotes. Read back through it periodically. You'll notice that the bits of random thoughts start to come together and form a pattern, often turning into a research project or even a thesis topic. I was surprised, looking back through my journal as I was finishing up my thesis, how early and often similar ideas had cropped up in my thinking, and how they gradually evolved into a dissertation.

6. _____

Doing a master's project is often a good idea and if you want to do your PhD dissertation on, choosing a master's project that will lead into the dissertation is wise: you will get a head start on the PhD, or may decide that you're not interested in pursuing the topic after all. A good source of ideas for master's projects (and sometimes for dissertation topics) is the future work section of papers you're interested in. Generally speaking, a good PhD thesis topic is interesting to you, to your advisor, and to the research community. If you pick a topic that you're not truly interested in simply because it's your advisor's pet area, it will be difficult to stay

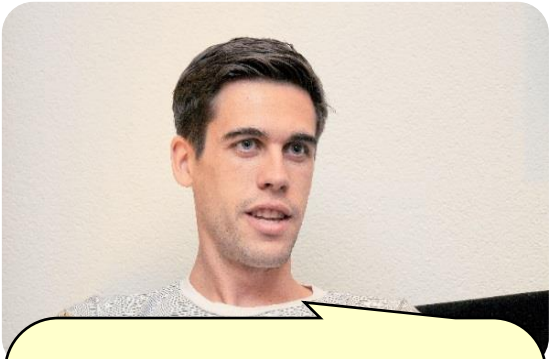
focused and motivated – and you may be left hanging if your advisor moves on to a different research area before you finish.

II. Do you agree or disagree with the pieces of advice listed above? Use the following phrases to express your opinion.

- I really think / believe so ...
- I hold the same opinion.
- I have no objection whatsoever.
- That's (so / completely / absolutely / undeniably) true.
- That's a really good point.
- I see things differently.
- I tend to disagree with that idea.
- I agree up to a point. However ...
- The idea is worth considering, but ...
- That might be acceptable if ...
- I'm absolutely against the proposal.

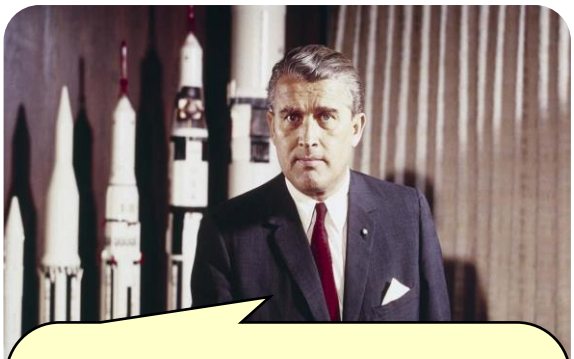
FOLLOW UP

I. Work in small groups. Discuss the following quotes and comment on them. Which of them do you agree or disagree with? Give your reasons.



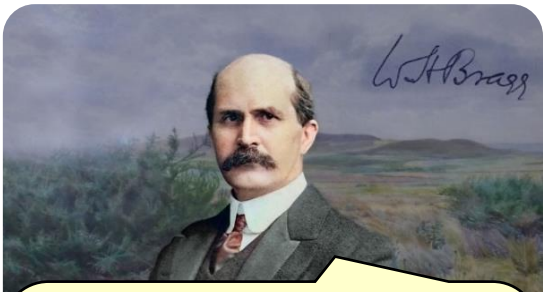
"Writing the perfect paper is a lot like a military operation. It takes discipline, foresight, research, strategy, and, if done right, ends in total victory".

Ryan Holiday



"Research is what I'm doing when I don't know what I'm doing".

Wernher von Braun



"The most important thing in science is not so much to obtain new facts as to discover new ways of thinking them".

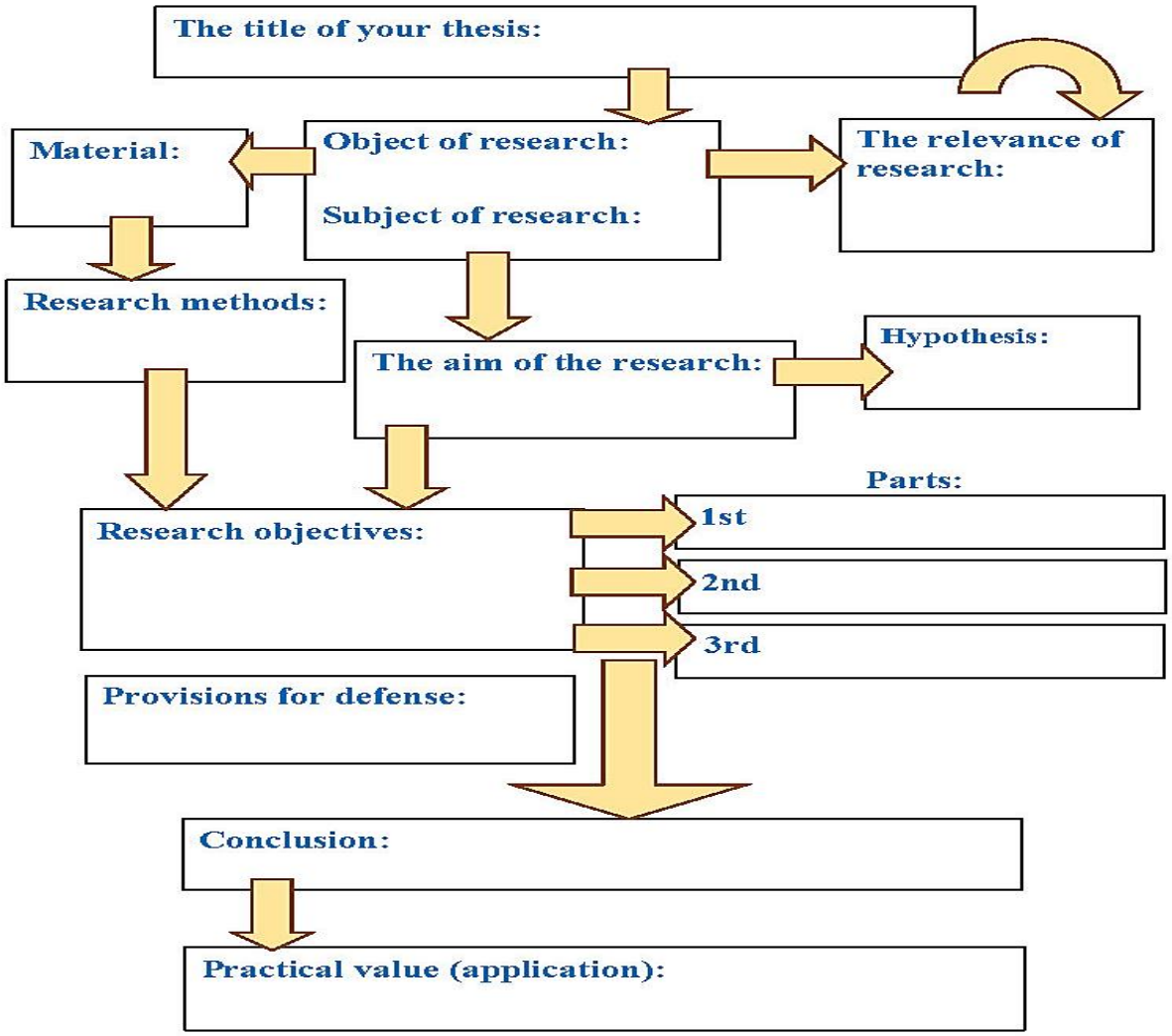
Sir William Bragg

"'Research' means 'to search again'. Why not? Sometimes, a new interpretation emerges that is of vast importance".

Isaac Asimov

ROJECT

I. Follow up the structural scheme of scientific research; describe the main points of scientific research.



MODULE 4
INTERNATIONAL SCIENTIFIC CONFERENCE

LEAD-IN

I. Work in groups. One question that may arise in the minds of scholars, students, and professors who want to submit papers for different scientific events, including a conference, congress, seminar, workshop, symposium, is how these events differ from each other.

II. Look at the photos, identify the five scientific events, try to give their definitions and describe each scientific event.

III. Work in pairs. Read the definitions of different types of scientific events that you might want to attend. Each has its own benefits and drawbacks, and generally they have a different slant. Comment on these definitions and check if your ideas about the scientific events are correct.

Academic conferences are an important way for researchers and scientists to present and discuss their research to the scientific community and receive feedback. Scientific conferences offer the chance to network and meet new collaborators or co-authors, learn about the latest research developments, and understand the bigger picture of your field.

Academic conferences, also called **congresses,** are the largest and most traditional type of academic events with audiences that can range anywhere from a hundred participants to a few thousands. They are usually associated with a university or research organization and follow a standard format.

A symposium is a meeting or small scale conference in an academic setting where participants are experts in their fields. The experts present or deliver their opinions or viewpoints on a chosen topic for discussion. A symposium is particularly good for student speakers as it allows them to practice and get feedback on their own work.

A seminar is a type of conference or other meeting typically designed for training. Departments often host regular seminars of student speakers or invited guests. A seminars is a short meeting, usually organised by an academic institution or research organisation. There are typically no more than 10-20 attendees, who are often students led by the same professor or department. Seminars take place as an opportunity for a group to review and learn about a specific topic, taught by an expert in the field.

An academic workshop is an action-oriented meeting among researchers with the goal of completing a specific task. Workshop organisers often plan their events with the goal of creating an in-depth learning experience in a concentrated period of time. Workshop attendees participate in order to learn a specific, practical skill. Many conferences include workshops as one of their session types. There are usually only a small number of attendees, which is essential for the successful execution of the hands-on learning expected from a workshop.

IV. Which of these scientific events did you attend? Which ones would you like to attend? Why?

VOCABULARY AND SPEAKING

I. Work in pairs. Do you know what a call for papers is? Discuss it with your partner.

II. Read the definition of a call for papers and check if you are right.

A call for papers is a communication sent by a conference organiser to the academic community representing the event field of study. This communication is usually an email, and its purpose is to encourage researchers to submit their work for review as an application to present at an upcoming conference.

III. Work in groups. Look at this call for papers and say which items are normally included in a call for papers. Do you know their meanings? Comment on each of them explaining the meaning of each word / word combination. Compare your answers with those of other colleagues.

FUZZ-IEEE 2023

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CALL FOR PAPERS

IMPORTANT DATES

November 15, 2022
Proposal of Tutorial/Special Session

December 1,2022
Tutorial/Special Sessions Notification

March 1,2023
Paper Submission

April 15,2023
Notification of Acceptance

June 1,2023
Camera-ready Paper Submission

July 1,2023
Early Registration

August 13,2023
Tutorials

August 13-17, 2023
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The Annual IEEE International Conference on Fuzzy Systems, well known as FUZZ-IEEE, is one of the premier international conferences in the field of fuzzy sets and systems. FUZZ-IEEE 2023 will be held in the Songdo International City which is a Free Economic Zone located approximately 15 minutes away by car from the Incheon International Airport and an hour from Seoul, making it pleasant and convenient venue for business as well as for touring the Seoul metropolitan area. It is rising as one of the hottest places in Korea in terms of tourism, culture, leisure, MICE (Meeting, Incentive trip, Convention, Exhibition & Event), and shopping. This complex cultural space provides sharing of happiness to all visitors.

FUZZ-IEEE 2023 will represent a unique meeting point for scientists and engineers, both from academia and industry, to interact and discuss the latest enhancements and innovations in the field. The topics of the conference will cover all the aspects of theory and applications of fuzzy logic and its hybridizations with other artificial and computational intelligence techniques. In particular, FUZZ-IEEE 2023 topics include, but are not limited to:

» Adaptive, hierarchical, evolutionary, neural and nature-inspired systems
» Hybrid systems of computational intelligence techniques
» Fuzzy systems and internet applications
» Kinsei, human-machine interface, brain-machine interface
» Fuzzy image, speech and signal processing, vision and multimedia
» Industrial, financial, and medical applications
» Fuzzy control and robotics, sensors, fuzzy hardware, fuzzy architectures
» Fuzzy optimization and design, decision analysis and support
» Fuzzy systems design, modeling identification, fault detection
» Fuzzy data analysis - clustering and classifiers, pattern recognition, bio-informatics
» Fuzzy information processing – information extraction and retrieval, fusion, text mining
» Knowledge discovery, learning, reasoning, agents, knowledge representation
» Type fuzzy sets, computing with words, granular computing, rough sets, fuzzy human computer interaction
» Fuzzy set theory, fuzzy measures, fuzzy integrals
» Rough sets, grey systems
» Optimization, decision analysis, decision making, multi-criteria decision making
» Software and hardware applications

In addition to regular presentations, the conference will include a full program of tutorials and panel sessions together with plenary talks from several well-known leaders in the field. Submissions for regular presentations are invited from researchers, practitioners, and students worldwide. Proposals for Special Sessions are highly welcomed. Each proposal should give a description of the session topic and the names of the contributors plus their paper titles. Papers submitted to special sessions will go through the normal reviewing process. Proposals for Tutorials are also highly welcomed. An outline for each tutorial should be submitted and any pre-requisites for the intended audience.
Further details of the submission process will be posted on the conference website in the near future.

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IV. Match words (1–10) to words (a–j) from this call for papers to form conference-related collocations.

1) call for	a) audience
2) organising	b) talks
3) reviewing	c) presentations
4) paper	d) papers
5) conference	e) committee
6) regular	f) points
7) intended	g) sessions
8) meeting	h) topics
9) plenary	i) submission
10) special / panel	j) process

V. Work in pairs. Compose the situations using the words and word combinations from the call for papers.

VI. Work in pairs. Discuss how far you agree with these statements.

1. A lot of features make this call for papers attractive to the target audience.
2. Young researchers and prominent scientists might be interested in attending IEEE International Conference on Fuzzy Systems.
3. You would like to contribute to this conference. Why / Why not?

VII. Match the words and word-combinations which are similar in meaning.

1) attendee	a) to estimate
2) to convene a conference	b) modern
3) venue	c) dare
4) to evaluate	d) to call a conference
5) to aim	e) participant

6) state-of-the-art	f) to target
7) challenge	g) location
8) benchmarking	h) endeavour
9) foray	i) promising
10) budding	j) testing

VIII*. *Choose the best word to complete each statement. Check your answers with your partner.

1. The conference is targeted to foster _____ between different research fields.

a) participation b) attendance c) cross-pollination

2. The aim of the conference is _____ leading academic scientists, scholars, recognized experts with different backgrounds from both academia and industry.

a) to include b) to convene c) to provide

3. Prospective authors are invited _____ papers for consideration in the conference.

a) to show b) to submit c) to write

4. All submitted conference papers will be _____ based on originality, technical and/or research depth and accuracy.

a) peer-reviewed b) presented c) studied

5. Only accepted papers will be presented in the conference and published in the conference _____ .

a) minutes b) resolutions c) proceedings

6. The conference solicits _____ of abstracts, papers, e-posters, video and graphical abstracts.

a) consideration b) contributions c) evaluations

7. Numerous social and cultural events will also take place at the conference _____ networking among the participants in a friendly manner.

a) to target b) to exchange c) to foster

8. Robotics competitions serve as an excellent platform for _____ the independent efforts of teams across the world in common challenge scenarios.
a) benchmarking b) offering c) researching

9. The spectacle and excitement provided by competitions also help draw the interest of new and _____ researchers.
a) young b) prospective c) budding

READING AND SPEAKING

READING 1

I. Work in pairs. Read the title of the article to know what it deals with. Make the list of issues that might be mentioned in the article. Who might be interested in attending this conference?

II. Read the article to check if you are right.

THE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION (ICRA) 2023

The largest and most prestigious event of the International Conference on Robotics and Automation (ICRA) 2023 is the IEEE Robotics and Automation Society's flagship conference and the premier international forum for robotics researchers to present and discuss their work.

The conference is targeted at both the world's top academics working on innovative technology and industry representatives and experts to foster cross-pollination between different research fields, and to expose and discuss innovative tools, frameworks, theories, methodologies, and applications.

The aim of the conference is to provide the forum for laying the foundations of a new principled approach to Science and Engineering, to attract participants with different backgrounds, to convene leading academic scientists, scholars, recognized experts with different backgrounds from both academia and industry to present their ongoing research activities and the latest research results. The meeting aims to

exchange and share attendees' application experiences face to face, to establish business or research relations and to find global partners for future collaboration.

Prospective authors are invited to submit papers for consideration in the conference. All submitted conference papers will be peer-reviewed and evaluated based on originality, technical and/or research depth, accuracy, and relevance to conference themes and topics by at least three independent reviewers. Only accepted papers will be presented in the conference and published in the conference proceedings. The conference solicits contributions of abstracts, papers, e-posters, video and graphical abstracts for oral and poster presentations that address themes and topics of the conference, including figures, tables and references of novel research materials.

ICRA 2023 will include plenary and keynote sessions, contributed oral and poster sessions, special sessions, round tables and panel sessions, workshops and tutorial sessions. All sessions will take place at the ExCeL Centre.

Numerous social and cultural events such as forums, exhibitions from our corporate partners, and robot competitions will also take place at the conference to foster networking among the participants in a friendly manner.

The competitions provide a unique venue for state-of-the-art technical demonstrations from research labs throughout academia and industry. Conference attendees will have the opportunity to experience live demonstrations of robotic technology via these competitions. Robotics competitions serve as an excellent platform for benchmarking the independent efforts of teams across the world in common challenge scenarios, promote discussions and exchange of knowledge, enrich research by offering new challenges, and motivate researchers and practitioners to push boundaries. The spectacle and excitement provided by competitions also help draw the interest of new and budding researchers. This year, IEEE ICRA 2023 will host 13 exciting robotics competitions in areas including humanoid robots, mobile robots, legged robots, robot manipulation and grasping, aerial vehicles, and forays into important emerging topics such as robot ethics. These competitions cover a significant breadth and range of expertise offering opportunities for most robotics researchers to participate. There will be plentiful opportunities to network with the brightest minds in academia and industry from this field. In addition, several events targeting students and young professionals will also be featured at IEEE ICIP 2023.

https://www.icra2023.org

III. Match the words and word combinations below with the correct definitions.

1. Plenary sessions	a) typically involve multiple presenters giving talks on separate papers that share common themes or topics. A chair and discussant are usually assigned to monitor time and comment on papers. Each presenter has 10-15 minutes to present and discuss the key points of his or her work. Each presentation is then usually followed by a questions-and-answers session with the attendees.
2. Keynote sessions	b) formal, thematic, 45-90-minute multi-presenter session comprising a well-integrated set of research, practice, theory. Usually includes a chairperson and three to five presenters discussing and/or debating a specific topic.
3. Oral sessions	c) are learning sessions that include both lecture-style and hands-on sessions.
4. Panel sessions	d) are usually a major draw for conference delegates and also something you should not miss if you are attending an academic event. It is usually about setting the central theme of the conference, where the keynote speaker is a well-respected researcher.
5. Poster sessions	e) are sessions which all delegates are encouraged to attend and where the conference opens and closes, where major statements are made and where all decisions by the conference are taken.
6. Workshops	f) 45-minute oral presentations with small-group discussion; attendees are seated around the table. Roundtable presentations typically include 15 minutes of presentation, followed by 30 minutes of discussion and feedback. Ideal format for networking and in-depth discussion on a particular topic.
7. Tutorials	g) involve creating a physical (or digital) poster that's displayed on poster board in the halls at an academic

	conference. This is an additional opportunity to network with others in your field and learn about research projects. During these sessions the researchers will be present with their poster to explain their work and answer any questions.
8. Round tables	h) are usually interactive training where presenters can lead participants through different interactive activities, including discussions, hands-on-activities, simulations, demonstrations, exploration and application of models.

IV. Work in small groups. Discuss the questions below and report your answers to your colleagues.

1. How are the presentation formats in these sessions below similar? How do they differ?

2. Participants have to accept certain roles in these formats. What are they?

Which roles are similar? Which roles do you think are the most challenging? Why?

V. Speak on the ICRA 2023. Sum up the information given in the article and use the key points below as a guide to your talk. The following phrases given below will help you present the content of the article.

1. An important international event
2. The aims and the participants of the conference
3. Paper submission
4. A range of sessions during the conference
5. Social and cultural events
6. Competitions.

- The article reports on… .
- The purpose of the conference is… .
- It is claimed that… .
- The article gives a detailed description of… .
- The article points out that… .
- A careful account is given to… .
- Much attention is given to… .
- The author describes… .

VIDEO 1

ICRA 2023 – London, UK

https://www.youtube.com/watch?v=tOosDxeMCfo

I. You are going to watch and listen to a presenter of the conference, talking about "ICRA 2023 – London, UK". Match the words and word combinations below with the correct definitions.

1) to bring together	a) to completely accept something such as a new belief, idea, or way of life
2) under the auspices of someone/something	b) done or occurring at a favourable time, well timed
3) to deliver	c) to cause (people) to join or meet: to cause (people) to come together
4) to embrace	d) to provide (something promised or expected)
5) spotlight	e) the view behind something
6) opportune	f) energetic, exciting, and full of enthusiasm
7) to blossom	g) to develop and become more successful
8) vibrant	h) with the help, support, or protection of someone or something, especially an organisation
9) backdrop	i) public notice or attention
10) landmark	j) a prominent object in or feature of a particular landscape.

II. Watch the video and match the words which are similar in meaning.

1) representative	a) new, unexampled
2) formidable	b) propagation
3) unprecedented	c) evident

4) state-of-the-art	d) impressive
5) dissemination	e) inheritance
6) obvious	f) delegate
7) heritage	g) difference
8) distinction	h) advanced
9) cutting-edge	i) highly advanced, innovative

III. While watching the video, complete the sentences according to the text.

1. ICRA will once bring together the world's top roboticists and leading industry _____.

a) employers c) employees
b) representatives d) engineers

2. The conference will create an unparalleled platform for idea-sharing networking and the dissemination of the _____ research.

a) cutting edge c) state-of-the-art
b) novel d) contemporary

3. We look forward to shining _____ on important high-impact innovations in robotics and automation.

a) spotlight c) interest
b) attention d) center of attraction

4. The timing of ICRA's first appearance in the UK could not be more _____ .

a) suitable c) favourable
b) opportune d) timely

5. In recent years, robotics research in the UK _____ .

a) has bloomed c) has prospered
b) has flourished d) has blossomed

6. We are proud to become a vibrant hub of research _____ – in a wide range of robotics and autonomous systems.

a) significance c) renown
b) distinction d) note

7. London provides an amazing _____ to any international event with its iconic landmarks, formidable history and diverse cosmopolitan culture.

a) surroundings c) backdrop
b) scene d) background

8. But equally important is our rich academic _____ with an unprecedented number of world class universities and institutions now conducting cutting-edge research in robotics, AI and automation.

a) heritage c) patrimony
b) inheritance d) legacy

9. We can guarantee you an _____ experience both professionally and personally.

a) memorable c) impressive
b) exceptional d) unforgettable

IV. Work in pairs. Sum up the information given in the video and name the main aims of ICRA.

V. Answer the following questions.

1. What are the causes for ICRA's first appearances in the UK?
2. What characteristics of London that provide an amazing backdrop to any international event are given.

VI. Speak about the benefits of the venue.

READING 2

I. You are going to read the article which offers a 3-phase framework describing strategies for optimising academic conference experience.

1. Before the meeting (pre-conference preparation).
2. At the meeting (active engagement during the meeting).
3. After the meeting (post-meeting action steps).

II. Work in groups. Try to predict and discuss these strategies for optimising academic conference experience.

III. Read the article and check if your predictions are correct.

MAXIMISING THE ACADEMIC CONFERENCE EXPERIENCE: TIPS FOR YOUR CAREER TOOLKIT

Why Go to an Academic Meeting?

Career success can be launched via academic conferences. Effective conference participation can lead to achievement of professional objectives, such as acquiring new knowledge or skills, finding external **mentorship,** meeting topic experts, disseminating data, developing cross-institutional collaborations, and establishing a national reputation. However, for trainees and junior faculty struggling to start a practice, define an academic niche, and balance myriad responsibilities, attending an academic meeting may seem unnecessary and even **untenable.**

I. Preparing for the Meeting: Before You Go

1 _____. To optimise the limited time and funds available to attend many diverse conferences, reflect on what you are most curious and enthusiastic about. Discuss with colleagues and local mentors which meetings they find most valuable. In general, local meetings provide the advantage of lower cost and the potential for developing more geographically proximate mentorship. Regional and national participation can foster broader connections and recognition that may be useful in the promotion process.

2 _____. Submission categories may be as varied as scientific abstracts, quality improvement projects, educational innovations, and workshops. Preparing submissions moves your **scholarship** forward. Presenting your work beyond your institution provides an opportunity to obtain feedback and to connect with potential collaborators or external mentors in the field.

3 _____. While some registration fees may be **waived** for an accepted submission, grant support and continuing education funds may not cover the full cost of meeting registration, lodging, and transportation. Potential funding resources include foundations, organisation travel grants, group discounts, or **scholarships** and discounts for certain membership categories. Virtual conferences may be less expensive and offer free content.

4 _____. Identify whom you want to meet (potential mentor or collaborator) and email these individuals in advance. Explain briefly why you are interested in meeting and offer to meet at their convenience or provide a few suggested times. Scan 1 or 2 papers or abstracts **pertinent** to the sessions that you plan to attend and

by the authors whom you plan to meet. This preparatory reading can help fine-tune your meeting plans and provide content to enhance conversation when meeting a new colleague. Find out if anyone you already know will be attending the same conference. Ask a senior colleague if they would be willing to sponsor or proactively advocate for your involvement in the meeting or organisation. However, going alone, without colleagues, affords the opportunity to expand your network and become your institution's expert in a unique area.

5 _____. Offering business cards can serve as an efficient way to build academic connections. Printed copies of your abstracts and QR codes on a poster that link to the abstract with your contact information are often well received. Identify potential networking opportunities during the conference such as "meet the expert" events and Twitter meetups. For online conferences, set up a time to meet with colleagues via Zoom, Google Meet, or other methods during or at the end of the day as you would have done in person (Table).

6 _____. Use the program (print, online, or app) to plan out which sessions you will attend. Register in advance for interest groups, special trainee sessions, **alumni** receptions, or committee meetings in your field of interest as well as pre- and post-meeting events. For virtual conferences, it is important to block out time and cancel conflicting responsibilities as if you were travelling. Too many competing demands can cause distractions and contribute to missing much of the meeting. Create an out-of-office message on your email.

II. At the Meeting

1 _____. Ask questions during or after the session. Manage content overload by taking notes on ideas that interest you, papers you want to read, people to contact, or other actionable items requiring follow-up. The same strategies apply to virtual settings with the addition of online interactive tools such as a chat box, breakout rooms, and the ability to raise your virtual hand to interact.

2 _____. Spend quality time meeting in-person with attendees—these may be future collaborators, letter writers, or mentors. While numerous articles and books have been written to aid those of us who find networking a challenge, Casciaro and colleagues offer the following suggestions to facilitate effective networking .

- demonstrate intellectual curiosity – visit a panellist after the session and ask a question or offer a comment;

- identify shared interests – ask about some aspect of the data presented that relates to your work;

- focus on what you can bring to a relationship – offer an introduction to someone at your institution with similar interests as your new colleague;

- recognize the potential for collective benefit – propose working together on a project.

These methods can ease discomfort associated with networking. Strategies will differ slightly for virtual meetings; however, it is equally important to proactively network.

3 _____. When you meet someone (at your poster, networking session, or other) whose interest overlaps with yours in any way, have planned a 3-line, 30- to 60-second summary to describe your institutional role, focus of your work, and if relevant, a key point about your poster or session. If they inquire further, then you can explain nuances of your methods, clinical implications, and how your work relates to other findings in the field. Ask this new colleague about their own work and practise active listening.

4 _____. Attending academic conferences provides an excellent opportunity to explore organisations' mentoring opportunities. Different programs have been shown to be effective in supporting career advancement, fostering mentoring relationships, and increasing local and national participation in leadership roles.

5 _____. Enjoy meeting new people and discovering new ideas. Some of the most important networking happens during social events. Bonding over a shared extracurricular interest may facilitate more **congenial**, productive, and even lifelong collaborations and friendships. Of note, many organisations have guidelines when interacting with commercial interests. And remember that strangers are still strangers; thus, consider personal safety.

III. After the Meeting

1 _____. Review your notes and follow through on the action items. If a presentation **sparked** your interest, send a question or specific tailored feedback to the speaker. Start a conversation with the people you met – do you need advice? Do you have a surprising result that you would like to discuss with a colleague? Initiate or continue discussions on project collaborations – research, a future workshop submission, or an educational intervention. If one of the colleagues you met publishes something of interest to you or receives a recognition, email a short note. Demonstrate that you are an engaged academician who is attentive to the field.

2 _____. Offer to lead a session for your division or department on the meeting's highlights or provide a 1-page summary of key lessons learned. This

practice **solidifies** your own understanding and **retention** of the material and opens an opportunity for you to demonstrate scholarship. Consider publicising conference take-home points via social media channels such as Twitter or LinkedIn to demonstrate that you paid attention and to provide additional visibility to speakers.

IV. Conclusion

Academic meetings frequently provide attendees with energising inspiration. Senior mentors and program directors can guide trainees and junior faculty on how an organised approach to academic conference participation can benefit their careers. Certain skills described above may not come naturally for all individuals. However, these strategies – prior preparation, proactive engagement at the conference, post-meeting action steps – can be learned and refined with practice. By incorporating this framework into routine practice, one can make academic meeting experiences meaningful, build networks of colleagues and mentors, **tap** into projects beyond one's own institution, and in turn, foster academic success. And what could be more fun than meeting talented colleagues, hearing about exciting new discoveries, and developing your own career?

https://doi.org/10.4300/JGME-D-21-00943.1

IV. Work in pairs. Read the introductory part of the article "Why Go to an Academic Conference?" and discuss the following questions.

1. What are the aims of academic conferences? Enumerate them.
2. What strategies for optimising the in-person or virtual academic conference experience are described in this article?

V. Work in groups. Read part I "Preparing for the Meeting: Before You Go" of the article and match these headings (a–f) with the numbered paragraphs (1–6). Compare your answers in pairs. Discuss the strategies of preparation for the meeting.

a) create a schedule.
b) plan to network.
c) bring meeting "giveaways".
d) submit scholarly work to enhance your experience.
e) find funds to support your participation.
f) choose your meeting wisely.

VI. Read part II "At the Meeting" and match these headings (a–e) with the numbered paragraphs (1–5). Compare your answers in pairs. Discuss the strategies.

a) sign up for mentoring programs.

b) it's ok to be social – keep it professional.

c) be an active learner.

d) networking is essential to building your academic career.

e) be prepared to give your brief elevator speech.

VII. Read part III "After the Meeting and match these headings (a–b) with the numbered paragraphs" (1–2). Compare your answers in pairs. Discuss the strategies.

a) summarise the meeting highlights and educate colleagues at your home institution.

b) maintain your academic momentum – follow up on those new contacts and ideas!

VIII. Work in groups. Look at this Overview of Key Implementation Strategies During the Three Stages of Attending an Academic Conference, compare it with your answers and choose the most/least important ones. Share your opinion with your partners. What other important strategies could you add to this overview?

Before the meeting	**At the meeting**	**After the meeting**
Choose your meeting wisely	Stay actively engaged throughout the meeting	Summarise meeting highlights
Submit your scholarly work	Now's the time to network (business cards, engage in committees)	Follow up on new contacts and ideas
Plan to network	Be prepared to give your brief elevator speech	Educate your colleagues
Create a schedule	Practice makes your oral presentation better	
Bring meeting "giveaways"	Sign up for available mentoring programs	

IX. Work in pairs. Read the Conclusion and enumerate the benefits of participation in an academic conference. What other benefits of attending academic conferences would you add? What great opportunities do academic conferences provide?

X. Read the article and find out the words in bold which mean the following.

1. The activity of giving a younger or less experienced person help and advice over a period of time, especially as a part of formal programme in a company, university, etc.

2. Impossible to continue because of serious problems, opposition, or criticism.

3. a) an amount of money that is given by a school, an organisation to a student to help pay for the student's education;
b) serious formal study or research of a subject.

4. To cause (something) to start or happen.

5. Friendly and pleasant.

6. The continued use, existence, or possession of something or someone.

7. Relating directly to the subject being considered.

8. To officially say that you will not use or require something that you are allowed to have or that is usually required.

9. Make stronger; reinforce.

10. Men and women who have completed their studies, especially at a college or university.

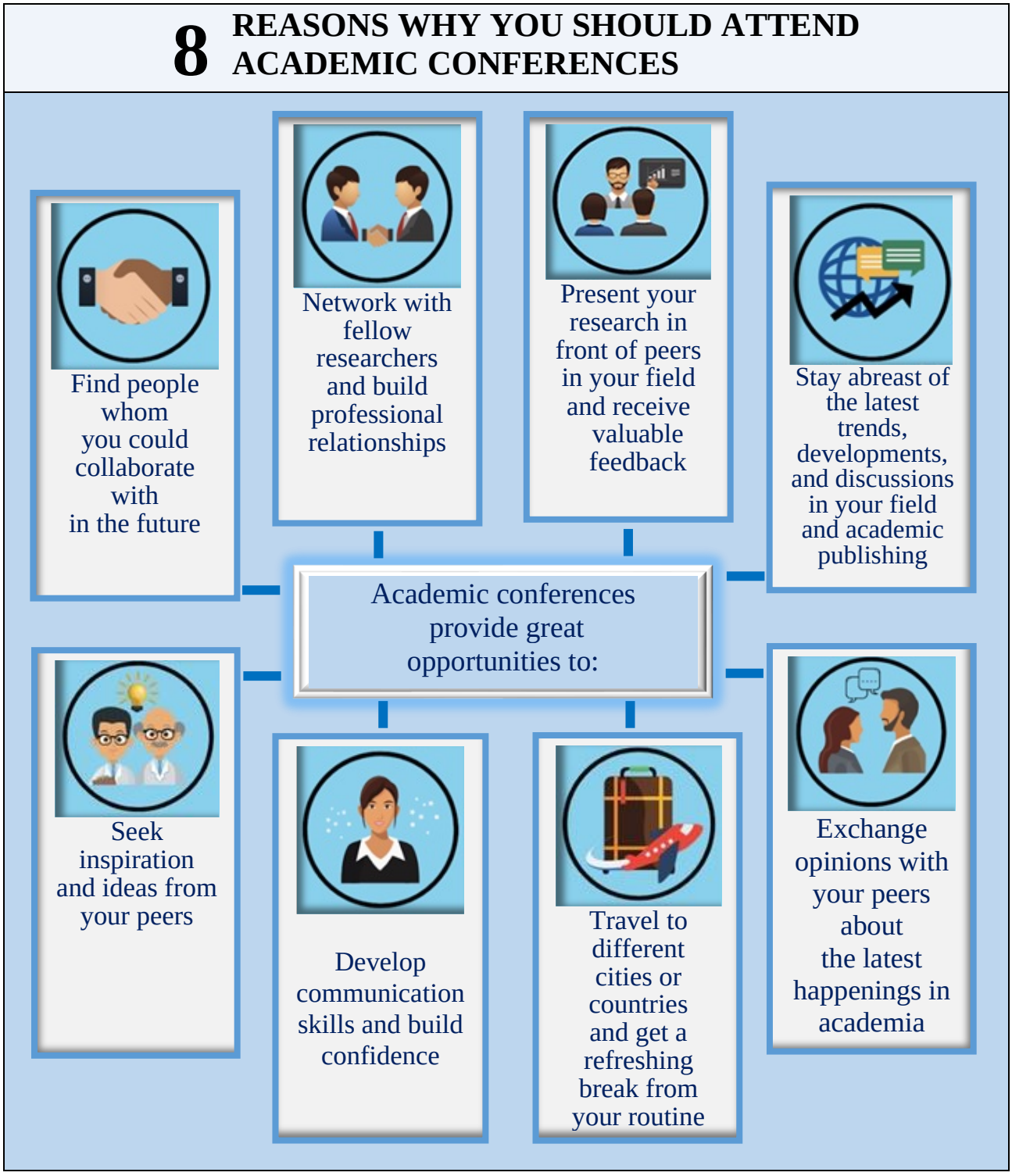
11. To cause (something) to start or happen.

XI. Work in pairs. The word "scholarship" is used in two different meanings in the article. Discuss them.

But there is one more meaning of this word. Do you know it? Read the following sentence and guess it: this is a place of scholarship, where researchers can enjoy each other's company.

Make up situations in which these three meanings of the word "scholarship" are used.

XII. Work in pairs. Why is it necessary to participate in academic conferences? What great opportunities do academic conferences provide? Do you know how to improve your academic conference experience? The following image / table will help you.



XIII. Work in groups. Compose situations. You are participating in an academic conference as an attendee, a presenter. There is a lot you can do before or during the event that will help you maximise its value.

VIDEO 2

HOW TO ACE AN ACADEMIC CONFERENCE

https://youtu.be/vFmbAoBB1zI

I. Try to guess the meaning of the words through their definitions.

1) to ace	a) to complete easily and successfully
2) venture	b) an undertaking involving uncertainty as to the outcome, especially a risky or dangerous one
3) to tap into	c) to gain access to
4) to daunt	d) to make somebody feel slightly afraid or worried about whether you can succeed in doing it
5) to hone	e) to refine or perfect (something) over a period of time
6) to intimidate	f) to make timid; fill with fear
7) to compel	g) to force or oblige (someone) to do something
8) to challenge	h) to invite (someone) to do or to say something that one thinks will be difficult or impossible

II. Watch the first part of the video and fill in the gaps with the words from this video.

1. Attending an academic conference is one of the most rewarding _____ you can undertake during your time as a scholar.
2. Academic conferences allow you to interact with fellow researchers and _____ a huge pool of knowledge.
3. Attending conferences can seem _____ but there is a lot to be gained.

4. You meet and interact with experts in your field and you can _____ your own skills.

5. Having one-to-one conversations with colleagues can be very _____ .

III. Watch the second part of the video about the ways to prepare for attending an academic conference. Choose the correct word from the video.

1. Plan and develop a proper _____.

a) report b) abstract c) presentation

2. Practice _____ it.

a) delivering b) submitting c) evaluating

3. Write an eye-catching abstract that will _____the conference selection team.

a) impress b) affect c) surprise

4. Try writing to authorities in your field and propose a pre-arranged _____ for the conference.

a) round table b) workshop c) panel

5. If you're attending your first academic conference you might feel _____ by all the people who seem to know what they're doing.

a) disappointed b) intimidated c) encouraged

IV. Watch the third part of the video and choose the correct answer to the following questions according to the video.

1. What do most researchers primarily attend scientific conferences for?

a) to get acquainted with other scientists.

b) to network.

c) to visit new countries.

2. Why is it necessary to talk to experts?

a) this might be your only chance to meet these people.

b) to find out necessary information about your research.

c) to invite them to take part in an academic conference in your country.

3. What should you do if you see people having a conversation that you'd like to join?

a) try to express your opinion.

b) just move up to them politely and listen.

c) apologise and get acquainted.

4. What is the best way to insert yourself into this sort of situation?

a) to ask questions because people will feel compelled to answer.

b) to speak loudly to attract experts' attention.

c) to go ahead.

V. Watch the video again, enumerate and discuss with your partner 10 reasons why it is necessary to take the opportunity to attend academic conferences.

READING 3

I. Work in pairs. Research students are often asked to give presentations at academic conferences. If your presentation is not creative, engaging and fresh, it will not matter how significant your content is. Do you agree? Discuss with your partner.

II. Read the article that gives some top tips on how to make sure your presentation stands out from the crowd and that you get the most from the experience.

ACADEMIC PRESENTATIONS

1._____. There are many, here are just a few:

- to get feedback on your research that you can act upon to improve your final thesis or a future published paper. This can be absolutely invaluable in stopping you going off-track or forgetting to include important material.

- to make other academics want to read your finished thesis or a future published paper. Think of it as the trailer to the upcoming movie – it needs to be full of your most interesting material but leave them wanting to know more.

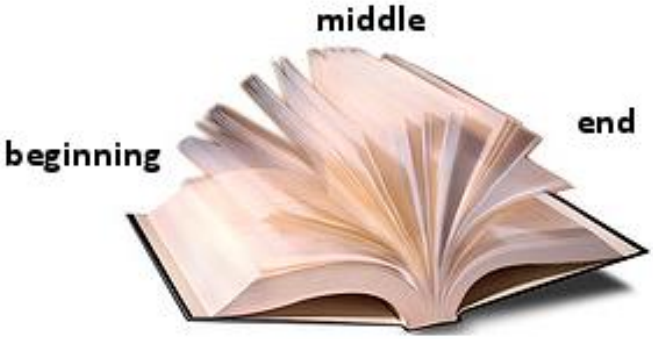
- to make contacts that are relevant to your research area. Never underestimate the importance of networking at any academic conference. You can even ask people working in related research to find you after your presentation.

- to get your name known in relevant academic circles. This is a real chance to showcase your work and gain a reputation within your field. With a good presentation you could get a reputation as a real expert in your field.

2. _____. In a conference presentation you need to choose an aspect of your research that can comfortably be **conveyed** to an audience in an interesting way within the timescale you are given. This is usually only about 20 minutes (with 10 minutes for questions) so resist the **temptation** to cover your entire PhD thesis. A useful simple structure still follows a simple story structure, with a beginning, a middle and an end; it is, however, a little more research focused.

A presentation that has a strong, clear structure is a presentation that is easy to follow. Without structure, a presentation can be confusing to an audience.

Every presentation should flow like a good story. It should involve the audience directly.



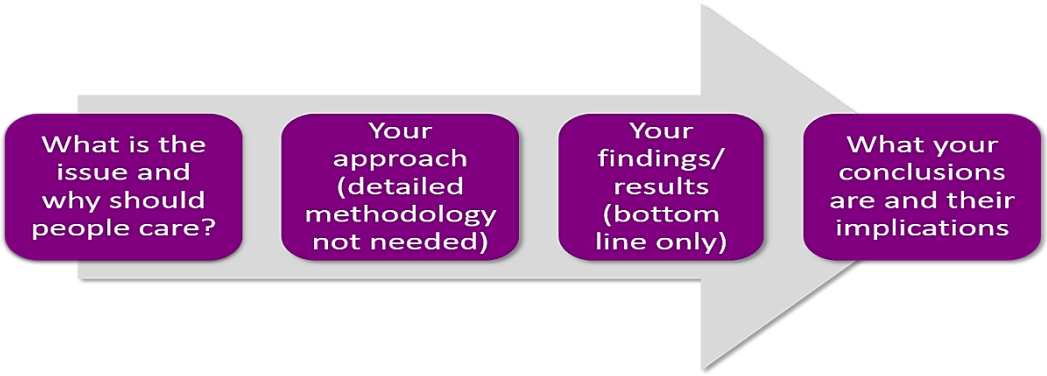
➢ The beginning section is where you **hook** them. Start with the general picture then explain the specific problem and how by listening to your presentation you can solve it for them.

➢ The middle section should contain the main detail of your presentation, and can be organised in a number of ways (two good ones are explained below).

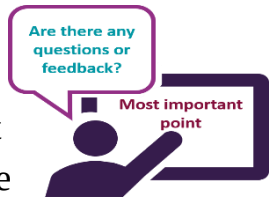
➢ Finally, your end section should summarise the presentation and lead the audience to the next step.

Design your slides so that these sections look distinctive and any key points stand out. Depending on the conference type, you may choose to use one of the structures on the other page. What is most important is that the structure of your

presentation is clear to the audience. You will only be one of many presentations and they can all start **to blur** in the audience's mind if you are not careful and clear.



3._____. It is a temptation in a conference presentation, where you have a lot of information you want to get across, to fill the slides with text. Again, remember your presentation needs to stand out to be remembered so resist this temptation and make sure you use good visual slide design. Using full sentences for your titles and visual content is vital for the quick levels of understanding that a conference environment requires.



4._____. The questions and feedback that you get at the end of a conference presentation is one of the most important reasons for attending. Make the most of this time. End with a slide that contains the most important point that you want the audience to take away and then specifically say "Thank you for your time, are there any questions or feedback?" Do not put another slide up at this point. That way your most important point stays on screen for longer than any other slide. By including a call for feedback at the end, rather than just asking for questions, you are more likely to get useful responses that can move you forward in your work.

5._____. This is the cardinal **sin** of conferences. Some conferences will not let you go over time, and will cut you short (after a few warnings). This is also a problem as you lose your time for questions and feedback which is one of the main reasons for doing the presentation in the first place! Avoid going over time by making sure you practise it often and **trim** the slides if necessary. If you are using PowerPoint there is a tool called Rehearse Timings in the Slide Show menu which times you as you move through the presentation and tells you your overall duration. Just remember NOT to save the timings within the presentation or it will start automatically advancing your slides as you give the presentation which can have **disastrous** results.

https://libguides.hull.ac.uk/present/conferences

III. Work in pairs. Give each part of the article a title.

IV. Read the titles from the article and compare them with yours. Discuss the reasons for any differences.

1.Why give a conference presentation?
2. Basic structure of a conference presentation.
3. Make your presentations visual.
4. Finish with a flourish.
5. Never EVER go over time.

V. Work in pairs. Read part 1, discuss the reasons for giving presentations and compare them with your answers.

VI. "A solid structure is the foundation of a coherent presentation, and shows the relationship between the parts and whole" said Nancy Duarte, an American writer, speaker, and CEO. Read part 2 of the article and confirm Nancy Duarte's saying.

VII. Read part 3 and say why visual content is vital.

VIII. Your conclusion gives the audience their last impression of you and of your content. Read part 4 and say how you should emphasise your most important points.

IX. The title of part 5 is "Never EVER go over time". Do you agree with this statement? Why?

X. Match the words and word combinations below with the correct definitions.

1) to convey	a) to attract someone and keep their interest or loyalty
2) sin	b) extremely bad or unsuccessful
3) to trim	c) to express a thought, feeling, or idea so that it is understood by other people
4) disastrous	d) a cause or occasion of enticement

5) temptation	e) an often serious shortcoming
6) to hook	f) to cut away unnecessary parts from something
7) to blur	g) make less distinct or clear

XI. Look at the words in bold in the text and match them with the following synonyms.

fatal	to cut	allurement	to at tract	evil	to dim	to transmit

XII. Summarise the content of the article using the following phrases.

The paper provides information on _____.
The paper gives a detailed description to _____.
Much attention is given to _____.
It is pointed out that _____.

XIII. Work in groups. Delivering a presentation at a conference is a tremendous opportunity to share your innovative ideas, business or product to a big audience. What steps should be taken to become a confident and compelling speaker? Discuss your experience of giving presentations at academic conferences. Compose situations when it can be exciting or terrifying.

VIDEO 3

GIVING AN ACADEMIC PRESENTATION

https://youtu.be/bgB9bgAFhIE

I. Try to guess the meaning of the words in bold.

1. You cite **evidence** from academic sources.

a) any fact, information or data provided by a research study;
b) an act of asking for information;
c) an attempt to achieve a goal.

2. You need to **convince** your audience.

a) to give support, confidence, or hope to (someone);
b) to recognize the importance or quality of…;
c) to cause (someone) to believe firmly in the truth of something.

3. Many students **skip** this stage.

a) to fail to notice, hear, or understand;

b) to leave one thing or place, especially quickly, in order to go to another;

c) to be unable to think of or recall.

4. Many students skip this stage because of time **constraints**.

a) a limitation or restriction;

b) an amount of time in which something must be done or completed;

c) the latest time or date by which something should be completed.

5. What they want to achieve in their presentation is **crucial** to success.

a) of great importance;

b) expressing adverse or disapproving comments or judgements;

c) failing to fulfil someone's hopes or expectations.

II. Watch the first part of the video about the planning stage and the introduction of a good academic presentation. Complete the sentences according to the video.

1. It's essential that you use and cite _____ from academic sources to support your arguments.

2. You need to convince your audience that your claims are believable and to do this, you need _____ sources.

3. The planning stage is _____ .

4. Many students skip this stage because of time _____ .

5. The best presenters know that thinking about what they want to achieve in their presentation is _____ to success.

6. First, think about your _____ .

7. Next, think carefully about your _____ .

8. Thirdly, make sure you organise the content in a _____ way.

9. One way to approach this is to prepare a presentation _____ .

10. Once you have a logical _____ you can start adding the information you need to the outline.

11. As a final point it's not a good idea to try to memorise your _____ .

12. Signposting language is commonly used in _____ to help your audience follow what you are saying.

13. One important _____ is the outline.

14. _____ usually tell audiences how they have organised the content of their presentation.

III. Watch the second part of the video about language and visual aids in an academic presentation. Choose the right continuation of the sentences.

1. The language in an academic presentation is _____ .

a) less formal than in academic writing;

b) more formal than in academic writing.

2. By using more spoken language, you need _____ .

a) to impress and captivate your audience;

b) to engage with the audience and get your interest.

3. During an academic presentation, it is _____ .

a) acceptable to use “I” or “We” and short forms and to ask your audience a direct question;

b) forbidden to use “I” or “We” and short forms and to ask your audience a direct question.

4. However, because it is still an academic presentation, your presentation _____ .

a) will probably also contain some features of academic language;

b) will probably also include some features of spoken language.

5. You should refer to the sources in your presentation. But this can be done _____ .

a) in a slightly more formal way than in academic writing;

b) in a slightly more informal way than in academic writing.

6. One way of helping your audience follow your arguments is _____ .

a) by making use of visual aids;

b) by using video.

7. Good presenters use their visual aids _____ .

a) to emphasise what they are saying and not to add to what they are saying;

b) to support what they are saying and not to replace what they are saying.

8. This means you shouldn’t put all your text onto a slide as then the audience _____ .

a) will probably read your slides and not listen to what you are saying;

b) will probably avoid reading your slides and try to listen to what you are saying.

9. Use keywords, short phrases, diagrams or visuals _____ .

a) to provide you with the best experience in making points;

b) to provide background support to the points you are making.

IV. Watch the last part of the video about the key points of preparing your academic presentation and complete the sentences according to the video.

When preparing to give your academic presentation, remember these key points:

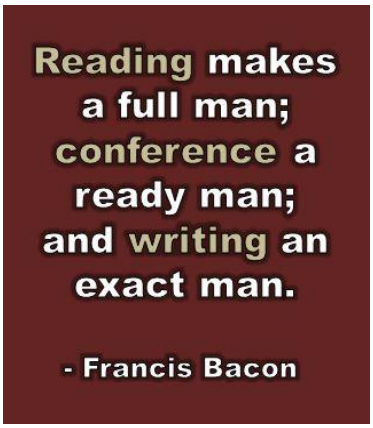
1. _____ your content and structure with your audience in mind.
2. Use _____ phrases to help your audience follow your presentation.
3. _____ features of both academic language and a more spoken style.
4. Don't _____ your visual aids.
5. _____ and timing yourself is an essential aspect of preparation.
6. This will help you feel more relaxed and _____ .

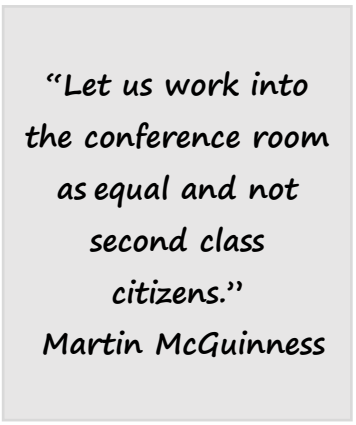
V. Work in pairs. Sum up the information according to the video and name the main recommendations for:

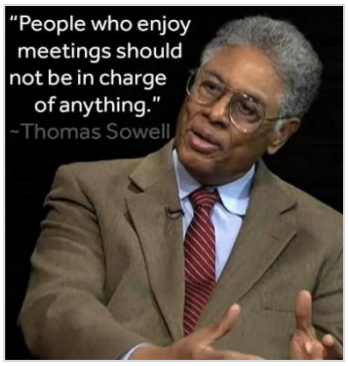
- the planning stage of a good academic presentation
- language and visual aids in an academic presentation
- the key points of preparing your academic presentation

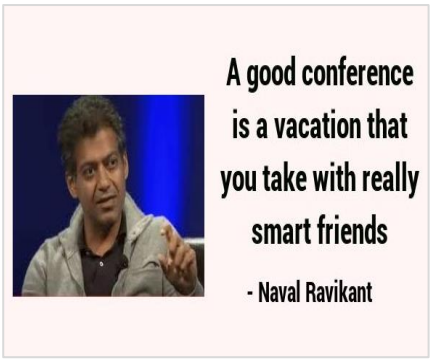
FOLLOW UP

I. Study the quotes below and comment on them.









PROJECT

I. Split into three-four teams. Each team carries out tasks to create a project in: Research Posters Creation, Editing and Presenting. All the finished decorated material should be presented to groupmates to defend the project. The performing and presenting of a project is important to analyse the proposed material. Projects can be performed on a single sheet or stapled together to form an exhibition installation. Groups can compete with each other.

Your Science Project Creation Assignment is to **create research posters**, **presentations** and **reports**.

Purpose: To form understanding of possible ways to create research posters, develop the skill of oral presentation and group working.

Science project assignments

1. Definition, development and discussion of project topic: search for answers to problematic issues.

2. Development of project plan.

3. Distribution of tasks, roles: formation of creative groups, each group should be responsible for a certain subtopic, distribution of tasks between group members.

4. Implementation of the project: search for new and background information, discussion and selection of material in various sources.

Evaluate and cite what you find, analyse, select and compile your work. Discuss and decide on a final project to be presented. Choose presenters and rehearse your presentations.

5. Project Presentation.

6. Discussion of the projects and summarising: reflection.

7. After the project presentations, a general discussion will take place, according to the plan.

8. Culminating Products and Performances: you create, print and present your research posters.

Guide for planning, designing, printing and presenting your research poster

1. Scientific conference poster presentations instructions and guidelines include poster size, layout and any other important information:

- research past posters (if available online);
- determine the conference's audience;
- remember you will need to be concise.

2. Programs for creating posters: PowerPoint, Google Slides, Adobe Illustrator, Canva.

3. Designing your poster: Organization and Layout, Common Poster Mistakes, Text, Design and colour, Images.

4. Printing your poster and presenting it.

5. Sections to include in your paper are Introduction, Materials and Methods:

- briefly describe the research design and research setting;
- use flowcharts, figures, or drawings, if possible;
- mention any statistical or other analysis conducted.

6. Results

- this section makes up the bulk of your poster and needs to be visually compelling;
- give a brief narrative description of your results;
- include charts and graphs to illustrate your quantitative findings;
- label data directly, if possible. Otherwise use clear, readable legends for all graphs and tables.

7. Conclusion

- remind the reader of your hypothesis and result;
- explain why your findings are relevant and interesting;
- suggest directions for future research.

8. If you used any outside sources for the content of your poster, you need to cite them. Include references in the appropriate citation style of the major society in your field.

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АНГЛИЙСКИЙ ЯЗЫК ДЛЯ МАГИСТРАНТОВ

ENGLISH FOR GRADUATE STUDENTS

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